

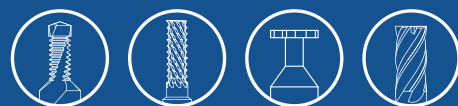


SOLID CARBIDE END MILLS

鎢鋼銑刀系列



/ 2019- NO. **23**



CHIN MING Corporation

公司簡介 | COMPANY PROFILE

CMTéc 西門德克刀具成立於1987年，秉持著「不斷研發、精益求精」之理念創立台灣知名品牌，持續在航太、汽車、機械、模具、電子和醫療等各大工業領域，針對不同加工材質，研發高精準、高效率、高壽命之切削刀具（銑、鑽、鉸、搪、車、切斷、螺紋），堅持提供客戶高品質之產品。

我們製造技術技藝精湛，專業生產鎢鋼銑刀、鑽頭、鉸刀、銑牙刀、鋸片、捨棄式刀片/ 刀具、PCD超硬刀具，並協助業界精密零件開發所需之特殊成型刀具，從刀具3D模擬、幾何參數設計、刀具研磨、測試、銷售、再生研磨，皆有最頂尖的專業團隊負責，提供客戶完整的解決方案。

西門德克刀具廣獲國內外大廠青睞，產品行銷全球，如歐洲、亞洲、美國、日本、中國大陸等國家，並於台灣、大陸地區的廈門、昆山、寧波、東莞已設立數個服務據點，提供客戶即時需求與優越服務。



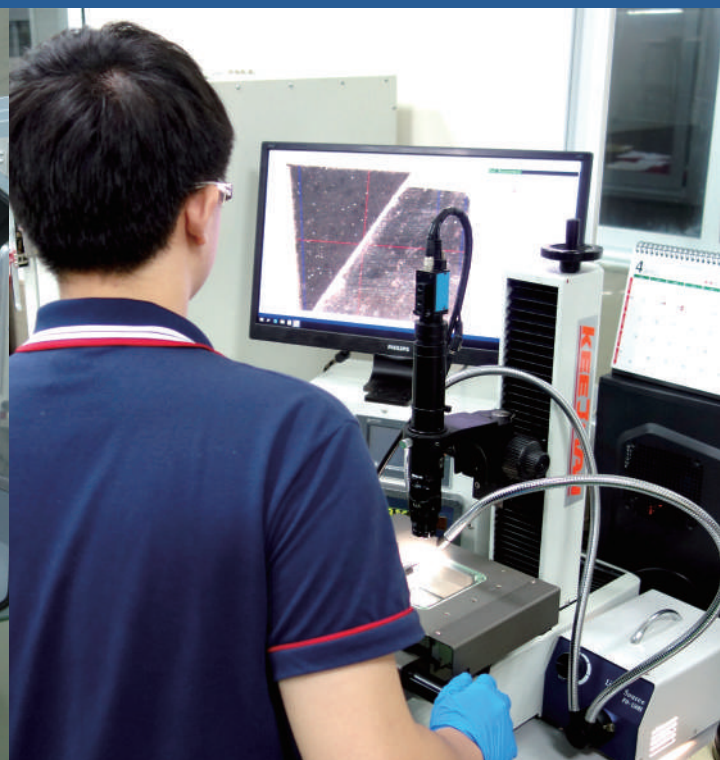


CMTéc a professional cutting tool manufacturer in Taiwan, was established in 1987 with Mr. Chen. Our mission is continuous develop and excelsior, to present high quality products and service to our customers in all industries such as aerospace, automotive, mold & die, electronics and medical equipments, etc. We continuously develop high precision, efficiency and long-life cutting tools for different materials processing.

All our products are made in Taiwan with Swiss technology. We use the best carbide material made in Europe and put focus on end mills, drills, reamers, thread, slitting saws, inserts, PCD inserts and the other special tools, especially in customized products. From 3D simulation, geometric design, grinding, to inspecting, all of them are handled by the most professional team to provide customers with complete solutions.

CMTec is one of the leading manufacturers in Taiwan, and trusted by companies worldwide. Our products are exported to the whole world, like Europe, South-East Asia, U.S.A., Japan and Mainland China...etc. We have several branches providing high quality products and services to customers.

Professional . Design . Manufacturing



索引 | INDEX

S220 鎢鋼銑刀系列-

(泛用鋼材($\leq 50\text{HRC}$)、鑄鐵、軟材質(鋁 / 銅合金)加工.)

Micro Grain Carbide End Mills (For general steel($\leq 50\text{HRC}$), cast iron and aluminum / copper alloy machining.)27

M520 極細鎢鋼銑刀系列-

(難切削材質(高溫合金、不銹鋼)、合金鋼、調質鋼($\leq 55\text{HRC}$)加工.)

Ultra Carbide End Mills (For Difficult-to-Cut Materials(high temp alloy, stainless steel(300 series)), alloy steel and hardened steel($\leq 55\text{HRC}$) machining.)48

N620 奈米鎢鋼銑刀系列-

(高硬材質加工($45\sim 63\text{HRC}$).)

Nano Carbide End Mills (For hardened steel($45\sim 63\text{HRC}$) machining.) ...62

鎢鋼複合材料銑刀系列-

Carbide Composites Cutter66

鎢鋼成型銑刀系列-

Carbide Special Cutter68

車床刀具系列-

Carbide Tools For Lathe73

銑牙刀系列-

Carbide Thread Cutter75

切削條件表-

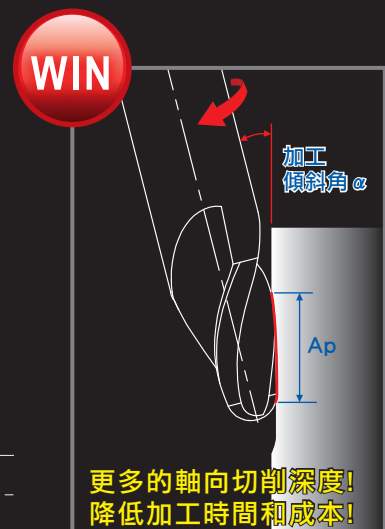
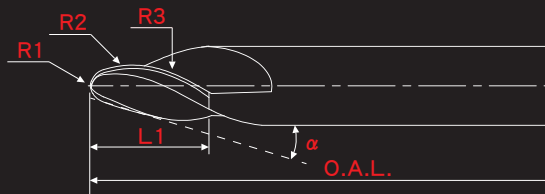
Cutting Condition Table79

| 完美 | 精準 | 效率 |



五軸加工機專用- 鎢鋼弧型球刀 (須搭配Mastercam軟體使用)

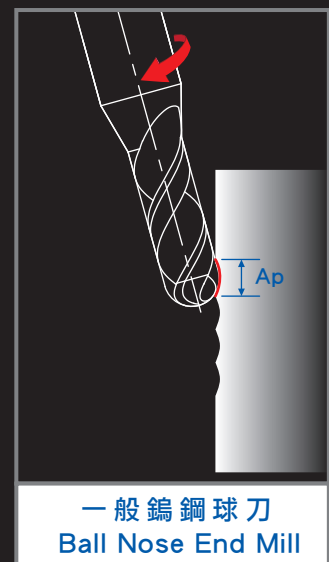
- 提供更多的軸向切削深度、提高加工效率。
Provide more axial depth of cut, improve machining efficiency.
- 優異的表面粗糙度和刀具壽命，降低您的加工成本。
Optimal surface roughness and long tool life, reduce your processing costs.
- 適用於模具、航太渦輪葉片和葉輪5軸加工。
Suitable for mould & die, aerospace-turbine blades and impellers 5-axis machining.
- 依不同幾何設計可應用於鋁合金、高溫合金加工。
Specially designed for aluminum alloy and high temp alloy machining.
- 適合中加工、精加工用。
Use for semi finishing cutting, finishing.



鎢鋼弧型球刀
Circle Segment End Mill

尺寸規格表 Size- Circle Segment End Mill

加工 傾斜角 α	R1	R2	R3	刃長 L1 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	刃數 Flute	類型 Type
12.5°	2.0	1000	5.0	31.0	100	16	3	A
12.5°	4.0	1000	5.0	24.0	100	16	3	B
17.5°	1.0	250	3.0	9.5	75	6	3	C
20.0°	1.5	250	4.0	10.5	75	8	3	D
20.0°	2.0	250	5.0	12.5	75	10	3	E
20.0°	3.0	250	6.0	13.5	100	12	3	F
20.0°	4.0	500	8.0	18.5	100	16	3	G
20.0°	4.0	1500	8.0	18.5	100	16	3	H
42.5°	1.0	200	1.0	8.0	100	12	3	I
—	1.0	95	—	22.0	75	6	3	J
—	1.0	90	—	25.0	75	8	3	K
—	2.0	85	—	26.0	75	10	4	L
—	2.0	80	—	28.0	100	12	4	M
—	3.0	75	—	31.0	100	16	4	N



NEW

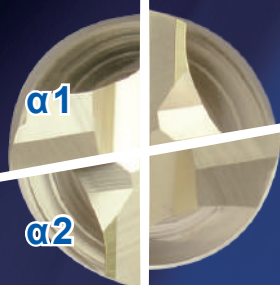
→ 參閱 P.57

METV

航太專用 · 超乎完美

全新鈦合金專用刀 高效型

FOR TITANIUM ALLOYS



$\alpha 1 \neq \alpha 2$ / 通過不等距幾何，有效抑制切削時的週期性震動！



$\beta 1 \neq \beta 2$ / 不等螺旋角幾何隨側刃不同變化，強力抑制震動，完成良好的面粗度！

航太領域專用切削刀具，為高溫合金材質、3字頭不銹鋼

高效率加工新利器！

1. 專剋鈦合金 & 3字頭不銹鋼難切削材質之應用。

For titanium alloy and stainless steel(300 series) machining.

2. 不等距 & 不等螺旋角設計大幅降低切削時的震動。

Chattering is decreased with unequal flute spacing angle & nonequivalent helix angle.

3. 圓弧溝槽設計，使排屑性能更加優異，減少積屑及應力產生，提升刀具剛性。

Circular flute design for better chip disposal, reduces chip packing and release stress, and improving rigidity of the tool.

4. 適合粗、中、精加工。

Use for roughing cutting, semi finishing, finishing.

切 削 實 例

CUT EXAMPLES



SUS304乾式切削

V系列 全面進化・性能再升級!

- 大幅度降低刀具震動(抗震性好)
- 斷屑效果優異展現驚人的排屑性能
- 可達成切深1D之高進給加工

全新V系列銑刀

All New V Series End Mills

特殊刀具幾何設計讓您的「高效率；重切削」
及「大切深；高進給」可行!

專剋泛用鋼材:

- 碳素鋼
- 合金鋼
- 調質鋼(45~55HRC)
- 鑄鐵

General Cutting Steel:

- Carbon Steel
- Alloy Steel
- Hardened Steel(45~55HRC)
- Cast Iron

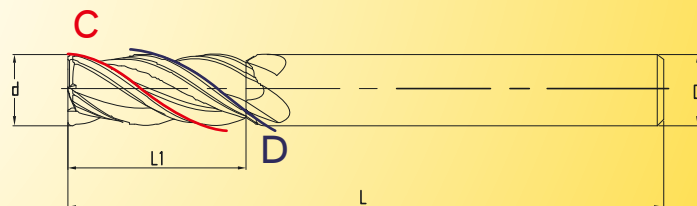
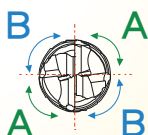


不等距+不等螺旋角銑刀

“Variable-Pitch & Lead” End mills

驚奇防震動表現；高效率加工展現!

Suppresses chattering, allowing for outstanding milling performance.



A ≠ **B**

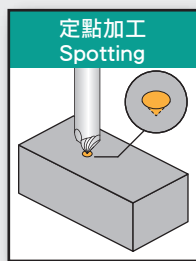
刀底不等距設計
可降低切削時震動

Chattering is decreased
with 「Variable-Pitch」.

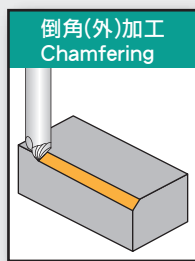
C ≠ **D**

側刃不等螺旋角設計亦
可降低切削時震動

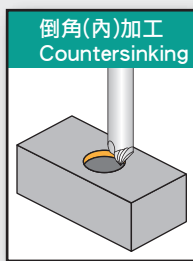
「Variable-Lead」 design stabilizes cutting
forces, effectively isolating vibrations.



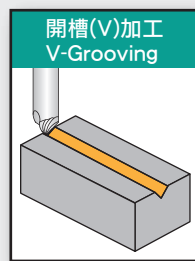
定點加工
Spotting



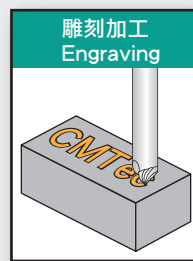
倒角(外)加工
Chamfering



倒角(內)加工
Countersinking



開槽(V)加工
V-Grooving



雕刻加工
Engraving

CEFC MEFCD

NEW- 多功能鎢鋼倒角銑刀系列
MULTIFUNCTIONAL CHAMFER CUTTER

切 削 實 例
CUT EXAMPLES



鋁合金Al6061加工

1

CEFC型號: 鋁合金專用倒角刀(AI5052, 6061, 7075)。
CEFC for aluminum alloy(5052, 6061, 7075) machining.



→ 參閱 P.71

CEFC/ 1刃鋁用倒角銑刀

鋁, 銅合金, 塑膠軟材質之應用!

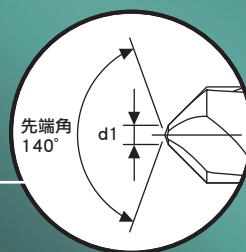


2

MEFCD型號: 高硬材質($\leq 50\text{HRC}$)專用倒角刀。
MEFCD for high hardness Steel($\leq 50\text{HRC}$) machining.

MEFCD/ 3刃高硬用倒角銑刀

碳素鋼, 合金鋼, 高硬鋼材之應用!



產品特色/ Features :

一把可倒角、定點、雕刻加工完美結合的多功能切削刀具。
A perfect multi-functional cutting tools in chamfering, spotting and engraving.

提供全長最長100mm, 適合各種精密模具深腔倒角加工用。
Maximum length with 100mm for any kind of mold machining.

提供常用倒角角度60 & 90°。
Chamfering for 60 & 90°.

切 削 實 例
CUT EXAMPLES



中碳鋼S45C加工

Unequal Flute Spacing Angle End Mills

MEHU

NEW

全新- 鎢鋼不等距高導型銑刀

→ 參閱 P.56



- 1** 專剋鋼材($\leq 50\text{HRC}$)之應用。
For alloy steel($\leq 50\text{HRC}$) machining.
- 2** 不等距設計降低切削時的震動。
Chattering is decreased with unequal flute spacing angle.
- 3** 圓弧溝槽設計，使排屑性能更加優異，減少積屑及應力產生，提升刀具剛性。
Circular flute design for better chip disposal, reduces chip packing and release stress, and improving rigidity of the tool.
- 4** 適合中加工、精加工。
Use for semi finishing cutting, finishing.

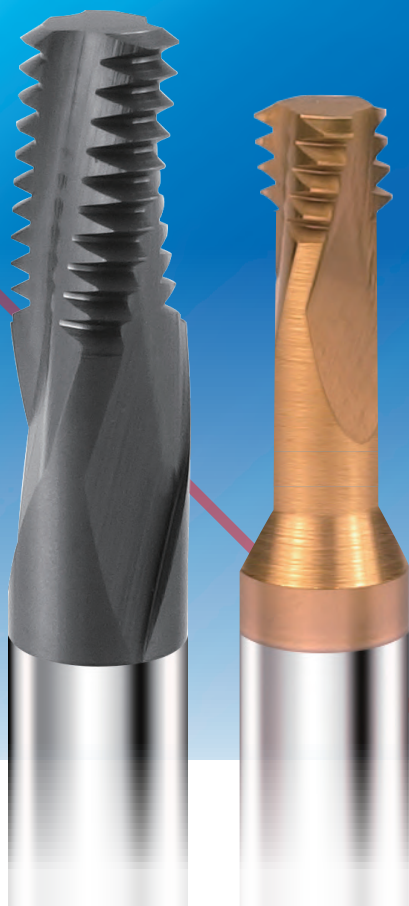
Carbide Thread End Mills(ISO / UN / NPT)

NEW

C/MTH

→ 參閱 P.77

全新- 鎢鋼螺旋銑牙刀



- 1** 應用於碳素鋼、合金鋼、不銹鋼、鑄鐵、鋁/銅合金、鈦合金加工。
For carbon steel, alloy steel, stainless steel, cast iron, aluminum / copper alloy and titanium alloy machining.
- 2** 提供ISO、UN美製規格、NPT美製錐度管螺紋。
Provide ISO Thread, UN series thread, and NPT (National Taper Pipe threads).
- 3** 螺紋精準牢固，讓您的精密零組件能完美配合。
Precise thread, make your precision components work together perfectly.

產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
鎖牙式- S220鎢鋼銑刀頭系列 Thread- S220 Carbide End Mills Series						
平刀 Square	四刃 4 Flutes	CHS40000A	鎖牙式 -Thread		Ø8 ~ Ø32	27
球刀 Ball	四刃 4 Flutes	CHB40000A	鎖牙式 -Thread		4.0R ~ 12.5R	27
圓鼻刀 Corner Radius	四刃 4 Flutes	CHCR4000000A	鎖牙式 -Thread		Ø8 ~ Ø20	27
鎢鋼抗震刀桿 Carbide Anti-Vibration Holder		LCL000-000L	同柄型 -Straight Shank		Ø10 ~ Ø32	27
		LCN000-000L-000E	頸型 -Neck		Ø11.7~Ø31.5	27
S220鎢鋼銑刀系列 S220 Carbide End Mills Series 應用於泛用鋼材(≤50HRC)加工 For General Steel (≤50HRC) Machining.						
平刀 Square	二刃 2 Flutes	CESS20000A	微小徑型 -Micro Dia.		Ø0.2 ~ Ø3.0	28
		CESM20000A			Ø0.2 ~ Ø4.0	28
		CES20000A			Ø1 ~ Ø25	28
		CES(M)20000A	點數型 -Decimal Dia.		Ø1.1 ~ Ø3.9	29
		CES20000A	點數型 -Decimal Dia.		Ø1.1 ~ Ø10.9	29 ~ 30
		CEI20000A	英吋型 -Inch Dia.		Ø1.58~Ø12.7	30
(特)長刃平刀 (Extra) Long Flute Square	二刃 2 Flute s	CELFM20000A			Ø2 ~ Ø4	30
		CELF20000A			Ø3 ~ Ø25	30
		CEFF20000A	特長刃型 -Extra		Ø10 ~ Ø20	30
長柄平刀 Long Shank Flute	二刃 2 Flutes	CELS20000A			Ø3 ~ Ø12	31
	四刃 4 Flutes	CELS40000A			Ø3 ~ Ø20	31
平刀 Square	三刃 3 Flutes	CESM30000A			Ø2 ~ Ø4	31
		CES30000A			Ø2 ~ Ø16	31
平刀 Square	四刃 4 Flutes	CESS40000A			Ø1 ~ Ø3	31
		CESM40000A			Ø1 ~ Ø4	31
		CES40000A			Ø3 ~ Ø25	32
(特)長刃平刀 (Extra) Long Flute Square	四刃 4 Flutes	CELFM40000A			Ø1 ~ Ø4	32
		CELF40000A			Ø3 ~ Ø25	32
		CEFF40000A	特長刃型 -Extra		Ø10 ~ Ø20	32

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
 Carbon Steels (<20HRC)	 Alloy Steels (20~30HRC)	 Alloy Steels (30~45HRC)	 Hardened Steels (45~55HRC)	 Hardened Steels (55~63HRC)	 Stainless Steels	 Cast Iron	 Aluminum Alloys	 Copper	 Non-metal	 High Temp Alloys		A	B	C	D
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
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○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	◎	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	◎	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—

加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

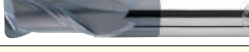
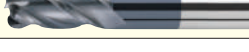
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平刀 Square	三刃 3 Flutes	CEH30000A	高導型 -High Helix		Ø3 ~ Ø20	32
	四刃 4 Flutes	CEHM40000A	高導型 -High Helix		Ø1 ~ Ø2	32
	四刃 4 Flutes	CEH40000A	高導型 -High Helix		Ø1 ~ Ø20	32
長刃平刀 Long Flute Square	四刃 4 Flutes	CEHF40000A	高導型 -High Helix		Ø3 ~ Ø20	33
平刀(粗精型) Semi-finishing	三刃 3 Flutes	CER30000A	高導型 -High Helix		Ø6 ~ Ø20	33
	四刃 4 Flutes	CER40000A	高導型 -High Helix		Ø6 ~ Ø20	33
粗銑平刀 Roughing Square	三刃 3 Flutes	CERR30000A			Ø6 ~ Ø20	33
	四刃 4 Flutes	CERR40000A			Ø6 ~ Ø20	33
S220鎢鋼銑刀系列 S220 Carbide End Mills Series 應用於泛用鋼材(≤50HRC)加工 For General Steel (≤50HRC) Machining.						
斜度平刀 Taper Square	二刃 2 Flutes	CETF2000000A			Ø1 ~ Ø10	34
長頸平刀 Long Neck Square	二刃 2 Flutes	CEN20000000A			Ø1 ~ Ø4	34
	四刃 4 Flutes	CEN40000000A			Ø1 ~ Ø4	35
球刀 Ball	二刃 2 Flutes	CEBS20000A	微小徑型 -Micro Dia.		0.1R ~ 1.5R	35
		CEBM20000A	微小徑型 -Micro Dia.		0.1R ~ 0.45R	35
		CEBM20000A			0.5R ~ 2.0R	35
		CEB20000A			1R ~ 10R	35
(特)長柄球刀 (Extra)Long Shank Ball	二刃 2 Flutes	CEBML20000A			0.5R ~ 2.0R	35
		CEBL20000A			1R ~ 10R	35
		CEBMLL20000A	特長柄型 -Extra		1R ~ 2R	36
		CEBLL20000A	特長柄型 -Extra		1R ~ 10R	36
球刀 Ball	三刃 3 Flutes	CEB30000A			1R ~ 10R	36
	四刃 4 Flutes	CEBM40000A			1R ~ 2R	36
		CEB40000A			3R ~ 8R	36
長柄球刀 Long Shank Ball	四刃 4 Flutes	CEBML40000A			1R ~ 2R	36
		CEBL40000A			3R ~ 8R	36
球殼刀 Semi Sphere Ball	二刃 2 Flutes	CEO20000000A	球頭240° -Semi Sphere 240°		1R ~ 6R	37
	四刃 4 Flutes	CEO40000000A	球頭240° -Semi Sphere 240°		2.5 ~ 6.0R	37

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
 Carbon Steels (<20HRC)	 Alloy Steels (20~30HRC)	 Alloy Steels (30~45HRC)	 Hardened Steels (45~55HRC)	 Hardened Steels (55~63HRC)	 Stainless Steels	 Cast Iron	 Aluminum Alloys	 Copper	 Non-metal	 High Temp Alloys		A	B	C	D
○	○	○	○	—	○	◎	—	○	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	◎	○
○	○	○	○	—	○	◎	—	○	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	◎	○
○	○	○	○	—	○	◎	—	○	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	◎	○
○	○	○	○	—	○	◎	—	○	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	◎	○
○	○	○	○	—	○	◎	—	○	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
○	○	○	○	—	○	◎	—	○	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
○	○	○	○	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	—	○	◎
○	○	○	○	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	—	○	◎
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—

加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
S220鎢鋼銑刀系列 S220 Carbide End Mills Series 應用於泛用鋼材(≤50HRC)加工 For General Steel (≤50HRC) Machining.						
斜度球刀 Taper Ball	二刃 2 Flutes	CETB2000000A			1R ~ 3R	37
斜頸球刀 Taper Neck Ball	二刃 2 Flutes	CENL20000A			1R ~ 6R	37
	四刃 4 Flutes	CENL40000A			1R ~ 6R	38
長頸球刀 Long Neck Ball	二刃 2 Flutes	CEBN20000000A			0.5R ~ 2.0R	38
圓鼻刀 Corner Radius	二刃 2 Flutes	CECRM2000000A			Ø1 ~ Ø3	38
		CECR2000000A			Ø4 ~ Ø12	38
	四刃 4 Flutes	CECR(M)4000000A			Ø1 ~ Ø12	39
長柄圓鼻刀 Long Shank Corner Radius	四刃 4 Flutes	CECL4000000A			Ø3 ~ Ø12	39
斜頸圓鼻刀 Taper Neck Corner Radius	二刃 2 Flutes	CECNL2000000000A			Ø2 ~ Ø6	39
應用於鋁合金加工 For Aluminum Machining.						
平刀 Square	二刃 2 Flutes	CEXS20000	高導型 -High Helix		Ø1 ~ Ø3	39
		CEXM20000	高導型 -High Helix		Ø1 ~ Ø2	39
		CEX20000	高導型 -High Helix		Ø3 ~ Ø20	39
	三刃 3 Flutes	CEXS30000	高導型 -High Helix		Ø3	40
		CEXM30000	高導型 -High Helix		Ø1 ~ Ø4	40
		CEX30000	高導型 -High Helix		Ø1 ~ Ø20	40
	三刃 3 Flutes	CEXX30000	高導型 -High Helix		Ø3 ~ Ø20	41
長刃平刀 Long F.Square	三刃 3 Flutes	CEXF30000	高導型 -High Helix		Ø3 ~ Ø20	40
平刀(波浪型) Square(Sinus Edge-Wave)	三刃 3 Flutes	CEXRS30000	高導型 -High Helix		Ø6 ~ Ø20	40
平刀 Square	三刃 3 Flutes	CEXSH30000	強力型 -Power Cutting		Ø2 ~ Ø16	41
圓鼻刀 Corner Radius	三刃 3 Flutes	CEXCRSH(M)30000	強力型 -Power Cutting		Ø2 ~ Ø20	41
應用於鋁合金高效率加工 For Aluminum Machining with High Efficiency. 不等距 & 不等螺旋角抗震設計 Chattering is decreased with unequal flute spacing angle & nonequivalent helix angle.						
平刀 Square	三刃 3 Flutes	CEXV30000	高效型 -High Performance		Ø3 ~ Ø16	41
		CEXV30000-C0000	高效倒角型 -High Performance-Chamfering		Ø3 ~ Ø16	41

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
 Carbon Steels (<20HRC)	 Alloy Steels (20~30HRC)	 Alloy Steels (30~45HRC)	 Hardened Steels (45~55HRC)	 Hardened Steels (55~63HRC)	 Stainless Steels	 Cast Iron	 Aluminum Alloys	 Copper	 Non-metal	 High Temp Alloys		A	B	C	D
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	◎	○
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	◎	○
○	○	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	○	◎	○	—
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	乾式 / 濕式 (Dry / Wet)	—	◎	◎	◎
—	—	—	—	—	—	—	○	○	—	—	乾式 / 濕式 (Dry / Wet)	—	◎	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	◎

加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

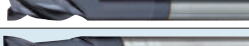
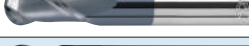
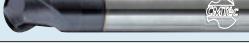
產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
應用於鋁合金加工 For Aluminum Machining.						
球刀 Ball	二刃 2 Flutes	CEXBM20000	高導型 -High Helix		1R ~ 2R	42
		CEXB20000	高導型 -High Helix		2.5R ~ 8.0R	42
長柄球刀 Long Shank Ball	二刃 2 Flutes	CEXBL20000	高導型 -High Helix		1R ~ 8R	42
應用於鑄鐵、不銹鋼、鈦合金、鋁合金(含矽>7%)、銅鋁加工 For Cast Iron, Stainless Steel, Titanium Alloy, Aluminum Alloy(Si>7%), Copper, Aluminum.						
平刀(波浪型) Square (Sinus Edge-Wave)	二刃 2 Flutes	CERS20000A			Ø6 ~ Ø12	42
	三刃 3 Flutes	CERS30000A			Ø6 ~ Ø20	42
	四刃 4 Flutes	CERS40000A			Ø6 ~ Ø20	42
平刀(強力型) Square (Power Cutting)	二刃 2 Flutes	CESH(M)20000F			Ø2 ~ Ø16	43
	四刃 4 Flutes	CESH(M)40000F			Ø2 ~ Ø16	43
	二刃 2 Flutes	CEHS(M)20000F	高導型 -High Helix		Ø2 ~ Ø16	43
	四刃 4 Flutes	CEHS(M)40000F	高導型 -High Helix		Ø2 ~ Ø16	43
平刀 Square	二刃 2 Flutes	CESCM20000-00A	螺旋角=25° -Helix Angle=25°		Ø0.5 ~ Ø 2.5	44
		CESC20000-00A			Ø3.0 ~ Ø12.0	44
		CESCM20000-00A	螺旋角=45° -Helix Angle=45°		Ø0.5 ~ Ø 2.5	44
		CESC20000-00A			Ø3.0 ~ Ø12.0	44
長刃平刀 Long Flute Square		CELFC20000-00A	螺旋角=25° -Helix Angle=25°		Ø3.0 ~ Ø12.0	44
		CELFC20000-00A	螺旋角=45° -Helix Angle=45°		Ø3.0 ~ Ø12.0	44
球刀 Ball	二刃 2 Flutes	CEBCM20000A			0.5R ~ 0.75R	45
		CEBC20000A			1R ~ 6R	45
長頸球刀 Long Neck Ball	二刃 2 Flutes	CEBNCM20000A			0.5R ~ 1.0R	45
		CEBNC20000A			1.5R ~ 6.0R	45
應用於石墨加工 For Graphite Machining.						
平刀 Square	二刃 2 Flutes	CESG(M)20000A			Ø1 ~ Ø12	45
	四刃 4 Flutes	CESG(M)40000A			Ø2 ~ Ø12	45
球刀 Ball	二刃 2 Flutes	CEBG(M)20000A			0.5R ~ 6.0R	46

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
 Carbon Steels (<20HRC)	 Alloy Steels (20~30HRC)	 Alloy Steels (30~45HRC)	 Hardened Steels (45~55HRC)	 Hardened Steels (55~63HRC)	 Stainless Steels	 Cast Iron	 Aluminum Alloys	 Copper	 Non-metal	 High Temp Alloys		A	B	C	D
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	○	◎	◎
含矽>7% (Si>7%)															
○	○	○	○	—	—	○	○	○	—	○	濕式(Wet)	—	○	◎	◎
○	○	○	○	—	—	○	○	○	—	○	濕式(Wet)	—	○	◎	◎
○	○	○	○	—	—	○	○	○	—	○	濕式(Wet)	—	◎	◎	◎
○	○	○	○	—	○	○	○	○	—	—	濕式(Wet)	—	○	◎	○
○	○	○	○	—	○	○	○	○	—	—	濕式(Wet)	—	◎	◎	○
○	○	○	○	—	○	○	○	○	—	—	濕式(Wet)	—	○	◎	○
○	○	○	○	—	○	○	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	○	◎	○	—
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	○	◎	○	—
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	○	◎	○	—
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	○	○	—	—	濕式(Wet)	—	◎	◎	○
—	—	—	—	—	—	—	—	—	○	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	◎
—	—	—	—	—	—	—	—	—	○	—	乾式 / 濕式 (Dry / Wet)	—	◎	○	○
—	—	—	—	—	—	—	—	—	○	—	乾式 / 濕式 (Dry / Wet)	—	◎	◎	○

加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
M520 極細鎢鋼銑刀系列 M520 Carbide End Mills Series 應用於調質鋼(≦55HRC)加工 For Hardened Steel (≦55HRC) Machining.						
平刀 Square	二刃 2 Flutes	MESS20000A	微小徑型 -Micro Dia.		Ø0.2 ~ Ø3.0	48
		MESM20000A			Ø0.2 ~ Ø0.9	48
		MESM20000A			Ø1 ~ Ø4	48
		MES20000A			Ø3 ~ Ø25	48
		MESD20000A	短刃型 -Short Flute		Ø1 ~ Ø12	48
	四刃 4 Flutes	MESS40000A			Ø1 ~ Ø3	49
		MESM40000A			Ø1 ~ Ø4	49
		MES40000A			Ø3 ~ Ø25	49
		MESD40000A	短刃型 -Short Flute		Ø3 ~ Ø12	49
		MESD40000A	短刃型 -Short Flute		Ø3 ~ Ø12	49
長柄平刀 Long Shank Square	二刃 2 Flutes	MESDL20000A	短刃型 -Short Flute		Ø1 ~ Ø12	49
	四刃 4 Flutes	MESDL40000A	短刃型 -Short Flute		Ø3 ~ Ø12	50
長頸平刀 Long Neck Square	二刃 2 Flutes	MEN20000000A			Ø1 ~ Ø4	50
球刀 Ball	二刃 2 Flutes	MEBS20000A	微小徑型 -Micro Dia.		0.05R ~ 1.5R	50
		MEBM20000A			0.05R ~ 0.5R	50
		MEB(M)20000A			0.5R ~ 10.0R	51
		MEBDM20000A	短刃型 -Short Flute		0.15R ~ 1.50R	50
		MEBD20000A	短刃型 -Short Flute		1R ~ 6R	50
長柄球刀 Long Shank Ball	二刃 2 Flutes	MEBML20000A			1R ~ 2R	51
		MEBL20000A			1R ~ 10R	51
長柄球刀 Long Shank Ball	二刃 2 Flutes	MEBDML20000A	短刃型 -Short Flute		0.5R ~ 1.5R	51
		MEBDL20000A	短刃型 -Short Flute		1R ~ 6R	51
球刀 Ball	四刃 4 Flutes	MEB(M)40000A			1R ~ 8R	51
長頸球刀 Long Neck Ball	二刃 2 Flutes	MEBN20000000A			0.5R ~ 2.0R	52
	四刃 4 Flutes	MEBN40000000A			0.5R ~ 2.0R	52
長柄圓鼻刀 Long Shnk Corner Radius	三刃 3 Flutes	MECDL30000A	短刃型 -Short Flute		Ø3 ~ Ø12	53
	四刃 4 Flutes	MECDL40000A	短刃型 -Short Flute		Ø3 ~ Ø12	53

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												A	B	C	D
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○	○	○	○	○	○	○	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○

加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
M520 極細鎢銑刀系列 M520 Carbide End Mills Series 應用於調質鋼(≦55HRC)加工 For Hardened Steel (≦55HRC) Machining.						
圓鼻刀 Corner Radius	二刃 2 Flutes	MECR(M)2000000A			Ø1 ~ Ø12	52
	四刃 4 Flutes	MECR4000000A			Ø3 ~ Ø12	53
		MECD(M)4000000A	短刃型 -Short Flute		Ø1 ~ Ø12	53
長頸圓鼻刀 Long Neck Corner Radius	二刃 2 Flutes	MECRN2000000000A			Ø1 ~ Ø6	54
	四刃 4 Flutes	MECRN4000000000A			Ø1 ~ Ø6	55
應用於不銹鋼加工(圓溝設計) For Stainless Steel (300 Series) Machining. (Circular Flute)						
平刀 Square	四刃 4 Flutes	MEMH(M)40000A	高導型 -High Helix		Ø3 ~ 20	56
應用於汎用鋼材(≦50HRC)加工 For Alloy Steel (≦50HRC) Machining. 不等距 & 圓溝設計 Unequal Flute Spacing Angle & Circular Flute.						
平刀 Square	四刃 4 Flutes	MEHU(M)40000A	高導型 -High Helix		Ø3 ~ Ø16	56
應用於高硬材質(≦55HRC)加工 For High Hardened Steel (≦55HRC) Machining. 強力重切削 Heavy Duty Cutting.						
平刀 Square	三刃 3 Flutes	MEHHD30000A	短刃型 -Short Flute		Ø3 ~ Ø12	56
	四刃 4 Flutes	MEHHD40000A	短刃型 -Short Flute		Ø3 ~ Ø12	56
		MEHH40000A			Ø3 ~ Ø20	56
圓鼻刀 Corner Radius	四刃 4 Flutes	MEHHCR4000000A			Ø3 ~ Ø20	58
應用於高硬材質(≦55HRC)加工 For High Hardened Steel (≦55HRC) Machining. 高剛性銑刀 High Rigidity End Mill (不等距 & 雙心徑設計 Unequal Flute Spacing Angle & Duo Core Dia.)						
平刀 Square	四刃 4 Flutes	MEP40000A	標準型 -Standard		Ø4 ~ Ø12	57
		MEP40000-C0000A	倒角型 -Chamfering		Ø4 ~ Ø12	57
		MEP40000-R0000A	R角型 -Corner Radius		Ø6 ~ Ø12	57
應用於高溫合金、不銹鋼高效率加工 For High Temp Alloys and Stainless Steel (300 Series) Machining with High Efficiency. 不等距 & 不等螺旋角抗震設計 Chattering is decreased with unequal flute spacing angle & nonequivalent helix angle.						
平刀 Square	四刃 4 Flutes	METV40000A	高效型 -High Performance		Ø4 ~ Ø12	57
應用於高硬材質(≦55HRC)高效率加工 For High Hardened Steel (≦55HRC) Machining with High Efficiency. 不等距 & 不等螺旋角抗震設計 Chattering is decreased with unequal flute spacing angle & nonequivalent helix angle.						
平刀 Square	四刃 4 Flutes	MEV40000A	高效型 -High Performance		Ø3 ~ Ø12	57
圓鼻刀 Corner Radius	四刃 4 Flutes	MEVC4000000A	高效型 -High Performance		Ø3 ~ Ø20	58
球刀 Ball	四刃 4 Flutes	MEVB40000A	高效型 -High Performance		2.5R ~ 10R	58
應用於高硬材質(≦55HRC)加工 For High Hardened Steel (≦55HRC) Machining.						
平刀 Square	六刃 6 Flutes	MED60000A	高硬型 -High Hardness		Ø6 ~ Ø25	59
長刃平刀 Long Flute Square	六刃 6 Flutes	MEDF60000A	高硬型 -High Hardness		Ø6 ~ Ø25	59

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												A	B	C	D
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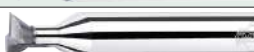
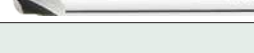
加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
高精度刀具 High Tolerance End Mills						
球刀 Ball	二刃 2 Flutes	MEBYS20000A	高精度型 -High Tolerance		0.1R ~ 1.5R	59
		MEBYM20000A	高精度型 -High Tolerance		0.1R ~ 2R	59
		MEBY20000A	高精度型 -High Tolerance		1R ~ 3R	60
	四刃 4 Flutes	MEBYM40000A	高精度型 -High Tolerance		1R ~ 2R	60
球刀 Ball	四刃 4 Flutes	MEBY40000A	高精度型 -High Tolerance		3R	60
圓鼻刀 Corner Radius	二刃 2 Flutes	MECYM2000000A	高精度型 -High Tolerance		Ø1 ~ Ø3	60
		MECY2000000A	高精度型 -High Tolerance		Ø4 ~ Ø6	60
	四刃 4 Flutes	MECY4000000A	高精度型 -High Tolerance		Ø3 ~ Ø6	60
N620 奈米鎢銑刀系列 N620 Carbide End Mills Series 應用於高硬材質(45~63HRC)加工 For Hardened Steel (45~63HRC) Machining.						
平刀 Square	二刃 2 Flutes	NESDM20000A	短刃型(小R角) -Short Flute		Ø1 ~ Ø4	62
		NESD20000A	短刃型(小R角) -Short Flute		Ø6 ~ Ø12	62
	三刃 3 Flutes	NESD30000A	短刃型(小R角) -Short Flute		Ø3 ~ Ø12	62
	四刃 4 Flutes	NESD(M)40000A	短刃型(小R角) -Short Flute		Ø1 ~ Ø12	62
	四刃 4 Flutes	NED(M)40000A	短刃型(無R角) -Short Flute		Ø1 ~ Ø12	62
	六刃 6 Flutes	NEHD60000A	短刃型(小R角) -Short Flute		Ø6 ~ Ø20	62
長頸平刀 Long Neck Square	二刃 2 Flutes	NESND20000000A	短刃型(小R角) -Short Flute		Ø0.5 ~ Ø5.0	63
圓鼻刀 Corner Radius	四刃 4 Flutes	NECDM4000000A	短刃型 -Short Flute		Ø1.0 ~ Ø2.5	63
		NECD40000000A	短刃型 -Short Flute		Ø3 ~ Ø12	63
球刀 Ball	二刃 2 Flutes	NEB20000A	標準型 -Standard		1R ~ 6R	63
		NEBDM20000A	短刃型 -Short Flute		0.05R ~ 1.5R	63
		NEBD20000A	短刃型 -Short Flute		1R ~ 6R	63
長柄球刀 Long Shank Ball	二刃 2 Flutes	NEBL20000A	標準型 -Standard		1R ~ 6R	64
		NEBDML20000A	短刃型 -Short Flute		0.5R ~ 1.5R	64
		NEBDL20000A	短刃型 -Short Flute		1R ~ 6R	64
長頸球刀 Long Neck Ball	二刃 2 Flutes	NEBND20000000A	短刃型 -Short Flute		0.3R ~ 3.0R	64
平刀 Square	四刃 4 Flutes	NEDY(M)40000A	高精度型 -High Tolerance		Ø1 ~ Ø12	62
球刀 Ball	二刃 2 Flutes	NEBDY(M)20000A	高精度型 -High Tolerance		0.05R ~ 6.0R	64

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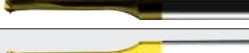
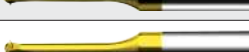
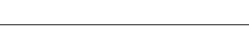
產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
鎢鋼複合材料銑刀系列 Carbide Composites Cutter						
平刀 Square	多刃 Multiple Flute	CEF(M)000000D	標準型-DIA鑽石塗層 -Standard-DIA Coating		Ø4 ~ Ø12	66
		CEF(M)000000A	標準型-RD彩鑽塗層 -Standard-RD Coating		Ø4 ~ Ø12	66
鎢鋼成型銑刀系列 Carbide Special Cutter						
T型銑刀 Slot Cutters (Key seat)	四/六刃 4/6 Flutes	CEK000000000			Ø4 ~ Ø12	68
	10/12/16刃 10/12/16 Flutes	AEK000000000			Ø16 ~ Ø30	68
外圓槽銑刀 Convex Cutters	四/六刃 4/6 Flutes	CEC000000000			Ø4 ~ Ø12	69
	10/12/16刃 10/12/16 Flutes	AEC000000000			Ø16 ~ Ø30	69
鳩尾槽銑刀 Angular Cutters(Dovetail)	四/六刃 4/6 Flutes	CECS0000000000	45°		Ø3 ~ Ø12	69
		CECS0000000000	60°		Ø3 ~ Ø12	69
等角鳩尾槽銑刀 W-Angular Cutters(Dovetail)	四/六刃 4/6 Flutes	CECSW000000000	60°		Ø6 ~ Ø12	69
		CECSW000000000	90°		Ø6 ~ Ø12	69
倒角兼用銑刀 V-pointed End Mills	二刃 2 Flutes	CEC20000000A	90°		Ø3 ~ Ø20	70
		CEC20000000A	120°		Ø3 ~ Ø20	70
內R角銑刀 Inner Radius Cutter	二刃 2 Flutes	CEIR200000000			0.5R ~ 6.0R	71
扁形倒角銑刀 Flat Chamfering Cutter	二刃 2 Flutes	CEFC000000	標準型-Standard 60 / 90 / 120°		Ø3 ~ Ø16	70
多功能 倒角銑刀 Multifunctional Chamfer Cutter (Chamfering- Spotting- Engraving)	單刃 1 Flute	CEFC100000	標準型-Standard 60 / 90°		Ø3 ~ Ø12	71
	單刃 1 Flute	CEFCL100000	長柄型-Long Shank 60 / 90°		Ø3 ~ Ø12	71
	三刃 3 Flutes	MEFCD300000A	標準型-Standard 60 / 90°		Ø3 ~ Ø12	71
	三刃 3 Flutes	MEFCDL300000A	長柄型-Long Shank 60 / 90°		Ø3 ~ Ø12	71
雕刻銑刀 Engraving Cutter	單刃 1 Flutes	CEU(M)000000	標準型-Standard 30 / 60 / 90°		Ø0.1 ~ Ø1.5	70
車床刀具系列 Carbide Tools For Lathe						
平刀 Square	二刃 2 Flutes	CLES20000A	小柄短刃型 -With Small Shank		Ø2 ~ Ø12	73
	三刃 3 Flutes	CLES30000A	小柄短刃型 -With Small Shank		Ø2 ~ Ø12	73
	四刃 4 Flutes	CLES40000A	小柄短刃型 -With Small Shank		Ø4 ~ Ø16	73
	六刃 6 Flutes	CLES60000A	小柄短刃型 -With Small Shank		Ø6 ~ Ø16	73

碳素鋼 Carbon Steels (<20HRC)	合金鋼 Alloy Steels (20~30HRC)	合金鋼 Alloy Steels (30~45HRC)	調質鋼 Hardened Steels (45~55HRC)	調質鋼 Hardened Steels (55~63HRC)	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	銅 Copper	非金屬 Non-metal	高溫合金 High Temp Alloys	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												A	B	C	D
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—	—	—	—	—	—	—	—	—	○	—	乾式 / 濕式 (Dry / Wet)	—	—	◎	◎
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◎	◎	○	—	—	○	○	○	○	—	—	濕式(Wet)				
◎	◎	○	—	—	○	○	○	○	—	—	濕式(Wet)				
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◎	◎	○	—	—	○	○	○	○	—	—	濕式(Wet)				
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◎	◎	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)				
◎	◎	○	—	—	○	○	—	—	—	—	乾式 / 濕式 (Dry / Wet)				
◎	◎	—	—	—	○	○	○	○	—	—	乾式 / 濕式 (Dry / Wet)				
—	—	—	—	—	—	—	◎	◎	◎	—	乾式 / 濕式 (Dry / Wet)				
—	—	—	—	—	—	—	◎	◎	◎	—	乾式 / 濕式 (Dry / Wet)				
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)				
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)				
○	—	—	—	—	—	—	◎	◎	◎	○	濕式(Wet)				
◎	◎	◎	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	○	◎	○
◎	◎	◎	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	—	◎	◎	○
◎	◎	◎	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—
◎	◎	◎	—	—	○	◎	—	—	—	—	乾式 / 濕式 (Dry / Wet)	○	◎	○	—

加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品簡介與選用建議表 Product Selection Table (For reference only)

刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
銑牙刀系列 Carbide Thread Cutter						
多功能 鑽銑牙刀 Multipurpose Thread Cutter (Drill-Thread- Chamfer)	二刃 2 Flutes	CSHI200000-000A	內螺紋-ISO規格 -Internal-ISO		Ø5.0 ~ Ø10.3	75
	單刃 1 Flute	MSHIA100000-000A	內螺紋-ISO規格 -Internal-ISO		Ø0.60~Ø1.21	75
	二刃 2 Flutes	MSHIA200000-000A	內螺紋-ISO規格 -Internal-ISO		Ø1.55~Ø4.00	75
	三刃 3 Flutes	MSHIA300000-000A	內螺紋-ISO規格 -Internal-ISO		Ø4.85~Ø7.90	75
	一刃 1 Flute	MSHIDA100000-000A	內螺紋-ISO規格 -Internal-ISO		Ø0.60~Ø1.21	75
	二刃 2 Flutes	MSHIDA200000-000A	內螺紋-ISO規格 -Internal-ISO		Ø1.55~Ø4.00	75
	三刃 3 Flutes	MSHIDA300000-000A	內螺紋-ISO規格 -Internal-ISO		Ø4.85~Ø7.90	75
直刃銑牙刀 Thread Straight Flute	三刃 3 Flutes	CTSE300000-000A	外螺紋-ISO規格 -External-ISO		Ø5.9 ~ Ø7.9	75
	五刃 5 Flutes	CTSE500000-000A	外螺紋-ISO規格 -External-ISO		Ø9.9 ~ Ø19.9	75
	三刃 3 Flutes	CTSI300000-000A	內螺紋-ISO規格 -Internal-ISO		Ø3.0 ~ Ø5.9	76
	五刃 5 Flutes	CTSI500000-000A	內螺紋-ISO規格 -Internal-ISO		Ø9.9 ~ Ø19.9	76
	三刃 3 Flutes	CTSEU300000-000A	外螺紋-UN美製規格 -External-American UN		Ø5.9 ~ Ø7.9	76
	五刃 5 Flutes	CTSEU500000-000A	外螺紋-UN美製規格 -External-American UN		Ø9.9 ~ Ø19.9	76
	三刃 3 Flutes	CTSIU300000-000A	內螺紋-UN美製規格 -Internal-American UN		Ø3.0 ~ Ø7.9	76
	五刃 5 Flutes	CTSIU500000-000A	內螺紋-UN美製規格 -Internal-American UN		Ø9.9 ~ Ø19.9	76
螺旋銑牙刀 Thread Helix Flute	三刃 3 Flutes	CTHI300000-000A	內螺紋-ISO規格 -Internal-ISO		Ø2.2 ~ Ø7.7	76
	四刃 4 Flutes	CTHI400000-000A	內螺紋-ISO規格 -Internal-ISO		Ø9.9 ~ Ø15.9	76
	五刃 5 Flutes	CTHI500000-000A	內螺紋-ISO規格 -Internal-ISO		Ø13.9	76
	三刃 3 Flutes	CTHIU300000-000A	內螺紋-UN美製規格 -Internal-American UN		Ø3.0 ~ Ø6.7	77
	四刃 4 Flutes	CTHIU400000-000A	內螺紋-UN美製規格 -Internal-American UN		Ø9.2 ~ Ø17.0	77
	五刃 5 Flutes	CTHIU500000-000A	內螺紋-UN美製規格 -Internal-American UN		Ø13.5~Ø19.9	77
	三/四/五刃 3/4/5 Flutes	CTHPT000000-000A	外/內螺紋-NPT美製規格 -Internal-ISO NEW		Ø5.3 ~ Ø15.5	77
	三刃 3 Flutes	MTHIA000000-000A	內螺紋-ISO規格 -Internal-ISO NEW		Ø1.2 ~ Ø15.9	77



S220 鎢鋼銑刀系列

MICRO GRAIN CARBIDE END MILLS

- 應用於泛用鋼材($\leq 50\text{HRC}$)、鑄鐵、軟材質加工(鋁/銅合金)。
For general steel($\leq 50\text{HRC}$), cast iron and aluminum/copper alloy machining.
- 包裝盒蓋以「黃色」為主色。
S220's packaging-box-color is "yellow".

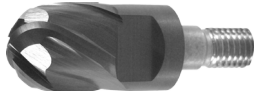
CHS4-A
鎖牙式-S220鎢鋼平銑刀頭-標準型-4刃
THREAD- S220 MICRO GRAIN CARBIDE END MILLS- Square
Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	螺紋M Thread	扳手編號 Wrench	鍍膜訂購編號 Coated Order No.
8.0	8	17.0	M4×0.7	TC06	CHS40800A
10.0	10	20.0	M5×0.8	TC07	CHS41000A
12.0	12	23.2	M6×1.0	TC08	CHS41200A
16.0	16	30.0	M8×1.25	TC11	CHS41600A
20.0	20	37.2	M10×1.5	TC15	CHS42000A
25.0	25	44.7	M12×1.75	TC19	CHS42500A
32.0	32	55.2	M16×2.0	TC24	CHS43200A

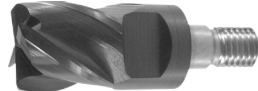
CHB4-A
鎖牙式-S220鎢鋼球型銑刀頭-標準型-4刃
THREAD- S220 MICRO GRAIN CARBIDE END MILLS- Ball
Nosed- 4F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	螺紋M Thread	扳手 編號 Wrench	鍍膜訂購編號 Coated Order No.
4.0R	8	17.0	M4×0.7	TC06	CHB40400A
5.0R	10	20.0	M5×0.8	TC07	CHB40500A
6.0R	12	23.2	M6×1.0	TC08	CHB40600A
8.0R	16	30.0	M8×1.25	TC11	CHB40800A
10.0R	20	37.2	M10×1.5	TC15	CHB41000A
12.5R	25	44.7	M12×1.75	TC19	CHB41250A

CHCR4-A
鎖牙式-S220鎢鋼圓鼻銑刀頭-標準型-4刃
THREAD- S220 MICRO GRAIN CARBIDE END MILLS- Corner
Radius- 4F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	螺紋M Thread	扳手編號 Wrench	鍍膜訂購編號 Coated Order No.
8.0	0.5R	8	17.0	M4×0.7	TC06	CHCR4080005A
8.0	1.0R	8	17.0	M4×0.7	TC06	CHCR40800010A
8.0	2.0R	8	17.0	M4×0.7	TC06	CHCR40800020A
10.0	0.5R	10	20.0	M5×0.8	TC07	CHCR41000005A
10.0	1.0R	10	20.0	M5×0.8	TC07	CHCR41000010A
10.0	2.0R	10	20.0	M5×0.8	TC07	CHCR41000020A
12.0	1.0R	12	23.2	M6×1.0	TC08	CHCR4120010A
12.0	2.0R	12	23.2	M6×1.0	TC08	CHCR41200020A
12.0	3.0R	12	23.2	M6×1.0	TC08	CHCR4120030A
16.0	1.0R	16	30.0	M8×1.25	TC11	CHCR4160010A
16.0	2.0R	16	30.0	M8×1.25	TC11	CHCR4160020A
16.0	3.0R	16	30.0	M8×1.25	TC11	CHCR4160030A
20.0	2.0R	20	37.2	M10×1.5	TC15	CHCR4200020A
20.0	3.0R	20	37.2	M10×1.5	TC15	CHCR4200030A
20.0	4.0R	20	37.2	M10×1.5	TC15	CHCR4200040A

LCL-L
鎢鋼抗震刀桿
CARBIDE ANTI- VIBRATION HOLDER



螺紋M Thread	外徑 Diameter	全長 O.A.L.	訂購編號 Order No.
M5 × 0.8	10	75	LCL010-075L
M5 × 0.8	10	100	LCL010-100L
M5 × 0.8	10	150	LCL010-150L
M6 × 1.0	12	75	LCL012-075L
M6 × 1.0	12	100	LCL012-100L
M6 × 1.0	12	150	LCL012-150L
M6 × 1.0	12	200	LCL012-200L
M8 × 1.25	16	100	LCL016-100L
M8 × 1.25	16	150	LCL016-150L
M8 × 1.25	16	200	LCL016-200L
M8 × 1.25	16	250	LCL016-250L
M10 × 1.5	20	100	LCL020-100L
M10 × 1.5	20	150	LCL020-150L
M10 × 1.5	20	200	LCL020-200L
M10 × 1.5	20	250	LCL020-250L
M10 × 1.5	20	300	LCL020-300L
M12 × 1.75	25	100	LCL025-100L
M12 × 1.75	25	150	LCL025-150L
M12 × 1.75	25	200	LCL025-200L
M12 × 1.75	25	250	LCL025-250L
M12 × 1.75	25	300	LCL025-300L
M16 × 2.0	32	100	LCL032-100L
M16 × 2.0	32	150	LCL032-150L
M16 × 2.0	32	200	LCL032-200L
M16 × 2.0	32	250	LCL032-250L
M16 × 2.0	32	300	LCL032-300L

LCN-L-E
鎢鋼抗震刀桿-頸型
CARBIDE ANTI- VIBRATION HOLDER- NECK



螺紋M Thread	外徑 Diameter	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	訂購編號 Order No.
M6 × 1.0	11.7	30	75	12	LCN011-075L-030E
M6 × 1.0	11.7	40	100	12	LCN011-100L-040E
M6 × 1.0	11.7	50	150	12	LCN011-150L-050E
M8 × 1.25	15.7	40	100	16	LCN015-100L-040E
M8 × 1.25	15.7	50	150	16	LCN015-150L-050E
M10 × 1.5	19.5	40	100	20	LCN019-100L-040E
M10 × 1.5	19.5	50	150	20	LCN019-150L-050E
M10 × 1.5	19.5	60	200	20	LCN019-200L-060E
M12 × 1.75	24.5	40	100	25	LCN024-100L-040E
M12 × 1.75	24.5	50	150	25	LCN024-150L-050E
M12 × 1.75	24.5	60	200	25	LCN024-200L-060E
M12 × 1.75	24.5	80	250	25	LCN024-250L-080E
M16 × 2.0	31.5	40	100	32	LCN031-100L-040E
M16 × 2.0	31.5	50	150	32	LCN031-150L-050E
M16 × 2.0	31.5	60	200	32	LCN031-200L-060E
M16 × 2.0	31.5	80	250	32	LCN031-250L-080E

CESS2-A / CESM2-A

S220 鎢鋼平銑刀-微柄/小柄型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F- Micro Diameter



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.2	0.4	50	3	CESS20020A
0.25	0.5	50	3	CESS20025A
0.3	0.6	50	3	CESS20030A
0.35	0.7	50	3	CESS20035A
0.4	0.8	50	3	CESS20040A
0.5	1.0	50	3	CESS20050A
0.6	1.5	50	3	CESS20060A
0.7	2.0	50	3	CESS20070A
0.8	2.0	50	3	CESS20080A
0.9	2.0	50	3	CESS20090A
1.0	3.0	50	3	CESS20100A
1.5	4.0	50	3	CESS20150A
2.0	5.0	50	3	CESS20200A
2.5	6.0	50	3	CESS20250A
3.0	8.0	50	3	CESS20300A
0.2	0.4	50	4	CESM20020A
0.25	0.5	50	4	CESM20025A
0.3	0.6	50	4	CESM20030A
0.35	0.7	50	4	CESM20035A
0.4	0.8	50	4	CESM20040A
0.5	1.0	50	4	CESM20050A
0.6	1.5	50	4	CESM20060A
0.7	2.0	50	4	CESM20070A
0.8	2.0	50	4	CESM20080A
0.9	2.0	50	4	CESM20090A
1.0	3.0	50	4	CESM20100A
1.5	4.0	50	4	CESM20150A
2.0	5.0	50	4	CESM20200A
2.5	6.0	50	4	CESM20250A
3.0	8.0	50	4	CESM20300A
3.5	9.0	50	4	CESM20350A
4.0	10.0	50	4	CESM20400A

CES2-A

S220 鎢鋼平銑刀-標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	3	50	6	CES20100A
1.5	4	50	6	CES20150A
2.0	5	50	6	CES20200A
2.5	6	50	6	CES20250A
3.0	8	50	6	CES20300A
3.5	9	50	6	CES20350A
4.0	10	50	6	CES20400A
4.5	11	50	6	CES20450A
5.0	13	50	6	CES20500A
5.5	14	50	6	CES20550A
6.0	15	50	6	CES20600A
6.5	16	60	8	CES20650A
7.0	18	60	8	CES20700A
7.5	18	60	8	CES20750A
8.0	20	60	8	CES20800A
8.5	20	75	10	CES20850A
9.0	22	75	10	CES20900A
9.5	22	75	10	CES20950A
10.0	25	75	10	CES21000A
10.0	30	75	10	CES21000300CA
10.5	25	75	12	CES21050A
11.0	25	75	12	CES21100A
11.5	25	75	12	CES21150A
12.0	30	75	12	CES21200A
12.0	36	75	12	CES21200360CA
13.0	30	75	14	CES2130014A
14.0	30	75	14	CES2140014A
15.0	35	100	16	CES21500A
16.0	35	100	16	CES21600A
16.0	45	100	16	CES21600450CA
18.0	40	100	18	CES2180018A
18.0	40	100	20	CES21800A
20.0	45	100	20	CES22000A
25.0	45	100	25	CES22500A

CESM2-A
S220 鎢鋼平銑刀-小柄點數型-2刃
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F-
Decimal Diameter



超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	●
粗銑 Roughing	○

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.1	3	50	4	CESM20110A
1.2	3	50	4	CESM20120A
1.3	3	50	4	CESM20130A
1.4	3	50	4	CESM20140A
1.6	4	50	4	CESM20160A
1.7	4	50	4	CESM20170A
1.8	4	50	4	CESM20180A
1.9	4	50	4	CESM20190A
2.1	5	50	4	CESM20210A
2.2	5	50	4	CESM20220A
2.3	5	50	4	CESM20230A
2.4	5	50	4	CESM20240A
2.6	6	50	4	CESM20260A
2.7	6	50	4	CESM20270A
2.8	6	50	4	CESM20280A
2.9	6	50	4	CESM20290A
3.1	8	50	4	CESM20310A
3.2	8	50	4	CESM20320A
3.3	8	50	4	CESM20330A
3.4	8	50	4	CESM20340A
3.6	9	50	4	CESM20360A
3.7	9	50	4	CESM20370A
3.8	9	50	4	CESM20380A
3.9	9	50	4	CESM20390A

CES2-A
S220 鎢鋼平銑刀-點數型-2刃
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F-
Decimal Diameter



超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	●
粗銑 Roughing	○

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.1	3	50	6	CES20110A
1.2	3	50	6	CES20120A
1.3	3	50	6	CES20130A
1.4	3	50	6	CES20140A
1.6	4	50	6	CES20160A
1.7	4	50	6	CES20170A
1.8	4	50	6	CES20180A
1.9	4	50	6	CES20190A
2.1	5	50	6	CES20210A
2.2	5	50	6	CES20220A
2.3	5	50	6	CES20230A
2.4	5	50	6	CES20240A
2.6	6	50	6	CES20260A
2.7	6	50	6	CES20270A
2.8	6	50	6	CES20280A
2.9	6	50	6	CES20290A
3.1	8	50	6	CES20310A
3.2	8	50	6	CES20320A
3.3	8	50	6	CES20330A
3.4	8	50	6	CES20340A
3.6	9	50	6	CES20360A
3.7	9	50	6	CES20370A
3.8	9	50	6	CES20380A
3.9	9	50	6	CES20390A

CES2-A S220 鎢鋼平銑刀-點數型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F-Decimal Diameter



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
4.1	10	50	6	CES20410A
4.2	10	50	6	CES20420A
4.3	10	50	6	CES20430A
4.4	11	50	6	CES20440A
4.6	11	50	6	CES20460A
4.7	11	50	6	CES20470A
4.8	11	50	6	CES20480A
4.9	11	50	6	CES20490A
5.1	13	50	6	CES20510A
5.2	13	50	6	CES20520A
5.3	13	50	6	CES20530A
5.4	13	50	6	CES20540A
5.6	14	50	6	CES20560A
5.7	14	50	6	CES20570A
5.8	14	50	6	CES20580A
5.9	14	50	6	CES20590A
6.1	15	60	8	CES20610A
6.2	15	60	8	CES20620A
6.3	15	60	8	CES20630A
6.4	15	60	8	CES20640A
6.6	16	60	8	CES20660A
6.7	16	60	8	CES20670A
6.8	16	60	8	CES20680A
6.9	16	60	8	CES20690A
7.1	18	60	8	CES20710A
7.2	18	60	8	CES20720A
7.3	18	60	8	CES20730A
7.4	18	60	8	CES20740A
7.6	18	60	8	CES20760A
7.7	18	60	8	CES20770A
7.8	18	60	8	CES20780A
7.9	18	60	8	CES20790A
8.1	20	75	10	CES20810A
8.2	20	75	10	CES20820A
8.3	20	75	10	CES20830A
8.4	20	75	10	CES20840A
8.6	20	75	10	CES20860A
8.7	20	75	10	CES20870A
8.8	20	75	10	CES20880A
8.9	20	75	10	CES20890A
9.1	22	75	10	CES20910A
9.2	22	75	10	CES20920A
9.3	22	75	10	CES20930A
9.4	22	75	10	CES20940A
9.6	22	75	10	CES20960A
9.7	22	75	10	CES20970A
9.8	22	75	10	CES20980A
9.9	22	75	10	CES20990A
10.1	25	75	12	CES21010A
10.2	25	75	12	CES21020A
10.3	25	75	12	CES21030A
10.4	25	75	12	CES21040A
10.6	25	75	12	CES21060A
10.7	25	75	12	CES21070A
10.8	25	75	12	CES21080A
10.9	25	75	12	CES21090A

CEI2-A S220 鎢鋼平銑刀-英吋型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F-Inch Diameter



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1/16(1.58)	5	50	4	CEI20116A
5/64(1.98)	5	50	4	CEI20564A
3/32(2.38)	6	50	4	CEI20332A
1/8 (3.18)	10	50	4	CEI20108A
5/32(3.97)	10	50	6	CEI20532A
3/16(4.76)	13	50	6	CEI20316A
1/4 (6.35)	18	60	8	CEI20104A
5/16(7.94)	20	60	8	CEI20516A
3/8 (9.53)	21	75	10	CEI20308A
1/2 (12.7)	25	75	12	CEI20102A

CELFM2-A / CELF2-A / CEFF2-A S220 鎢鋼平銑刀-長刃小柄(標準)/特長刃型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type & (Extra) Long Flute- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	10	50	4	CELFM20200A
3.0	15	60	4	CELFM20300A
4.0	20	60	4	CELFM20400A
3.0	15	60	6	CELF20300A
4.0	20	60	6	CELF20400A
5.0	25	75	6	CELF20500A
6.0	30	75	6	CELF20600A
8.0	35	100	8	CELF20800A
10.0	45	100	10	CELF21000A
12.0	45	100	12	CELF21200A
14.0	70	150	14	CELF2140014A
14.0	70	150	16	CELF21400A
16.0	70	150	16	CELF21600A
18.0	75	150	20	CELF21800A
20.0	75	150	20	CELF22000A
25.0	75	150	25	CELF22500A
10.0	55	100	10	CEFF21000A
12.0	55	100	12	CEFF21200A
16.0	80	150	16	CEFF21600A
20.0	90	150	20	CEFF22000A

CELS2-A

S220 鎢鋼平銑刀-長柄型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Long Shank- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	75	6	CELS20300A
4.0	10	75	6	CELS20400A
5.0	13	75	6	CELS20500A
6.0	15	75	6	CELS20600A
8.0	20	100	8	CELS20800A
10.0	25	100	10	CELS21000A
12.0	30	100	12	CELS21200A

CESM3-A / CES3-A

S220 鎢鋼平銑刀-小柄/標準型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	CESM30200A
2.5	6	50	4	CESM30250A
3.0	8	50	4	CESM30300A
3.5	9	50	4	CESM30350A
4.0	10	50	4	CESM30400A
2.0	5	50	6	CES30200A
2.5	6	50	6	CES30250A
3.0	8	50	6	CES30300A
3.5	9	50	6	CES30350A
4.0	10	50	6	CES30400A
4.5	11	50	6	CES30450A
5.0	13	50	6	CES30500A
5.5	14	50	6	CES30550A
6.0	15	50	6	CES30600A
6.5	16	60	8	CES30650A
7.0	18	60	8	CES30700A
7.5	18	60	8	CES30750A
8.0	20	60	8	CES30800A
8.5	20	75	10	CES30850A
9.0	22	75	10	CES30900A
9.5	22	75	10	CES30950A
10.0	25	75	10	CES31000A
10.5	25	75	12	CES31050A
11.0	25	75	12	CES31100A
11.5	25	75	12	CES31150A
12.0	30	75	12	CES31200A
13.0	30	75	14	CES3130014A
14.0	30	75	14	CES3140014A
15.0	35	100	16	CES31500A
16.0	35	100	16	CES31600A

CELS4-A

S220 鎢鋼平銑刀-長柄型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Long Shank- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	75	6	CELS40300A
4.0	10	75	6	CELS40400A
5.0	13	75	6	CELS40500A
6.0	15	75	6	CELS40600A
8.0	20	100	8	CELS40800A
10.0	25	100	10	CELS41000A
12.0	30	100	12	CELS41200A
16.0	40	150	16	CELS41600A
20.0	40	150	20	CELS42000A

CESS4-A / CESM4-A

S220 鎢鋼平銑刀-微柄/小柄型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	3	50	3	CESS40100A
1.5	4	50	3	CESS40150A
2.0	5	50	3	CESS40200A
2.5	6	50	3	CESS40250A
3.0	8	50	3	CESS40300A
1.0	3	50	4	CESM40100A
1.5	4	50	4	CESM40150A
2.0	5	50	4	CESM40200A
2.5	6	50	4	CESM40250A
3.0	8	50	4	CESM40300A
3.5	9	50	4	CESM40350A
4.0	10	50	4	CESM40400A

CES4-A S220鎢鋼平銑刀-微柄/小柄型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	CES40300A
3.5	9	50	6	CES40350A
4.0	10	50	6	CES40400A
4.5	11	50	6	CES40450A
5.0	13	50	6	CES40500A
5.5	14	50	6	CES40550A
6.0	15	50	6	CES40600A
6.5	16	60	8	CES40650A
7.0	18	60	8	CES40700A
7.5	18	60	8	CES40750A
8.0	20	60	8	CES40800A
8.5	20	75	10	CES40850A
9.0	22	75	10	CES40900A
9.5	22	75	10	CES40950A
10.0	25	75	10	CES41000A
10.0	30	75	10	CES41000300CA
10.5	25	75	12	CES41050A
11.0	25	75	12	CES41100A
11.5	25	75	12	CES41150A
12.0	30	75	12	CES41200A
12.0	36	75	12	CES41200360CA
13.0	30	75	14	CES4130014A
14.0	30	75	14	CES4140014A
15.0	35	100	16	CES41500A
16.0	35	100	16	CES41600A
16.0	45	100	16	CES41600450CA
18.0	40	100	18	CES4180018A
18.0	40	100	20	CES41800A
20.0	45	100	20	CES42000A
25.0	45	100	25	CES42500A

CEH3-A S220鎢鋼平銑刀-高導標準型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	CEH30300A
4.0	10	50	6	CEH30400A
5.0	13	50	6	CEH30500A
6.0	15	50	6	CEH30600A
8.0	20	60	8	CEH30800A
10.0	25	75	10	CEH31000A
12.0	30	75	12	CEH31200A
16.0	35	100	16	CEH31600A
20.0	40	100	20	CEH32000A

CELFM4-A / CELF4-A / CEFF4-A S220鎢鋼平銑刀-長刃小柄(標準)/特長刃型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type & (Extra) Long Flute- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	5	50	4	CELFM40100A
2.0	10	50	4	CELFM40200A
3.0	15	60	4	CELFM40300A
4.0	20	60	4	CELFM40400A
3.0	15	60	6	CELF40300A
4.0	20	60	6	CELF40400A
5.0	25	75	6	CELF40500A
6.0	30	75	6	CELF40600A
8.0	35	100	8	CELF40800A
10.0	45	100	10	CELF41000A
12.0	45	100	12	CELF41200A
14.0	70	150	14	CELF4140014A
14.0	70	150	16	CELF41400A
16.0	70	150	16	CELF41600A
18.0	75	150	20	CELF41800A
20.0	75	150	20	CELF42000A
25.0	75	150	25	CELF42500A
10.0	55	100	10	CEFF41000A
12.0	55	100	12	CEFF41200A
16.0	80	150	16	CEFF41600A
20.0	90	150	20	CEFF42000A

CEHM4-A / CEH4-A S220鎢鋼平銑刀-高導小柄/高導標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	CEHM40100A
2.0	5	50	4	CEHM40200A
1.0	3	50	6	CEH40100A
2.0	5	50	6	CEH40200A
3.0	8	50	6	CEH40300A
4.0	10	50	6	CEH40400A
5.0	13	50	6	CEH40500A
6.0	15	50	6	CEH40600A
8.0	20	60	8	CEH40800A
10.0	25	75	10	CEH41000A
12.0	30	75	12	CEH41200A
16.0	35	100	16	CEH41600A
20.0	40	100	20	CEH42000A

CEHF4-A

S220 鎢鋼平銑刀-高導長刃型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix & Long Flute- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	15	60	6	CEHF40300A
4.0	20	60	6	CEHF40400A
5.0	25	75	6	CEHF40500A
6.0	30	75	6	CEHF40600A
8.0	45	100	8	CEHF40800A
10.0	55	100	10	CEHF41000A
12.0	55	100	12	CEHF41200A
14.0	75	150	14	CEHF41400A
16.0	75	150	16	CEHF41600A
18.0	90	150	18	CEHF41800A
20.0	90	150	20	CEHF42000A

CERR3-A

S220 鎢鋼粗銑平銑刀-標準型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Roughing- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CERR30600A
8.0	20	60	8	CERR30800A
10.0	25	75	10	CERR31000A
12.0	30	75	12	CERR31200A
16.0	40	100	16	CERR31600A
20.0	45	100	20	CERR32000A

CER3-A

S220 鎢鋼平銑刀-高導粗精型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- High Helix- Semi-Finishing- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CER30600A
8.0	20	60	8	CER30800A
10.0	25	75	10	CER31000A
12.0	30	75	12	CER31200A
16.0	40	100	16	CER31600A
20.0	45	100	20	CER32000A

CERR4-A

S220 鎢鋼粗銑平銑刀-標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Roughing- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CERR40600A
8.0	20	60	8	CERR40800A
10.0	25	75	10	CERR41000A
12.0	30	75	12	CERR41200A
16.0	40	100	16	CERR41600A
20.0	45	100	20	CERR42000A

CER4-A

S220 鎢鋼平銑刀-高導粗精型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- High Helix- Semi-Finishing- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CER40600A
8.0	20	60	8	CER40800A
10.0	25	75	10	CER41000A
12.0	30	75	12	CER41200A
16.0	40	100	16	CER41600A
20.0	45	100	20	CER42000A

CETF2-A

S220 鎢鋼斜度銑刀-標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Taper- 2F



01



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

先端徑 First Diameter	刃斜角 Taper Angle	刃長 Cutting Length	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.5°	4.0	1.07	50	4	CETF2010005A
1.0	1°	4.0	1.14	50	4	CETF2010010A
1.0	1.5°	4.0	1.21	50	4	CETF2010015A
1.0	2°	4.0	1.28	50	4	CETF2010020A
1.0	2.5°	4.0	1.35	50	4	CETF2010025A
1.0	3°	4.0	1.42	50	4	CETF2010030A
1.0	5°	4.0	1.70	50	4	CETF2010050A
1.0	7°	4.0	1.98	50	4	CETF2010070A
1.0	10°	4.0	2.41	50	4	CETF20100100A
1.0	15°	4.0	3.14	50	4	CETF20100150A
1.5	0.5°	5.0	1.59	50	4	CETF2015005A
1.5	1°	5.0	1.68	50	4	CETF2015010A
1.5	1.5°	5.0	1.76	50	4	CETF2015015A
1.5	2°	5.0	1.85	50	4	CETF2015020A
1.5	2.5°	5.0	1.93	50	4	CETF2015025A
1.5	3°	5.0	2.02	50	4	CETF2015030A
1.5	5°	5.0	2.37	50	4	CETF2015050A
2.0	0.5°	6.0	2.10	50	4	CETF2020005A
2.0	1°	6.0	2.21	50	4	CETF2020010A
2.0	1.5°	6.0	2.31	50	4	CETF2020015A
2.0	2°	6.0	2.41	50	4	CETF2020020A
2.0	2.5°	6.0	2.52	50	4	CETF2020025A
2.0	3°	6.0	2.62	50	4	CETF2020030A
2.0	5°	6.0	3.05	50	4	CETF2020050A
2.0	7°	6.0	3.47	50	4	CETF2020070A
2.0	10°	6.0	4.11	50	6	CETF20200100A
2.0	15°	6.0	5.22	50	6	CETF20200150A
2.5	0.5°	8.0	2.64	50	4	CETF2025005A
2.5	1°	8.0	2.78	50	4	CETF2025010A
2.5	1.5°	8.0	2.91	50	4	CETF2025015A
2.5	2°	8.0	3.05	50	4	CETF2025020A
2.5	2.5°	8.0	3.20	50	4	CETF2025025A
2.5	3°	8.0	3.33	50	4	CETF2025030A
2.5	5°	8.0	3.90	50	4	CETF2025050A
3.0	0.5°	10.0	3.17	50	6	CETF2030005A
3.0	1°	10.0	3.35	50	6	CETF2030010A
3.0	1.5°	10.0	3.52	50	6	CETF2030015A
3.0	2°	10.0	3.69	50	6	CETF2030020A
3.0	2.5°	10.0	3.87	50	6	CETF2030025A
3.0	3°	10.0	4.05	50	6	CETF2030030A
3.0	5°	10.0	4.75	50	6	CETF2030050A
3.0	7°	12.0	6.00	50	6	CETF2030070A
3.0	10°	12.0	7.22	60	8	CETF20300100A
3.0	15°	12.0	9.40	75	10	CETF20300150A
4.0	0.5°	15.0	4.26	50	6	CETF2040005A
4.0	1°	15.0	4.52	50	6	CETF2040010A
4.0	1.5°	15.0	4.79	50	6	CETF2040015A
4.0	2°	15.0	5.04	50	6	CETF2040020A
4.0	2.5°	15.0	5.31	50	6	CETF2040025A
4.0	3°	15.0	5.57	50	6	CETF2040030A
4.0	5°	15.0	6.62	60	8	CETF2040050A
4.0	7°	16.0	8.00	60	8	CETF2040070A
4.0	10°	17.0	10.00	75	10	CETF20400100A
4.0	15°	14.9	12.00	75	12	CETF20400150A
5.0	0.5°	20.0	5.34	60	6	CETF2050005A
5.0	1°	20.0	5.70	60	6	CETF2050010A
5.0	1.5°	19.6	6.00	60	6	CETF2050015A
5.0	2°	20.0	6.39	60	8	CETF2050020A
5.0	2.5°	20.0	6.74	60	8	CETF2050025A
5.0	3°	20.0	7.10	60	8	CETF2050030A
5.0	5°	20.0	8.50	75	10	CETF2050050A
5.0	7°	20.0	10.00	75	10	CETF2050070A
5.0	10°	20.0	12.00	75	12	CETF20500100A

CETF2-A

S220 鎢鋼斜度銑刀-標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Taper- 2F



01



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

先端徑 First Diameter	刃斜角 Taper Angle	刃長 Cutting Length	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	0.5°	20	6.35	60	8	CETF2060005A
6.0	1°	20	6.70	60	8	CETF2060010A
6.0	1.5°	20	7.05	60	8	CETF2060015A
6.0	2°	20	7.40	60	8	CETF2060020A
6.0	2.5°	20	7.75	60	8	CETF2060025A
6.0	3°	20	8.10	75	10	CETF2060030A
6.0	5°	20	9.50	75	10	CETF2060050A
6.0	7°	24	12.00	75	12	CETF2060070A
6.0	10°	22	14.00	75	14	CETF20600100A
8.0	0.5°	25	8.44	75	10	CETF2080005A
8.0	1°	25	8.87	75	10	CETF2080010A
8.0	1.5°	25	9.31	75	10	CETF2080015A
8.0	2°	25	9.75	75	10	CETF2080020A
8.0	3°	25	10.62	75	12	CETF2080030A
8.0	5°	25	12.37	75	14	CETF2080050A
8.0	7°	32	16.00	100	16	CETF2080070A
8.0	10°	28	18.00	100	18	CETF20800100A
10.0	0.5°	35	10.61	75	12	CETF2100005A
10.0	1°	35	11.22	75	12	CETF2100010A
10.0	1.5°	35	11.83	75	12	CETF2100015A
10.0	2°	35	12.44	75	14	CETF2100020A
10.0	3°	35	13.67	75	14	CETF2100030A
10.0	5°	34.2	16.00	100	16	CETF2100050A

CEN2-A

S220 鎢鋼平銑刀-長頸型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type & Long Neck- 2F



01



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.5	7.5	50	4	CEN20100075A
1.0	1.5	11.5	50	4	CEN20100115A
1.2	2.0	8.0	50	4	CEN20120080A
1.2	2.0	12.0	50	4	CEN20120120A
1.5	2.5	10.5	50	4	CEN20150105A
1.5	2.5	18.5	50	4	CEN20150185A
1.8	3.0	11.0	50	4	CEN20180110A
1.8	3.0	19.0	50	4	CEN20180190A
2.0	3.0	11.0	50	4	CEN20200110A
2.0	3.0	19.0	50	4	CEN20200190A
2.0	3.0	23.0	60	4	CEN20200230A
2.5	3.5	15.5	50	4	CEN20250155A
2.5	3.5	23.5	60	4	CEN20250235A
3.0	4.5	16.5	60	6	CEN20300165A
3.0	4.5	24.5	75	6	CEN20300245A
4.0	6.0	26.0	75	6	CEN20400260A
4.0	6.0	36.0	75	6	CEN20400360A

S220 MICRO GRAIN CARBIDE END MILLS- Square Type & Long Neck- 4F



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.5	7.5	50	4	CEN40100075A
1.0	1.5	11.5	50	4	CEN40100115A
1.2	2.0	8.0	50	4	CEN40120080A
1.2	2.0	12.0	50	4	CEN40120120A
1.5	2.5	10.5	50	4	CEN40150105A
1.5	2.5	18.5	50	4	CEN40150185A
1.8	3.0	11.0	50	4	CEN40180110A
1.8	3.0	19.0	50	4	CEN40180190A
2.0	3.0	11.0	50	4	CEN40200110A
2.0	3.0	19.0	50	4	CEN40200190A
2.0	3.0	23.0	60	4	CEN40200230A
2.5	3.5	15.5	50	4	CEN40250155A
2.5	3.5	23.5	60	4	CEN40250235A
3.0	4.5	16.5	60	6	CEN40300165A
3.0	4.5	24.5	75	6	CEN40300245A
4.0	6.0	26.0	75	6	CEN40400260A
4.0	6.0	36.0	75	6	CEN40400360A

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed- 2F-Micro Diameter



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.1R	0.4	50	3	CEBS20010A
0.15R	0.6	50	3	CEBS20015A
0.2R	0.8	50	3	CEBS20020A
0.25R	1.0	50	3	CEBS20025A
0.3R	1.2	50	3	CEBS20030A
0.35R	1.4	50	3	CEBS20035A
0.4R	1.6	50	3	CEBS20040A
0.45R	1.8	50	3	CEBS20045A
0.5R	2.0	50	3	CEBS20050A
0.6R	2.4	50	3	CEBS20060A
0.7R	2.8	50	3	CEBS20070A
0.75R	3.0	50	3	CEBS20075A
0.8R	3.2	50	3	CEBS20080A
0.9R	3.6	50	3	CEBS20090A
1.0R	4.0	50	3	CEBS20100A
1.5R	6.0	50	3	CEBS20150A
0.1R	0.4	50	4	CEBM20010A
0.15R	0.6	50	4	CEBM20015A
0.2R	0.8	50	4	CEBM20020A
0.25R	1.0	50	4	CEBM20025A
0.3R	1.2	50	4	CEBM20030A
0.35R	1.4	50	4	CEBM20035A
0.4R	1.6	50	4	CEBM20040A
0.45R	1.8	50	4	CEBM20045A

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed- 2F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	2.0	50	4	CEBM20050A
0.6R	2.4	50	4	CEBM20060A
0.7R	2.8	50	4	CEBM20070A
0.75R	3.0	50	4	CEBM20075A
1.0R	4.0	50	4	CEBM20100A
1.25R	5.0	50	4	CEBM20125A
1.5R	6.0	50	4	CEBM20150A
1.75R	7.0	50	4	CEBM20175A
2.0R	8.0	50	4	CEBM20200A
1.0R	4.0	50	6	CEB20100A
1.25R	5.0	50	6	CEB20125A
1.5R	6.0	50	6	CEB20150A
2.0R	8.0	50	6	CEB20200A
2.5R	10.0	50	6	CEB20250A
3.0R	12.0	50	6	CEB20300A
3.5R	14.0	60	8	CEB20350A
4.0R	16.0	60	8	CEB20400A
5.0R	20.0	75	10	CEB20500A
6.0R	24.0	75	12	CEB20600A
8.0R	32.0	100	16	CEB20800A
10.0R	40.0	100	20	CEB21000A

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed & Long Shank- 2F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	2	75	4	CEBML20050A
0.75R	3	75	4	CEBML20075A
1.0R	4	75	4	CEBML20100A
1.25R	5	75	4	CEBML20125A
1.5R	6	75	4	CEBML20150A
1.75R	7	75	4	CEBML20175A
2.0R	8	75	4	CEBML20200A
1.0R	4	75	6	CEBL20100A
1.5R	6	75	6	CEBL20150A
2.0R	8	75	6	CEBL20200A
2.5R	10	75	6	CEBL20250A
3.0R	12	75	6	CEBL20300A
4.0R	16	100	8	CEBL20400A
5.0R	20	100	10	CEBL20500A
6.0R	24	100	12	CEBL20600A
8.0R	32	150	16	CEBL20800A
10.0R	40	150	20	CEBL21000A

CEBMLL2-A / CEBLL2-A

S220 鎢鋼球型銑刀-小特長柄/特長柄型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed & Extra Long Shank- 2F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4	100	4	CEBMLL20100A
1.5R	6	100	4	CEBMLL20150A
2.0R	8	100	4	CEBMLL20200A
1.0R	4	100	6	CEBLL20100A
1.5R	6	100	6	CEBLL20150A
2.0R	8	100	6	CEBLL20200A
2.5R	10	100	6	CEBLL20250A
3.0R	12	100	6	CEBLL20300A
4.0R	16	150	8	CEBLL20400A
5.0R	20	150	10	CEBLL20500A
6.0R	24	150	12	CEBLL20600A
8.0R	32	200	16	CEBLL20800A
10.0R	40	200	20	CEBLL21000A

CEBM4-A / CEB4-A

S220 鎢鋼球型銑刀-小柄/標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed- 4F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	4	CEBM40100A
1.25R	5	50	4	CEBM40125A
1.5R	6	50	4	CEBM40150A
1.75R	7	50	4	CEBM40175A
2.0R	8	50	4	CEBM40200A
3.0R	12	50	6	CEB40300A
4.0R	16	60	8	CEB40400A
5.0R	20	75	10	CEB40500A
6.0R	24	75	12	CEB40600A
8.0R	32	100	16	CEB40800A

CEB3-A

S220 鎢鋼球型銑刀-標準型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed- 3F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	6	CEB30100A
1.5R	6	50	6	CEB30150A
2.0R	8	50	6	CEB30200A
2.5R	10	50	6	CEB30250A
3.0R	12	50	6	CEB30300A
3.5R	14	60	8	CEB30350A
4.0R	16	60	8	CEB30400A
5.0R	20	75	10	CEB30500A
6.0R	24	75	12	CEB30600A
8.0R	32	100	16	CEB30800A
10.0R	40	100	20	CEB31000A

CEBML4-A / CEBL4-A

S220 鎢鋼球型銑刀-小長柄/長柄型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed & Long Shank- 4F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4	75	4	CEBML40100A
1.25R	5	75	4	CEBML40125A
1.5R	6	75	4	CEBML40150A
1.75R	7	75	4	CEBML40175A
2.0R	8	75	4	CEBML40200A
3.0R	12	75	6	CEBL40300A
4.0R	16	100	8	CEBL40400A
5.0R	20	100	10	CEBL40500A
6.0R	24	100	12	CEBL40600A
8.0R	32	150	16	CEBL40800A

CEOM2-A / CEO2-A

S220 鎢鋼球殼型銑刀(240度)-小柄/標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Semi Sphere Ball Nosed(240°)- 2F



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	切刃寬 Cutting Width	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	1.50	4	0.13	60	4	CEOM20100040A
1.5R	2.25	6	0.20	60	4	CEOM20150060A
2.0R	3.00	8	0.26	60	4	CEOM20200080A
2.5R	3.75	10	0.33	60	6	CEO20250100A
3.0R	4.50	12	0.40	60	6	CEO20300120A
4.0R	6.00	16	0.53	60	8	CEO20400160A
5.0R	7.50	20	0.66	75	10	CEO20500200A
6.0R	9.00	24	0.80	75	12	CEO20600240A

CETB2-A

S220 鎢鋼斜度球型銑刀-標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Taper Ball Nosed- 2F



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

半徑 R	刃斜角 Taper Angle	刃長 Cutting Length	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	1°	8	2.24	50	4	CETB2010010A
1.0R	3°	8	2.74	50	4	CETB2010030A
1.0R	5°	8	3.23	50	4	CETB2010050A
1.25R	1°	10	2.81	50	4	CETB2012510A
1.25R	3°	10	3.42	50	4	CETB2012530A
1.25R	5°	10	4.04	50	6	CETB2012550A
1.5R	1°	12	3.37	50	4	CETB2015010A
1.5R	3°	12	4.10	50	6	CETB2015030A
1.5R	5°	12	4.85	50	6	CETB2015050A
2.0R	1°	16	4.49	60	6	CETB2020010A
2.0R	3°	16	5.47	60	6	CETB2020030A
2.0R	5°	16	6.46	60	8	CETB2020050A
3.0R	1°	24	6.73	75	8	CETB2030010A
3.0R	3°	24	8.20	75	10	CETB2030030A
3.0R	5°	24	9.67	75	10	CETB2030050A

CEB4-A

S220 鎢鋼球殼型銑刀(240度)-標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Semi Sphere Ball Nosed(240°)- 4F



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	切刃寬 Cutting Width	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.5R	3.75	10	0.33	60	6	CEO40250100A
3.0R	4.50	12	0.40	60	6	CEO40300120A
4.0R	6.00	16	0.53	60	8	CEO40400160A
5.0R	7.50	20	0.66	75	10	CEO40500200A
6.0R	9.00	24	0.80	75	12	CEO40600240A

CENL2-A

S220 鎢鋼球型銑刀-斜頸型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Taper Neck Ball Nosed- 2F



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

半徑 R	半夾角 Half Included Angle	刃長 Cutting Length	有效長 Effective Length	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	3°	4	42	5.98	100	8	CENL20100A
1.5R	3°	6	47	7.30	100	8	CENL20150A
2.0R	3°	8	38	7.14	100	8	CENL20200A
2.5R	3°	10	28	6.89	100	8	CENL20250A
3.0R	3°	12	38	8.73	100	10	CENL20300A
4.0R	3°	16	38	10.31	150	12	CENL20400A
5.0R	3°	20	57	13.88	150	16	CENL20500A
6.0R	3°	24	38	13.47	150	16	CENL20600A

CENL4-A

S220鎢鋼球型銑刀-斜頸型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Taper Neck Ball Nosed- 4F



05



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

半徑 R	半夾角Half Included Angle	刃長 Cutting Length	有效長 Effective Length	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	3°	4	42	5.98	100	8	CENL40100A
1.5R	3°	6	47	7.30	100	8	CENL40150A
2.0R	3°	8	38	7.14	100	8	CENL40200A
2.5R	3°	10	28	6.89	100	8	CENL40250A
3.0R	3°	12	38	8.73	100	10	CENL40300A
4.0R	3°	16	38	10.31	150	12	CENL40400A
5.0R	3°	20	57	13.88	150	16	CENL40500A
6.0R	3°	24	38	13.47	150	16	CENL40600A

CEBN2-A

S220鎢鋼球型銑刀-長頸型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed & Long Neck- 2F



05



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	1.5	7.5	50	4	CEBN20050075A
0.5R	1.5	11.5	50	4	CEBN20050115A
0.75R	2.5	10.5	50	4	CEBN20075105A
0.75R	2.5	18.5	50	4	CEBN20075185A
1.0R	3.0	11.0	50	4	CEBN20100110A
1.0R	3.0	19.0	50	4	CEBN20100190A
1.0R	3.0	23.0	60	4	CEBN20100230A
1.25R	3.5	15.5	50	4	CEBN20125155A
1.25R	3.5	23.5	60	4	CEBN20125235A
1.5R	4.5	16.5	60	6	CEBN20150165A
1.5R	4.5	24.5	75	6	CEBN20150245A
2.0R	6.0	26.0	75	6	CEBN20200260A
2.0R	6.0	36.0	75	6	CEBN20200360A

CECRM2-A / CECR2-A

S220鎢鋼圓鼻銑刀-小柄/標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Corner Radius- 2F



07



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	CECRM2010002A
1.0	0.3R	2	50	4	CECRM2010003A
1.5	0.2R	3	50	4	CECRM2015002A
1.5	0.3R	3	50	4	CECRM2015003A
2.0	0.2R	4	50	4	CECRM2020002A
2.0	0.3R	4	50	4	CECRM2020003A
2.5	0.2R	5	50	4	CECRM2025002A
2.5	0.3R	5	50	4	CECRM2025003A
2.5	0.5R	5	50	4	CECRM2025005A
3.0	0.3R	6	50	4	CECRM2030003A
3.0	0.5R	6	50	4	CECRM2030005A
3.0	1.0R	6	50	4	CECRM2030010A
4.0	0.3R	8	50	6	CECRM2040003A
4.0	0.5R	8	50	6	CECRM2040005A
4.0	1.0R	8	50	6	CECRM2040010A
5.0	0.5R	10	50	6	CECRM2050005A
5.0	1.0R	10	50	6	CECRM2050010A
6.0	0.5R	12	50	6	CECRM2060005A
6.0	1.0R	12	50	6	CECRM2060010A
8.0	0.5R	16	60	8	CECRM2080005A
8.0	1.0R	16	60	8	CECRM2080010A
8.0	1.5R	16	60	8	CECRM2080015A
10.0	0.5R	20	75	10	CECRM2100005A
10.0	1.0R	20	75	10	CECRM2100010A
10.0	1.5R	20	75	10	CECRM2100015A
10.0	2.0R	20	75	10	CECRM2100020A
12.0	0.5R	24	75	12	CECRM2120005A
12.0	1.0R	24	75	12	CECRM2120010A
12.0	1.5R	24	75	12	CECRM2120015A
12.0	2.0R	24	75	12	CECRM2120020A

CECRM4-A / CECR4-A

S220 鎢鋼圓鼻銑刀-小柄/標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Corner Radius- 4F



超精銑 Bright Finishing	○
精銑 Finishing	●
中銑 Semi Finishing	◎
粗銑 Roughing	○

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.3R	6	50	4	CECRM4030003A
3.0	0.5R	6	50	4	CECRM4030005A
3.0	1.0R	6	50	4	CECRM4030010A
3.0	0.5R	6	50	6	CECR4030005A
3.0	1.0R	6	50	6	CECR4030010A
4.0	0.5R	8	50	6	CECR4040005A
4.0	1.0R	8	50	6	CECR4040010A
5.0	0.5R	10	50	6	CECR4050005A
5.0	1.0R	10	50	6	CECR4050010A
6.0	0.5R	12	50	6	CECR4060005A
6.0	1.0R	12	50	6	CECR4060010A
8.0	0.5R	16	60	8	CECR4080005A
8.0	1.0R	16	60	8	CECR4080010A
8.0	1.5R	16	60	8	CECR4080015A
10.0	0.5R	20	75	10	CECR4100005A
10.0	1.0R	20	75	10	CECR4100010A
10.0	1.5R	20	75	10	CECR4100015A
10.0	2.0R	20	75	10	CECR4100020A
12.0	0.5R	24	75	12	CECR4120005A
12.0	1.0R	24	75	12	CECR4120010A
12.0	1.5R	24	75	12	CECR4120015A
12.0	2.0R	24	75	12	CECR4120020A
12.0	3.0R	24	75	12	CECR4120030A

CECL4-A

S220 鎢鋼圓鼻銑刀-長柄型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Corner Radius & Long Shank- 4F



超精銑 Bright Finishing	○
精銑 Finishing	●
中銑 Semi Finishing	◎
粗銑 Roughing	○

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.5R	6	75	6	CECL4030005A
3.0	1.0R	6	75	6	CECL4030010A
4.0	0.5R	8	75	6	CECL4040005A
4.0	1.0R	8	75	6	CECL4040010A
5.0	0.5R	10	75	6	CECL4050005A
5.0	1.0R	10	75	6	CECL4050010A
6.0	0.5R	12	75	6	CECL4060005A
6.0	1.0R	12	75	6	CECL4060010A
8.0	0.5R	16	100	8	CECL4080005A
8.0	1.0R	16	100	8	CECL4080010A
8.0	1.5R	16	100	8	CECL4080015A
10.0	0.5R	20	100	10	CECL4100005A
10.0	1.0R	20	100	10	CECL4100010A
10.0	1.5R	20	100	10	CECL4100015A
10.0	2.0R	20	100	10	CECL4100020A
12.0	0.5R	24	100	12	CECL4120005A
12.0	1.0R	24	100	12	CECL4120010A
12.0	1.5R	24	100	12	CECL4120015A
12.0	2.0R	24	100	12	CECL4120020A

CECNL2-A

S220 鎢鋼圓鼻銑刀-斜頸型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Corner Radius- Taper Neck- 2F



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

刃徑 D	R角 R	半夾角 Half Included Angle	刃長 Cutting Length	有效長 Effective Length	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	0.2R	1.5°	3.0	25	3.15	75	6	CECNL2020002250A
2.0	0.2R	1.5°	3.0	40	3.91	75	6	CECNL2020002400A
2.0	0.5R	1.5°	3.0	25	3.15	75	6	CECNL2020005250A
2.0	0.5R	1.5°	3.0	40	3.91	75	6	CECNL2020005400A
2.0	0.5R	1.5°	3.0	50	4.46	100	6	CECNL2020005500A
2.5	0.2R	1.5°	3.5	25	3.63	75	6	CECNL2025002250A
2.5	0.2R	1.5°	3.5	40	4.41	75	6	CECNL2025002400A
2.5	0.5R	1.5°	3.5	25	3.63	75	6	CECNL2025005250A
2.5	0.5R	1.5°	3.5	40	4.41	75	6	CECNL2025005400A
2.5	0.5R	1.5°	3.5	50	5.12	100	6	CECNL2025005500A
3.0	0.5R	1.5°	4.5	25	4.07	75	6	CECNL2030005250A
3.0	1.0R	1.5°	4.5	25	4.07	75	6	CECNL2030010250A
3.0	1.0R	1.5°	4.5	40	4.86	75	6	CECNL2030010400A
3.0	1.0R	1.5°	4.5	50	5.38	100	6	CECNL2030010500A
4.0	0.5R	1.5°	6.0	25	5.00	100	8	CECNL2040005250A
4.0	0.5R	1.5°	6.0	50	6.30	100	8	CECNL2040005500A
4.0	1.0R	1.5°	6.0	25	5.00	100	8	CECNL2040010250A
4.0	1.0R	1.5°	6.0	50	6.30	100	8	CECNL2040010500A
5.0	1.0R	1.5°	7.0	35	6.47	100	10	CECNL2050010350A
5.0	1.0R	1.5°	7.0	50	7.25	100	10	CECNL2050010500A
6.0	1.0R	1.5°	8.0	35	7.41	100	10	CECNL2060010350A
6.0	1.0R	1.5°	8.0	50	8.20	100	10	CECNL2060010500A

CEXS2 / CEXM2 / CEX2

S220 鎢鋼鋁用平銑刀-高導微柄/小柄/標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- High Helix For Aluminum- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
1.0	3.0	50	3	CEXS20100
1.5	4.5	50	3	CEXS20150
2.0	6.0	50	3	CEXS20200
3.0	9.0	50	3	CEXS20300
1.0	3.0	50	4	CEXM20100
1.5	4.5	50	4	CEXM20150
2.0	6.0	50	4	CEXM20200
3.0	9.0	50	6	CEX20300
4.0	12.0	50	6	CEX20400
5.0	15.0	50	6	CEX20500
6.0	18.0	50	6	CEX20600
8.0	20.0	60	8	CEX20800
10.0	30.0	75	10	CEX21000
12.0	30.0	75	12	CEX21200
16.0	40.0	100	16	CEX21600
20.0	45.0	100	20	CEX22000

CEXS3 / CEXM3 / CEX3

S220鎢鋼鋁用平銑刀-高導微柄/小柄/標準型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- High Helix For Aluminum- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
3.0	9.0	50	3	CEXS30300
1.0	3.0	50	4	CEXM30100
1.5	4.5	50	4	CEXM30150
2.0	6.0	50	4	CEXM30200
3.0	9.0	50	4	CEXM30300
4.0	12.0	50	4	CEXM30400
1.0	3.0	50	6	CEX30100
1.5	4.5	50	6	CEX30150
2.0	6.0	50	6	CEX30200
3.0	9.0	50	6	CEX30300
4.0	12.0	50	6	CEX30400
5.0	15.0	50	6	CEX30500
6.0	18.0	50	6	CEX30600
8.0	20.0	60	8	CEX30800
10.0	30.0	75	10	CEX31000
12.0	30.0	75	12	CEX31200
16.0	40.0	100	16	CEX31600
20.0	45.0	100	20	CEX32000

CEXF3

S220鎢鋼鋁用平銑刀-高導長刃型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- High Helix- Long Flute For Aluminum- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
3.0	15	60	6	CEXF30300
4.0	20	60	6	CEXF30400
5.0	25	60	6	CEXF30500
6.0	30	75	6	CEXF30600
8.0	45	100	8	CEXF30800
10.0	55	100	10	CEXF31000
12.0	55	100	12	CEXF31200
14.0	75	150	14	CEXF31400
16.0	75	150	16	CEXF31600
18.0	90	150	18	CEXF31800
20.0	90	150	20	CEXF32000

CEXSH3 / CEXSHM3

S220鎢鋼鋁用平銑刀-強力型-3刃

MICRO GRAIN CARBIDE END MILLS- Square Type- Power Cutting- Aluminum- 3F



+SIZE

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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
2.0	6	50	4	CEXSHM30200
3.0	9	50	4	CEXSHM30300
4.0	12	50	4	CEXSHM30400
2.0	6	50	6	CEXSH30200
3.0	9	50	6	CEXSH30300
4.0	12	50	6	CEXSH30400
5.0	15	50	6	CEXSH30500
6.0	18	50	6	CEXSH30600
8.0	24	60	8	CEXSH30800
10.0	30	75	10	CEXSH31000
12.0	35	75	12	CEXSH31200
16.0	40	100	16	CEXSH31600

CEXRS3

S220鎢鋼鋁用平銑刀-波浪型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Sinus Edge(Wave) Type For Aluminum- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
6.0	15	50	6	CEXRS30600
8.0	20	60	8	CEXRS30800
10.0	25	75	10	CEXRS31000
12.0	30	75	12	CEXRS31200
16.0	40	100	16	CEXRS31600
20.0	45	100	20	CEXRS32000

CEXX3

S220鎢鋼鋁用平銑刀-特高導標準型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Extra High Helix For Aluminum- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
3.0	9	50	6	CEXX30300
4.0	12	50	6	CEXX30400
5.0	15	50	6	CEXX30500
6.0	18	60	6	CEXX30600
8.0	20	60	8	CEXX30800
10.0	30	75	10	CEXX31000
12.0	30	75	12	CEXX31200
16.0	40	100	16	CEXX31600
20.0	45	100	20	CEXX32000

CEXV3

S220鎢鋼鋁用平銑刀-高效型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- High Performance For Aluminum- 3F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
3.0	9	50	6	CEXV30300
4.0	12	50	6	CEXV30400
5.0	15	50	6	CEXV30500
6.0	18	50	6	CEXV30600
8.0	24	60	8	CEXV30800
10.0	30	75	10	CEXV31000
12.0	35	75	12	CEXV31200
16.0	40	100	16	CEXV31600

CEXV3-C

S220鎢鋼鋁用平銑刀-高效型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- High Performance & Chamfering For Aluminum- 3F



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

刃徑 Diameter	倒C角 C(Max)	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
3.0	0.1	9	50	6	CEXV30300-C0010
4.0	0.2	12	50	6	CEXV30400-C0020
5.0	0.2	15	50	6	CEXV30500-C0020
6.0	0.2	18	50	6	CEXV30600-C0020
8.0	0.3	24	60	8	CEXV30800-C0030
10.0	0.3	30	75	10	CEXV31000-C0030
12.0	0.4	35	75	12	CEXV31200-C0040
16.0	0.4	40	100	16	CEXV31600-C0040

CEXCRSHM3 / CEXCRSH3

S220鎢鋼鋁用圓鼻銑刀-強力型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Corner Radius-Square Type- Power Cutting-Aluminum- 3F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
2.0	0.2R	6	50	4	CEXCRSHM3020002
2.0	0.3R	6	50	4	CEXCRSHM3020003
3.0	0.5R	9	50	4	CEXCRSHM3030005
3.0	1.0R	9	50	4	CEXCRSHM3030010
4.0	0.5R	12	50	4	CEXCRSHM3040005
4.0	1.0R	12	50	4	CEXCRSHM3040010
2.0	0.2R	6	50	6	CEXCRSH3020002
2.0	0.3R	6	50	6	CEXCRSH3020003
3.0	0.5R	9	50	6	CEXCRSH3030005
3.0	1.0R	9	50	6	CEXCRSH3030010
4.0	0.5R	12	50	6	CEXCRSH3040005
4.0	1.0R	12	50	6	CEXCRSH3040010
5.0	0.5R	15	50	6	CEXCRSH3050005
5.0	1.0R	15	50	6	CEXCRSH3050010
6.0	0.5R	18	50	6	CEXCRSH3060005
6.0	1.0R	18	50	6	CEXCRSH3060010
8.0	0.5R	24	60	8	CEXCRSH3080005
8.0	1.0R	24	60	8	CEXCRSH3080010
10.0	0.5R	30	75	10	CEXCRSH3100005
10.0	1.0R	30	75	10	CEXCRSH3100010
10.0	1.5R	30	75	10	CEXCRSH3100015
10.0	2.0R	30	75	10	CEXCRSH3100020
12.0	0.5R	35	75	12	CEXCRSH3120005
12.0	1.0R	35	75	12	CEXCRSH3120010
12.0	1.5R	35	75	12	CEXCRSH3120015
12.0	2.0R	35	75	12	CEXCRSH3120020
12.0	3.0R	35	75	12	CEXCRSH3120030
16.0	0.5R	40	100	16	CEXCRSH3160005
16.0	1.0R	40	100	16	CEXCRSH3160010
16.0	1.5R	40	100	16	CEXCRSH3160015
16.0	2.0R	40	100	16	CEXCRSH3160020
16.0	3.0R	40	100	16	CEXCRSH3160030
20.0	0.5R	45	100	20	CEXCRSH3200005
20.0	1.0R	45	100	20	CEXCRSH3200010
20.0	1.5R	45	100	20	CEXCRSH3200015
20.0	2.0R	45	100	20	CEXCRSH3200020
20.0	3.0R	45	100	20	CEXCRSH3200030

CEXBM2 / CEXB2

S220鎢鋼鋁用球型銑刀-小柄/標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed For Aluminum- 2F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
1.0R	4	50	4	CEXBM20100
2.0R	8	50	4	CEXBM20200
2.5R	10	50	6	CEXB20250
3.0R	12	50	6	CEXB20300
4.0R	16	60	8	CEXB20400
5.0R	20	75	10	CEXB20500
6.0R	24	75	12	CEXB20600
8.0R	32	100	16	CEXB20800

CERS2-A

S220鎢鋼平銑刀-波浪型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Sinus Edge (Wave) Type- 2/3/4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CERS20600A
8.0	20	60	8	CERS20800A
10.0	25	75	10	CERS21000A
12.0	30	75	12	CERS21200A

CERS3-A

S220鎢鋼平銑刀-波浪型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Sinus Edge (Wave) Type- 2/3/4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CERS30600A
8.0	20	60	8	CERS30800A
10.0	25	75	10	CERS31000A
12.0	30	75	12	CERS31200A
16.0	40	100	16	CERS31600A
20.0	45	100	20	CERS32000A

CEXBL2

S220鎢鋼鋁用球型銑刀-長柄型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Ball Nosed & Long Shank For Aluminum- 2F



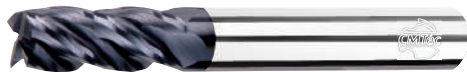
超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	◎
粗銑 Roughing	⊙

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
1.0R	4	75	6	CEXBL20100
2.0R	8	75	6	CEXBL20200
2.5R	10	75	6	CEXBL20250
3.0R	12	75	6	CEXBL20300
4.0R	16	100	8	CEXBL20400
5.0R	20	100	10	CEXBL20500
6.0R	24	100	12	CEXBL20600
8.0R	32	150	16	CEXBL20800

CERS4-A

S220鎢鋼平銑刀-波浪型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Sinus Edge (Wave) Type- 2/3/4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	CERS40600A
8.0	20	60	8	CERS40800A
10.0	25	75	10	CERS41000A
12.0	30	75	12	CERS41200A
16.0	40	100	16	CERS41600A
20.0	45	100	20	CERS42000A

CESHM2-F / CESH2-F

S220鎢鋼平銑刀-強力小柄/標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Power Cutting- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	CESHM20200F
3.0	8	50	4	CESHM20300F
4.0	10	50	4	CESHM20400F
3.0	8	50	6	CESH20300F
4.0	10	50	6	CESH20400F
5.0	13	50	6	CESH20500F
6.0	15	50	6	CESH20600F
8.0	20	60	8	CESH20800F
10.0	25	75	10	CESH21000F
12.0	30	75	12	CESH21200F
16.0	35	100	16	CESH21600F

CEHSM2-F / CEHS2-F

S220鎢鋼平銑刀-高導強力小柄/標準型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix- Power Cutting- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	CEHSM20200F
3.0	8	50	4	CEHSM20300F
4.0	10	50	4	CEHSM20400F
3.0	8	50	6	CEHS20300F
4.0	10	50	6	CEHS20400F
5.0	13	50	6	CEHS20500F
6.0	15	50	6	CEHS20600F
8.0	20	60	8	CEHS20800F
10.0	25	75	10	CEHS21000F
12.0	30	75	12	CEHS21200F
16.0	35	100	16	CEHS21600F

CESHM4-F / CESH4-F

S220鎢鋼平銑刀-強力小柄/標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Power Cutting- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	CESHM40200F
3.0	8	50	4	CESHM40300F
4.0	10	50	4	CESHM40400F
3.0	8	50	6	CESH40300F
4.0	10	50	6	CESH40400F
5.0	13	50	6	CESH40500F
6.0	15	50	6	CESH40600F
8.0	20	60	8	CESH40800F
10.0	25	75	10	CESH41000F
12.0	30	75	12	CESH41200F
16.0	35	100	16	CESH41600F

CEHSM4-F / CEHS4-F

S220鎢鋼平銑刀-高導強力小柄/標準型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix- Power Cutting- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	CEHSM40200F
3.0	8	50	4	CEHSM40300F
4.0	10	50	4	CEHSM40400F
3.0	8	50	6	CEHS40300F
4.0	10	50	6	CEHS40400F
5.0	13	50	6	CEHS40500F
6.0	15	50	6	CEHS40600F
8.0	20	60	8	CEHS40800F
10.0	25	75	10	CEHS41000F
12.0	30	75	12	CEHS41200F
16.0	35	100	16	CEHS41600F

CESCM2-A / CESC2-A

S220 鎢鋼銅鋁用平銑刀-小柄/標準型-2刃

S220 CARBIDE END MILLS- Square Type for Copper, Aluminum- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5	1	50	4	CESCM20050-25A
1.0	2	50	4	CESCM20100-25A
1.5	3	50	4	CESCM20150-25A
2.0	4	50	4	CESCM20200-25A
2.5	5	50	4	CESCM20250-25A
3.0	6	50	6	CESC20300-25A
4.0	8	50	6	CESC20400-25A
5.0	10	60	6	CESC20500-25A
6.0	12	60	6	CESC20600-25A
8.0	16	60	8	CESC20800-25A
10.0	20	75	10	CESC21000-25A
12.0	24	75	12	CESC21200-25A

CELFC2-A

S220 鎢鋼銅鋁用平銑刀-長刃型-2刃

S220 CARBIDE END MILLS- Square & Long Flute for Copper, Aluminum- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	12	60	6	CELFC20300-25A
4.0	16	60	6	CELFC20400-25A
5.0	20	75	6	CELFC20500-25A
6.0	24	75	6	CELFC20600-25A
8.0	32	90	8	CELFC20800-25A
10.0	40	100	10	CELFC21000-25A
12.0	48	110	12	CELFC21200-25A

CESCM2-A / CESC2-A

S220 鎢鋼銅鋁用平銑刀-小柄/標準型-2刃

S220 CARBIDE END MILLS- Square Type for Copper, Aluminum- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5	1	50	4	CESCM20050-45A
1.0	2	50	4	CESCM20100-45A
1.5	3	50	4	CESCM20150-45A
2.0	4	50	4	CESCM20200-45A
2.5	5	50	4	CESCM20250-45A
3.0	6	50	6	CESC20300-45A
4.0	8	50	6	CESC20400-45A
5.0	10	60	6	CESC20500-45A
6.0	12	60	6	CESC20600-45A
8.0	16	60	8	CESC20800-45A
10.0	20	75	10	CESC21000-45A
12.0	24	75	12	CESC21200-45A

CELFC2-A

S220 鎢鋼銅鋁用平銑刀-長刃型-2刃

S220 CARBIDE END MILLS- Square & Long Flute for Copper, Aluminum- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	12	60	6	CELFC20300-45A
4.0	16	60	6	CELFC20400-45A
5.0	20	75	6	CELFC20500-45A
6.0	24	75	6	CELFC20600-45A
8.0	32	90	8	CELFC20800-45A
10.0	40	100	10	CELFC21000-45A
12.0	48	110	12	CELFC21200-45A

CEBCM2-A / CEBC2-A

S220 鎢鋼銅鋁用球型銑刀-小柄/標準型-2刃

S220 CARBIDE END MILLS- Ball Nosed for Copper, Aluminum- 2F



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	2	50	4	CEBCM20050A
0.75R	3	50	4	CEBCM20075A
1.0R	4	50	6	CEBC20100A
1.25R	5	50	6	CEBC20125A
1.5R	6	50	6	CEBC20150A
2.0R	8	50	6	CEBC20200A
2.5R	10	50	6	CEBC20250A
3.0R	12	50	6	CEBC20300A
4.0R	16	60	8	CEBC20400A
5.0R	20	75	10	CEBC20500A
6.0R	24	75	12	CEBC20600A

CESGM2-A / CESG2-A

S220 鎢鋼平銑刀-石墨專用型-2刃

S220 CARBIDE END MILLS- Square Type- 2F for Graphite



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	CESGM20100A
2.0	6	50	4	CESGM20200A
3.0	8	50	4	CESGM20300A
4.0	10	50	4	CESGM20400A
3.0	8	50	6	CESG20300A
4.0	10	50	6	CESG20400A
5.0	13	50	6	CESG20500A
6.0	15	50	6	CESG20600A
8.0	20	60	8	CESG20800A
10.0	25	75	10	CESG21000A
12.0	30	75	12	CESG21200A

CEBNCM2-A / CEBNC2-A

S220 鎢鋼銅鋁用球型銑刀-長頸型-2刃

S220 CARBIDE END MILLS- Long Neck Ball Nosed for Copper, Aluminum- 2F



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	頸徑 Neck Dia.	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	1.5	4.0	0.95	50	4	CEBNCM20050040A
		6.0				CEBNCM20050060A
1.0R	3.0	8.0	1.94	50	4	CEBNCM20100080A
		14.0				CEBNCM20100140A
1.5R	4.5	15.0	2.85	60	6	CEBNC20150150A
		25.0				CEBNC20150250A
2.0R	6.0	20.0	3.80	60	6	CEBNC20200200A
		30.0		75		CEBNC20200300A
3.0R	9.0	20.0	5.80	60	6	CEBNC20300200A
		30.0		90	8	CEBNC20300300A
4.0R	12.0	20.0	7.80	75	8	CEBNC20400200A
		40.0		100	10	CEBNC20400400A
5.0R	15.0	30.0	9.80	90	10	CEBNC20500300A
		50.0		120	12	CEBNC20500500A
6.0R	18.0	40.0	11.80	110	12	CEBNC20600400A
		60.0		130	16	CEBNC20600600A

CESGM4-A / CESG4-A

S220 鎢鋼平銑刀-石墨專用型-4刃

S220 CARBIDE END MILLS- Square Type- 4F for Graphite



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	6	50	4	CESGM40200A
3.0	8	50	4	CESGM40300A
4.0	10	50	4	CESGM40400A
3.0	8	50	6	CESG40300A
4.0	10	50	6	CESG40400A
5.0	13	50	6	CESG40500A
6.0	15	50	6	CESG40600A
8.0	20	60	8	CESG40800A
10.0	25	75	10	CESG41000A
12.0	30	75	12	CESG41200A

CEBGM2-A / CEBG2-A
 S220 鎢鋼球型銑刀-石墨專用型-2刃
 S220 CARBIDE END MILLS- Ball Nosed- 2F for Graphite






 19



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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	2	60	4	CEBGM20050A
1.0R	4	60	4	CEBGM20100A
1.5R	6	60	4	CEBGM20150A
2.0R	8	60	4	CEBGM20200A
1.5R	6	60	6	CEBG20150A
2.0R	8	60	6	CEBG20200A
2.5R	10	60	6	CEBG20250A
3.0R	12	60	6	CEBG20300A
4.0R	16	60	8	CEBG20400A
5.0R	20	75	10	CEBG20500A
6.0R	24	75	12	CEBG20600A



M520 極細鎢鋼銑刀系列 ***ULTRA CARBIDE END MILLS***

- 應用於難切削材質(高溫合金、3字頭不銹鋼)、合金鋼、調質鋼($\leq 55\text{HRC}$)加工。
For Difficult-to-Cut materials (high temp alloy, stainless steel(300 series)), alloy steel and hardened steel($\leq 55\text{HRC}$) machining.
- 包裝盒蓋以「藍色」為主色。
M520's packaging-box-color is "blue".

MESS2-A / MESM2-A

M520極細鎢鋼平銑刀-微柄/小柄型-2刃

M520 ULTRA CARBIDE END MILLS- Square Type- 2F- Micro Diameter



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.20	0.4	50	3	MESS20020A
0.25	0.5	50	3	MESS20025A
0.30	0.6	50	3	MESS20030A
0.35	0.7	50	3	MESS20035A
0.40	0.8	50	3	MESS20040A
0.50	1.0	50	3	MESS20050A
0.60	1.5	50	3	MESS20060A
0.70	2.0	50	3	MESS20070A
0.80	2.0	50	3	MESS20080A
0.90	2.0	50	3	MESS20090A
1.00	3.0	50	3	MESS20100A
1.50	4.0	50	3	MESS20150A
2.00	5.0	50	3	MESS20200A
2.50	6.0	50	3	MESS20250A
3.00	8.0	50	3	MESS20300A
0.20	0.4	50	4	MESM20020A
0.25	0.5	50	4	MESM20025A
0.30	0.6	50	4	MESM20030A
0.35	0.7	50	4	MESM20035A
0.40	0.8	50	4	MESM20040A
0.50	1.0	50	4	MESM20050A
0.60	1.5	50	4	MESM20060A
0.70	2.0	50	4	MESM20070A
0.80	2.0	50	4	MESM20080A
0.90	2.0	50	4	MESM20090A

MES2-A

M520極細鎢鋼平銑刀-小柄/標準型-2刃

M520 ULTRA CARBIDE END MILLS- Square Type- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	MES20300A
3.5	9	50	6	MES20350A
4.0	10	50	6	MES20400A
4.5	11	50	6	MES20450A
5.0	13	50	6	MES20500A
5.5	14	50	6	MES20550A
6.0	15	50	6	MES20600A
6.5	16	60	8	MES20650A
7.0	18	60	8	MES20700A
7.5	18	60	8	MES20750A
8.0	20	60	8	MES20800A
8.5	20	75	10	MES20850A
9.0	22	75	10	MES20900A
9.5	22	75	10	MES20950A
10.0	25	75	10	MES21000A
10.5	25	75	12	MES21050A
11.0	25	75	12	MES21100A
12.0	30	75	12	MES21200A
13.0	30	75	14	MES2130014A
14.0	30	75	14	MES2140014A
15.0	35	100	16	MES21500A
16.0	35	100	16	MES21600A
18.0	40	100	20	MES21800A
20.0	45	100	20	MES22000A
25.0	45	100	25	MES22500A

MESM2-A

M520極細鎢鋼平銑刀-小柄/標準型-2刃

M520 ULTRA CARBIDE END MILLS- Square Type- 2F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	MESM20100A
1.5	4	50	4	MESM20150A
2.0	5	50	4	MESM20200A
2.5	6	50	4	MESM20250A
3.0	8	50	4	MESM20300A
3.5	9	50	4	MESM20350A
4.0	10	50	4	MESM20400A

MESD2-A

M520極細鎢鋼平銑刀-短刃型-2刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- 2F



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1	2	50	6	MESD20100A
2.0	2	4	50	6	MESD20200A
3.0	3	6	50	6	MESD20300A
4.0	4	8	50	6	MESD20400A
6.0	6	12	50	6	MESD20600A
8.0	8	16	60	8	MESD20800A
10.0	10	20	75	10	MESD21000A
12.0	12	24	75	12	MESD21200A

MESDL2-A

M520極細鎢鋼平銑刀-短刃長柄型-2刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- Long Shank- 2F



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1	2	75	6	MESDL20100A
2.0	2	4	75	6	MESDL20200A
3.0	3	6	75	6	MESDL20300A
4.0	4	8	75	6	MESDL20400A
6.0	6	12	75	6	MESDL20600A
8.0	8	16	100	8	MESDL20800A
10.0	10	20	100	10	MESDL21000A
12.0	12	24	100	12	MESDL21200A

MESD4-A

M520極細鎢鋼平銑刀-短刃型-4刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	3	6	50	6	MESD40300A
4.0	4	8	50	6	MESD40400A
5.0	5	10	50	6	MESD40500A
6.0	6	12	50	6	MESD40600A
8.0	8	16	60	8	MESD40800A
10.0	10	20	75	10	MESD41000A
12.0	12	24	75	12	MESD41200A

MESS4-A / MESM4-A / MES4-A

M520極細鎢鋼平銑刀-微柄/小柄型-4刃

M520 ULTRA CARBIDE END MILLS- Square Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	MES40300A
3.5	9	50	6	MES40350A
4.0	10	50	6	MES40400A
4.5	11	50	6	MES40450A
5.0	13	50	6	MES40500A
5.5	14	50	6	MES40550A
6.0	15	50	6	MES40600A
6.5	16	60	8	MES40650A
7.0	18	60	8	MES40700A
7.5	18	60	8	MES40750A
8.0	20	60	8	MES40800A
8.5	20	75	10	MES40850A
9.0	22	75	10	MES40900A
9.5	22	75	10	MES40950A
10.0	25	75	10	MES41000A
10.5	25	75	12	MES41050A
11.0	25	75	12	MES41100A
11.5	25	75	12	MES41150A
12.0	30	75	12	MES41200A
13.0	30	75	14	MES4130014A
14.0	30	75	14	MES4140014A
15.0	35	100	16	MES41500A
16.0	35	100	16	MES41600A
18.0	40	100	20	MES41800A
20.0	45	100	20	MES42000A
25.0	45	100	25	MES42500A

MESS4-A / MESM4-A / MES4-A

M520極細鎢鋼平銑刀-微柄/小柄型-4刃

M520 ULTRA CARBIDE END MILLS- Square Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	3	50	3	MESS40100A
1.5	4	50	3	MESS40150A
2.0	5	50	3	MESS40200A
2.5	6	50	3	MESS40250A
3.0	8	50	3	MESS40300A
1.0	3	50	4	MESM40100A
1.5	4	50	4	MESM40150A
2.0	5	50	4	MESM40200A
2.5	6	50	4	MESM40250A
3.0	8	50	4	MESM40300A
3.5	9	50	4	MESM40350A
4.0	10	50	4	MESM40400A

MESDL4-A

M520極細鎢鋼平銑刀-短刃長柄型-4刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- Long Shank- 4F



27



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	3	6	75	6	MESDL40300A
4.0	4	8	75	6	MESDL40400A
5.0	5	10	75	6	MESDL40500A
6.0	6	12	75	6	MESDL40600A
8.0	8	16	100	8	MESDL40800A
10.0	10	20	100	10	MESDL41000A
12.0	12	24	100	12	MESDL41200A

MEN2-A

M520極細鎢鋼平銑刀-長頸型-2刃

M520 ULTRA CARBIDE END MILLS- Square Type- Long Neck- 2F



53



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.5	4.0	50	4	MEN20100040A
1.0	1.5	8.0	50	4	MEN20100080A
1.2	1.8	6.0	50	4	MEN20120060A
1.2	1.8	10.0	50	4	MEN20120100A
1.5	2.3	8.0	50	4	MEN20150080A
1.5	2.3	12.0	50	4	MEN20150120A
1.8	2.7	10.0	50	4	MEN20180100A
1.8	2.7	16.0	50	4	MEN20180160A
2.0	3.0	10.0	50	4	MEN20200100A
2.0	3.0	16.0	50	4	MEN20200160A
2.0	3.0	20.0	60	4	MEN20200200A
2.5	3.5	12.0	50	4	MEN20250120A
2.5	3.5	20.0	60	4	MEN20250200A
3.0	4.5	12.0	50	6	MEN20300120A
3.0	4.5	20.0	60	6	MEN20300200A
4.0	6.0	20.0	60	6	MEN20400200A
4.0	6.0	30.0	60	6	MEN20400300A

1.0	1.5	4.0	38	4	MEN20100040038LA
1.0	1.5	8.0	38	4	MEN20100080038LA
1.2	1.8	6.0	38	4	MEN20120060038LA
1.2	1.8	10.0	38	4	MEN20120100038LA
1.5	2.3	8.0	38	4	MEN20150080038LA
1.5	2.3	12.0	38	4	MEN20150120038LA
1.8	2.7	10.0	38	4	MEN20180100038LA
1.8	2.7	16.0	38	4	MEN20180160038LA
2.0	3.0	10.0	38	4	MEN20200100038LA
2.0	3.0	16.0	38	4	MEN20200160038LA
2.0	3.0	20.0	50	4	MEN20200200050LA
2.5	3.5	12.0	38	4	MEN20250120038LA
2.5	3.5	20.0	50	4	MEN20250200050LA
3.0	4.5	12.0	38	6	MEN20300120038LA
3.0	4.5	20.0	50	6	MEN20300200050LA
4.0	6.0	20.0	50	6	MEN20400200050LA
4.0	6.0	30.0	50	6	MEN20400300050LA

MEBS2-A / MEBM2-A

M520極細鎢鋼球型銑刀-微柄/小柄型-2刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed- 2F- Micro Diameter



28



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.05R	0.2	50	50	3	MEBS20005A
0.1R	0.4	50	50	3	MEBS20010A
0.15R	0.6	50	50	3	MEBS20015A
0.2R	0.8	50	50	3	MEBS20020A
0.25R	1.0	50	50	3	MEBS20025A
0.3R	1.2	50	50	3	MEBS20030A
0.35R	1.4	50	50	3	MEBS20035A
0.4R	1.6	50	50	3	MEBS20040A
0.45R	1.8	50	50	3	MEBS20045A
0.5R	2.0	50	50	3	MEBS20050A
0.6R	2.4	50	50	3	MEBS20060A
0.7R	2.8	50	50	3	MEBS20070A
0.75R	3.0	50	50	3	MEBS20075A
1.0R	4.0	50	50	3	MEBS20100A
1.5R	6.0	50	50	3	MEBS20150A
0.05R	0.2	50	50	4	MEBM20005A
0.1R	0.4	50	50	4	MEBM20010A
0.15R	0.6	50	50	4	MEBM20015A
0.2R	0.8	50	50	4	MEBM20020A
0.25R	1.0	50	50	4	MEBM20025A
0.3R	1.2	50	50	4	MEBM20030A
0.35R	1.4	50	50	4	MEBM20035A
0.4R	1.6	50	50	4	MEBM20040A
0.45R	1.8	50	50	4	MEBM20045A
0.5R	2.0	50	50	4	MEBM20050A

MEBDM2-A / MEBD2-A

M520極細鎢鋼球型銑刀-短刃型-2刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Ball Nosed- 2F



29



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.15R	0.3	0.6	50	4	MEBDM20015A
0.2R	0.4	0.8	50	4	MEBDM20020A
0.25R	0.5	1.0	50	4	MEBDM20025A
0.3R	0.6	1.2	50	4	MEBDM20030A
0.4R	0.8	1.6	50	4	MEBDM20040A
0.5R	1.0	2.0	50	4	MEBDM20050A
1.0R	2.0	4.0	50	4	MEBDM20100A
1.5R	3.0	6.0	50	4	MEBDM20150A
1.0R	2.0	4.0	50	6	MEBD20100A
1.5R	3.0	6.0	50	6	MEBD20150A
2.0R	4.0	8.0	50	6	MEBD20200A
2.5R	5.0	10.0	50	6	MEBD20250A
3.0R	6.0	12.0	50	6	MEBD20300A
4.0R	8.0	16.0	60	8	MEBD20400A
5.0R	10.0	20.0	75	10	MEBD20500A
6.0R	12.0	24.0	75	12	MEBD20600A

MEBM2-A / MEB2-A M520極細鎢鋼球型銑刀-小柄/標準型-2刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed- 2F



超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	●
粗銑 Roughing	○

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	2.0	50	4	MEBM20050A
0.6R	2.4	50	4	MEBM20060A
0.7R	2.8	50	4	MEBM20070A
0.75R	3.0	50	4	MEBM20075A
1.0R	4.0	50	4	MEBM20100A
1.25R	5.0	50	4	MEBM20125A
1.5R	6.0	50	4	MEBM20150A
1.75R	7.0	50	4	MEBM20175A
2.0R	8.0	50	4	MEBM20200A
1.0R	4.0	50	6	MEB20100A
1.25R	5.0	50	6	MEB20125A
1.5R	6.0	50	6	MEB20150A
2.0R	8.0	50	6	MEB20200A
2.5R	10.0	50	6	MEB20250A
3.0R	12.0	50	6	MEB20300A
3.5R	14.0	60	8	MEB20350A
4.0R	16.0	60	8	MEB20400A
5.0R	20.0	75	10	MEB20500A
6.0R	24.0	75	12	MEB20600A
8.0R	32.0	100	16	MEB20800A
10.0R	40.0	100	20	MEB21000A

MEBDML2-A / MEBDL2-A M520極細鎢鋼球型銑刀-短刃(小)長柄型-2刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Ball Nosed- Long Shank- 2F



超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	●
粗銑 Roughing	○

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	1.0	2.0	75	4	MEBDML20050A
1.0R	2.0	4.0	75	4	MEBDML20100A
1.5R	3.0	6.0	75	4	MEBDML20150A
1.0R	2.0	4.0	75	6	MEBDL20100A
1.5R	3.0	6.0	75	6	MEBDL20150A
2.0R	4.0	8.0	75	6	MEBDL20200A
2.5R	5.0	10.0	75	6	MEBDL20250A
3.0R	6.0	12.0	75	6	MEBDL20300A
4.0R	8.0	16.0	100	8	MEBDL20400A
5.0R	10.0	20.0	100	10	MEBDL20500A
6.0R	12.0	24.0	100	12	MEBDL20600A

MEBML2-A / MEBL2-A M520極細鎢鋼球型銑刀-小長柄/長柄型-2刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed / Long Shank- 2F



超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	●
粗銑 Roughing	○

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4.0	75	4	MEBML20100A
1.5R	6.0	75	4	MEBML20150A
2.0R	8.0	75	4	MEBML20200A
1.0R	4.0	75	6	MEBL20100A
1.5R	6.0	75	6	MEBL20150A
2.0R	8.0	75	6	MEBL20200A
2.5R	10.0	75	6	MEBL20250A
3.0R	12.0	75	6	MEBL20300A
4.0R	16.0	100	8	MEBL20400A
5.0R	20.0	100	10	MEBL20500A
6.0R	24.0	100	12	MEBL20600A
8.0R	32.0	150	16	MEBL20800A
10.0R	40.0	150	20	MEBL21000A

MEBM4-A / MEB4-A M520極細鎢鋼球型銑刀-小柄/標準型-4刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed- 4F



超精銑 Bright Finishing	○
精銑 Finishing	●
中銑 Semi Finishing	○
粗銑 Roughing	—

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	4	MEBM40100A
1.25R	5	50	4	MEBM40125A
1.5R	6	50	4	MEBM40150A
1.75R	7	50	4	MEBM40175A
2.0R	8	50	4	MEBM40200A
3.0R	12	50	6	MEB40300A
4.0R	16	60	8	MEB40400A
5.0R	20	75	10	MEB40500A
6.0R	24	75	12	MEB40600A
8.0R	32	100	16	MEB40800A

MEBN2-A M520極細鎢鋼球型銑刀-長頸型-2刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed- Long Neck- 2F



SIZE

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

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	0.8	4.0	50	4	MEBN20050040A
0.5R	0.8	7.0	50	4	MEBN20050070A
0.75R	1.2	6.0	50	4	MEBN20075060A
0.75R	1.2	10.0	50	4	MEBN20075100A
1.0R	1.6	8.0	50	4	MEBN20100080A
1.0R	1.6	12.0	50	4	MEBN20100120A
1.0R	1.6	18.0	50	4	MEBN20100180A
1.25R	2.0	10.0	50	4	MEBN20125100A
1.25R	2.0	20.0	60	4	MEBN20125200A
1.5R	2.4	12.0	50	6	MEBN20150120A
1.5R	2.4	20.0	60	6	MEBN20150200A
2.0R	3.2	16.0	50	6	MEBN20200160A
2.0R	3.2	25.0	60	6	MEBN20200250A
0.5R	0.8	4.0	38	4	MEBN20050040038LA
0.5R	0.8	7.0	38	4	MEBN20050070038LA
0.75R	1.2	6.0	38	4	MEBN20075060038LA
0.75R	1.2	10.0	38	4	MEBN20075100038LA
1.0R	1.6	8.0	38	4	MEBN20100080038LA
1.0R	1.6	12.0	38	4	MEBN20100120038LA
1.0R	1.6	18.0	38	4	MEBN20100180038LA
1.25R	2.0	10.0	38	4	MEBN20125100038LA
1.25R	2.0	20.0	50	4	MEBN20125200050LA
1.5R	2.4	12.0	38	6	MEBN20150120038LA
1.5R	2.4	20.0	50	6	MEBN20150200050LA
2.0R	3.2	16.0	38	6	MEBN20200160038LA
2.0R	3.2	25.0	50	6	MEBN20200250050LA

MECRM2-A / MECR2-A M520極細鎢鋼圓鼻銑刀-小柄/標準型-2刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- 2F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2.0	50	4	MECRM2010002A
1.5	0.2R	3.0	50	4	MECRM2015002A
2.0	0.2R	4.0	50	4	MECRM2020002A
2.5	0.2R	5.0	50	4	MECRM2025002A
2.5	0.5R	5.0	50	4	MECRM2025005A
3.0	0.5R	6.0	50	4	MECRM2030005A
3.0	1.0R	6.0	50	4	MECRM2030010A
4.0	0.5R	8.0	50	6	MECRM2040005A
4.0	1.0R	8.0	50	6	MECRM2040010A
5.0	0.5R	10.0	50	6	MECRM2050005A
5.0	1.0R	10.0	50	6	MECRM2050010A
6.0	0.5R	12.0	50	6	MECRM2060005A
6.0	1.0R	12.0	50	6	MECRM2060010A
8.0	0.5R	16.0	60	8	MECRM2080005A
8.0	1.0R	16.0	60	8	MECRM2080010A
8.0	1.5R	16.0	60	8	MECRM2080015A
10.0	0.5R	20.0	75	10	MECRM2100005A
10.0	1.0R	20.0	75	10	MECRM2100010A
10.0	1.5R	20.0	75	10	MECRM2100015A
10.0	2.0R	20.0	75	10	MECRM2100020A
12.0	0.5R	24.0	75	12	MECRM2120005A
12.0	1.0R	24.0	75	12	MECRM2120010A
12.0	1.5R	24.0	75	12	MECRM2120015A
12.0	2.0R	24.0	75	12	MECRM2120020A

MEBN4-A M520極細鎢鋼球型銑刀-長頸型-4刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed- Long Neck- 4F



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.5R	0.8	4.0	50	4	MEBN40050040A
0.5R	0.8	7.0	50	4	MEBN40050070A
0.75R	1.2	6.0	50	4	MEBN40075060A
0.75R	1.2	10.0	50	4	MEBN40075100A
1.0R	1.6	8.0	50	4	MEBN40100080A
1.0R	1.6	12.0	50	4	MEBN40100120A
1.0R	1.6	18.0	50	4	MEBN40100180A
1.25R	2.0	10.0	50	4	MEBN40125100A
1.25R	2.0	20.0	60	4	MEBN40125200A
1.5R	2.4	12.0	50	6	MEBN40150120A
1.5R	2.4	20.0	60	6	MEBN40150200A
2.0R	3.2	16.0	50	6	MEBN40200160A
2.0R	3.2	25.0	60	6	MEBN40200250A

MECDL4-A

M520極細鎢鋼圓鼻銑刀-短刃長柄型-4刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Corner Radius & Long Shank- 4F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.3R	3.0	7.5	75	6	MECDL4030003A
3.0	0.5R	3.0	7.5	75	6	MECDL4030005A
3.0	1.0R	3.0	7.5	75	6	MECDL4030010A
4.0	0.3R	4.0	10.0	75	6	MECDL4040003A
4.0	0.5R	4.0	10.0	75	6	MECDL4040005A
4.0	1.0R	4.0	10.0	75	6	MECDL4040010A
5.0	0.3R	5.0	12.5	75	6	MECDL4050003A
5.0	0.5R	5.0	12.5	75	6	MECDL4050005A
5.0	1.0R	5.0	12.5	75	6	MECDL4050010A
6.0	0.5R	6.0	15.0	75	6	MECDL4060005A
6.0	1.0R	6.0	15.0	75	6	MECDL4060010A
8.0	0.5R	8.0	20.0	100	8	MECDL4080005A
8.0	1.0R	8.0	20.0	100	8	MECDL4080010A
8.0	1.5R	8.0	20.0	100	8	MECDL4080015A
10.0	0.5R	10.0	25.0	100	10	MECDL4100005A
10.0	1.0R	10.0	25.0	100	10	MECDL4100010A
10.0	1.5R	10.0	25.0	100	10	MECDL4100015A
10.0	2.0R	10.0	30.0	100	10	MECDL4100020A
12.0	0.5R	12.0	30.0	100	12	MECDL4120005A
12.0	1.0R	12.0	30.0	100	12	MECDL4120010A
12.0	1.5R	12.0	30.0	100	12	MECDL4120015A
12.0	2.0R	12.0	30.0	100	12	MECDL4120020A

MECDL3-A

M520極細鎢鋼圓鼻銑刀-短刃長柄型-3刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Corner Radius & Long Shank- 3F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.3R	3.0	7.5	75	6	MECDL3030003A
3.0	0.5R	3.0	7.5	75	6	MECDL3030005A
3.0	1.0R	3.0	7.5	75	6	MECDL3030010A
4.0	0.3R	4.0	10.0	75	6	MECDL3040003A
4.0	0.5R	4.0	10.0	75	6	MECDL3040005A
4.0	1.0R	4.0	10.0	75	6	MECDL3040010A
5.0	0.3R	5.0	12.5	75	6	MECDL3050003A
5.0	0.5R	5.0	12.5	75	6	MECDL3050005A
5.0	1.0R	5.0	12.5	75	6	MECDL3050010A
6.0	0.5R	6.0	15.0	75	6	MECDL3060005A
6.0	1.0R	6.0	15.0	75	6	MECDL3060010A
8.0	0.5R	8.0	20.0	100	8	MECDL3080005A
8.0	1.0R	8.0	20.0	100	8	MECDL3080010A
8.0	1.5R	8.0	20.0	100	8	MECDL3080015A
10.0	0.5R	10.0	25.0	100	10	MECDL3100005A
10.0	1.0R	10.0	25.0	100	10	MECDL3100010A
10.0	1.5R	10.0	25.0	100	10	MECDL3100015A
10.0	2.0R	10.0	30.0	100	10	MECDL3100020A
12.0	0.5R	12.0	30.0	100	12	MECDL3120005A
12.0	1.0R	12.0	30.0	100	12	MECDL3120010A
12.0	1.5R	12.0	30.0	100	12	MECDL3120015A
12.0	2.0R	12.0	30.0	100	12	MECDL3120020A

MECR4-A

M520極細鎢鋼圓鼻銑刀-標準型-4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- 4F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.5R	6.0	50	6	MECR4030005A
3.0	1.0R	6.0	50	6	MECR4030010A
4.0	0.5R	8.0	50	6	MECR4040005A
4.0	1.0R	8.0	50	6	MECR4040010A
5.0	0.5R	10.0	50	6	MECR4050005A
5.0	1.0R	10.0	50	6	MECR4050010A
6.0	0.5R	12.0	50	6	MECR4060005A
6.0	1.0R	12.0	50	6	MECR4060010A
8.0	0.5R	16.0	60	8	MECR4080005A
8.0	1.0R	16.0	60	8	MECR4080010A
8.0	1.5R	16.0	60	8	MECR4080015A
10.0	0.5R	20.0	75	10	MECR4100005A
10.0	1.0R	20.0	75	10	MECR4100010A
10.0	1.5R	20.0	75	10	MECR4100015A
10.0	2.0R	20.0	75	10	MECR4100020A
12.0	0.5R	24.0	75	12	MECR4120005A
12.0	1.0R	24.0	75	12	MECR4120010A
12.0	1.5R	24.0	75	12	MECR4120015A
12.0	2.0R	24.0	75	12	MECR4120020A
12.0	3.0R	24.0	75	12	MECR4120030A

MECDM4-A / MECD4-A

M520極細鎢鋼圓鼻銑刀-短刃型-4刃

M520 ULTRA CARBIDE END MILLS- Short Flute- Corner Radius- 4F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	1.0	2.5	50	4	MECDM4010002A
1.5	0.15R	1.5	3.5	50	4	MECDM40150015A
1.5	0.3R	1.5	3.5	50	4	MECDM4015003A
2.0	0.3R	2.0	6.5	50	4	MECDM4020003A
2.5	0.3R	2.5	7.5	50	4	MECDM4025003A
2.5	0.5R	2.5	7.5	50	4	MECDM4025005A
3.0	0.3R	3.0	7.5	50	6	MECD4030003A
3.0	0.5R	3.0	7.5	50	6	MECD4030005A
4.0	0.3R	4.0	10.0	50	6	MECD4040003A
4.0	0.5R	4.0	10.0	50	6	MECD4040005A
5.0	0.3R	5.0	12.5	50	6	MECD4050003A
5.0	0.5R	5.0	12.5	50	6	MECD4050005A
6.0	0.5R	6.0	15.0	50	6	MECD4060005A
6.0	1.0R	6.0	15.0	50	6	MECD4060010A
8.0	0.5R	8.0	20.0	60	8	MECD4080005A
8.0	1.0R	8.0	20.0	60	8	MECD4080010A
8.0	1.5R	8.0	20.0	60	8	MECD4080015A
10.0	0.5R	10.0	25.0	75	10	MECD4100005A
10.0	1.0R	10.0	25.0	75	10	MECD4100010A
10.0	1.5R	10.0	25.0	75	10	MECD4100015A
10.0	2.0R	10.0	25.0	75	10	MECD4100020A
12.0	0.5R	12.0	30.0	75	12	MECD4120005A
12.0	1.0R	12.0	30.0	75	12	MECD4120010A
12.0	1.5R	12.0	30.0	75	12	MECD4120015A
12.0	2.0R	12.0	30.0	75	12	MECD4120020A

MECRN2-A M520極細鎢鋼圓鼻銑刀-長頸型-2刃 M520 ULTRA CARBIDE END MILLS- Corner Radius- Square Type- Long Neck- 2F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2	1.5	4	50	4	MECRN2010002040A
1.0	0.2	1.5	6	50	4	MECRN2010002060A
1.0	0.2	1.5	8	50	4	MECRN2010002080A
1.0	0.2	1.5	10	50	4	MECRN2010002100A
1.0	0.2	1.5	12	50	4	MECRN2010002120A
1.5	0.2	2.3	6	50	4	MECRN2015002060A
1.5	0.2	2.3	8	50	4	MECRN2015002080A
1.5	0.2	2.3	10	50	4	MECRN2015002100A
1.5	0.2	2.3	12	50	4	MECRN2015002120A
1.5	0.2	2.3	16	50	4	MECRN2015002160A
2.0	0.2	3.0	6	50	4	MECRN2020002060A
2.0	0.2	3.0	8	50	4	MECRN2020002080A
2.0	0.2	3.0	10	50	4	MECRN2020002100A
2.0	0.2	3.0	12	50	4	MECRN2020002120A
2.0	0.2	3.0	16	50	4	MECRN2020002160A
2.0	0.2	3.0	20	60	4	MECRN2020002200A
2.0	0.3	3.0	6	50	4	MECRN2020003060A
2.0	0.3	3.0	8	50	4	MECRN2020003080A
2.0	0.3	3.0	10	50	4	MECRN2020003100A
2.0	0.3	3.0	12	50	4	MECRN2020003120A
2.0	0.3	3.0	16	50	4	MECRN2020003160A
2.0	0.3	3.0	20	60	4	MECRN2020003200A
2.0	0.5	3.0	6	50	4	MECRN2020005060A
2.0	0.5	3.0	8	50	4	MECRN2020005080A
2.0	0.5	3.0	10	50	4	MECRN2020005100A
2.0	0.5	3.0	12	50	4	MECRN2020005120A
2.0	0.5	3.0	16	50	4	MECRN2020005160A
2.0	0.5	3.0	20	60	4	MECRN2020005200A
2.5	0.2	3.5	10	50	4	MECRN2025002100A
2.5	0.2	3.5	16	50	4	MECRN2025002160A
2.5	0.2	3.5	20	60	4	MECRN2025002200A
2.5	0.3	3.5	10	50	4	MECRN2025003100A
2.5	0.3	3.5	16	50	4	MECRN2025003160A
2.5	0.3	3.5	20	60	4	MECRN2025003200A
2.5	0.5	3.5	10	50	4	MECRN2025005100A
2.5	0.5	3.5	16	50	4	MECRN2025005160A
2.5	0.5	3.5	20	60	4	MECRN2025005200A

MECRN2-A M520極細鎢鋼圓鼻銑刀-長頸型-2刃 M520 ULTRA CARBIDE END MILLS- Corner Radius- Square Type- Long Neck- 2F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.2	4.5	10	50	6	MECRN2030002100A
3.0	0.2	4.5	16	50	6	MECRN2030002160A
3.0	0.2	4.5	20	60	6	MECRN2030002200A
3.0	0.3	4.5	10	50	6	MECRN2030003100A
3.0	0.3	4.5	16	50	6	MECRN2030003160A
3.0	0.3	4.5	20	60	6	MECRN2030003200A
3.0	0.5	4.5	10	50	6	MECRN2030005100A
3.0	0.5	4.5	16	50	6	MECRN2030005160A
3.0	0.5	4.5	20	60	6	MECRN2030005200A
3.0	1.0	4.5	10	50	6	MECRN2030010100A
3.0	1.0	4.5	16	50	6	MECRN2030010160A
3.0	1.0	4.5	20	60	6	MECRN2030010200A
4.0	0.2	6.0	12	50	6	MECRN2040002120A
4.0	0.2	6.0	16	50	6	MECRN2040002160A
4.0	0.2	6.0	20	60	6	MECRN2040002200A
4.0	0.2	6.0	25	60	6	MECRN2040002250A
4.0	0.3	6.0	12	50	6	MECRN2040003120A
4.0	0.3	6.0	16	50	6	MECRN2040003160A
4.0	0.3	6.0	20	60	6	MECRN2040003200A
4.0	0.3	6.0	25	60	6	MECRN2040003250A
4.0	0.5	6.0	12	50	6	MECRN2040005120A
4.0	0.5	6.0	16	50	6	MECRN2040005160A
4.0	0.5	6.0	20	60	6	MECRN2040005200A
4.0	0.5	6.0	25	60	6	MECRN2040005250A
4.0	1.0	6.0	12	50	6	MECRN2040010120A
4.0	1.0	6.0	16	50	6	MECRN2040010160A
4.0	1.0	6.0	20	60	6	MECRN2040010200A
4.0	1.0	6.0	25	60	6	MECRN2040010250A
5.0	0.2	7.0	16	60	6	MECRN2050002160A
5.0	0.2	7.0	20	60	6	MECRN2050002200A
5.0	0.2	7.0	25	60	6	MECRN2050002250A
5.0	0.2	7.0	30	60	6	MECRN2050002300A
5.0	0.3	7.0	16	60	6	MECRN2050003160A
5.0	0.3	7.0	20	60	6	MECRN2050003200A
5.0	0.3	7.0	25	60	6	MECRN2050003250A
5.0	0.3	7.0	30	60	6	MECRN2050003300A
5.0	0.5	7.0	16	600	6	MECRN2050005160A
5.0	0.5	7.0	20	60	6	MECRN2050005200A
5.0	0.5	7.0	25	60	6	MECRN2050005250A
5.0	0.5	7.0	30	60	6	MECRN2050005300A
5.0	1.0	7.0	16	60	6	MECRN2050010160A
5.0	1.0	7.0	20	60	6	MECRN2050010200A
5.0	1.0	7.0	25	60	6	MECRN2050010250A
5.0	1.0	7.0	30	60	6	MECRN2050010300A
6.0	0.2	8.0	20	60	6	MECRN2060002200A
6.0	0.2	8.0	25	60	6	MECRN2060002250A
6.0	0.2	8.0	30	60	6	MECRN2060002300A
6.0	0.3	8.0	20	60	6	MECRN2060003200A
6.0	0.3	8.0	25	60	6	MECRN2060003250A
6.0	0.3	8.0	30	60	6	MECRN2060003300A
6.0	0.5	8.0	20	60	6	MECRN2060005200A
6.0	0.5	8.0	25	60	6	MECRN2060005250A
6.0	0.5	8.0	30	60	6	MECRN2060005300A
6.0	1.0	8.0	20	60	6	MECRN2060010200A
6.0	1.0	8.0	25	60	6	MECRN2060010250A
6.0	1.0	8.0	30	60	6	MECRN2060010300A
6.0	1.5	8.0	20	60	6	MECRN2060015200A
6.0	1.5	8.0	25	60	6	MECRN2060015250A
6.0	1.5	8.0	30	60	6	MECRN2060015300A

MECRN4-A

M520極細鎢鋼圓鼻銑刀-長頸型-4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- Square Type- Long Neck- 4F



33



超精銑 Bright Finishing	○
精銑 Finishing	◎
中銑 Semi Finishing	⊙
粗銑 Roughing	○

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2	1.5	4	50	4	MECRN4010002040A
1.0	0.2	1.5	6	50	4	MECRN4010002060A
1.0	0.2	1.5	8	50	4	MECRN4010002080A
1.0	0.2	1.5	10	50	4	MECRN4010002100A
1.0	0.2	1.5	12	50	4	MECRN4010002120A
1.5	0.2	2.3	6	50	4	MECRN4015002060A
1.5	0.2	2.3	8	50	4	MECRN4015002080A
1.5	0.2	2.3	10	50	4	MECRN4015002100A
1.5	0.2	2.3	12	50	4	MECRN4015002120A
1.5	0.2	2.3	16	50	4	MECRN4015002160A
2.0	0.2	3.0	6	50	4	MECRN4020002060A
2.0	0.2	3.0	8	50	4	MECRN4020002080A
2.0	0.2	3.0	10	50	4	MECRN4020002100A
2.0	0.2	3.0	12	50	4	MECRN4020002120A
2.0	0.2	3.0	16	50	4	MECRN4020002160A
2.0	0.2	3.0	20	60	4	MECRN4020002200A
2.0	0.3	3.0	6	50	4	MECRN4020003060A
2.0	0.3	3.0	8	50	4	MECRN4020003080A
2.0	0.3	3.0	10	50	4	MECRN4020003100A
2.0	0.3	3.0	12	50	4	MECRN4020003120A
2.0	0.3	3.0	16	50	4	MECRN4020003160A
2.0	0.3	3.0	20	60	4	MECRN4020003200A
2.0	0.5	3.0	6	50	4	MECRN4020005060A
2.0	0.5	3.0	8	50	4	MECRN4020005080A
2.0	0.5	3.0	10	50	4	MECRN4020005100A
2.0	0.5	3.0	12	50	4	MECRN4020005120A
2.0	0.5	3.0	16	50	4	MECRN4020005160A
2.0	0.5	3.0	20	60	4	MECRN4020005200A
2.5	0.2	3.5	10	50	4	MECRN4025002100A
2.5	0.2	3.5	16	50	4	MECRN4025002160A
2.5	0.2	3.5	20	60	4	MECRN4025002200A
2.5	0.3	3.5	10	50	4	MECRN4025003100A
2.5	0.3	3.5	16	50	4	MECRN4025003160A
2.5	0.3	3.5	20	60	4	MECRN4025003200A
2.5	0.5	3.5	10	50	4	MECRN4025005100A
2.5	0.5	3.5	16	50	4	MECRN4025005160A
2.5	0.5	3.5	20	60	4	MECRN4025005200A

MECRN4-A

M520極細鎢鋼圓鼻銑刀-長頸型-4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- Square Type- Long Neck- 4F



33



超精銑 Bright Finishing	○
精銑 Finishing	◎
中銑 Semi Finishing	⊙
粗銑 Roughing	○

刃徑 Diameter	R角 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.2	4.5	10	50	6	MECRN4030002100A
3.0	0.2	4.5	16	50	6	MECRN4030002160A
3.0	0.2	4.5	20	60	6	MECRN4030002200A
3.0	0.3	4.5	10	50	6	MECRN4030003100A
3.0	0.3	4.5	16	50	6	MECRN4030003160A
3.0	0.3	4.5	20	60	6	MECRN4030003200A
3.0	0.5	4.5	10	50	6	MECRN4030005100A
3.0	0.5	4.5	16	50	6	MECRN4030005160A
3.0	0.5	4.5	20	60	6	MECRN4030005200A
3.0	1.0	4.5	10	50	6	MECRN4030010100A
3.0	1.0	4.5	16	50	6	MECRN4030010160A
3.0	1.0	4.5	20	60	6	MECRN4030010200A
4.0	0.2	6.0	12	50	6	MECRN4040002120A
4.0	0.2	6.0	16	50	6	MECRN4040002160A
4.0	0.2	6.0	20	60	6	MECRN4040002200A
4.0	0.2	6.0	25	60	6	MECRN4040002250A
4.0	0.3	6.0	12	50	6	MECRN4040003120A
4.0	0.3	6.0	16	50	6	MECRN4040003160A
4.0	0.3	6.0	20	60	6	MECRN4040003200A
4.0	0.3	6.0	25	60	6	MECRN4040003250A
4.0	0.5	6.0	12	50	6	MECRN4040005120A
4.0	0.5	6.0	16	50	6	MECRN4040005160A
4.0	0.5	6.0	20	60	6	MECRN4040005200A
4.0	0.5	6.0	25	60	6	MECRN4040005250A
4.0	1.0	6.0	12	50	6	MECRN4040010120A
4.0	1.0	6.0	16	50	6	MECRN4040010160A
4.0	1.0	6.0	20	60	6	MECRN4040010200A
4.0	1.0	6.0	25	60	6	MECRN4040010250A
5.0	0.2	7.0	16	60	6	MECRN4050002160A
5.0	0.2	7.0	20	60	6	MECRN4050002200A
5.0	0.2	7.0	25	60	6	MECRN4050002250A
5.0	0.2	7.0	30	60	6	MECRN4050002300A
5.0	0.3	7.0	16	60	6	MECRN4050003160A
5.0	0.3	7.0	20	60	6	MECRN4050003200A
5.0	0.3	7.0	25	60	6	MECRN4050003250A
5.0	0.3	7.0	30	60	6	MECRN4050003300A
5.0	0.5	7.0	16	60	6	MECRN4050005160A
5.0	0.5	7.0	20	60	6	MECRN4050005200A
5.0	0.5	7.0	25	60	6	MECRN4050005250A
5.0	0.5	7.0	30	60	6	MECRN4050005300A
5.0	1.0	7.0	16	60	6	MECRN4050010160A
5.0	1.0	7.0	20	60	6	MECRN4050010200A
5.0	1.0	7.0	25	60	6	MECRN4050010250A
5.0	1.0	7.0	30	60	6	MECRN4050010300A
6.0	0.2	8.0	20	60	6	MECRN4060002200A
6.0	0.2	8.0	25	60	6	MECRN4060002250A
6.0	0.2	8.0	30	60	6	MECRN4060002300A
6.0	0.3	8.0	20	60	6	MECRN4060003200A
6.0	0.3	8.0	25	60	6	MECRN4060003250A
6.0	0.3	8.0	30	60	6	MECRN4060003300A
6.0	0.5	8.0	20	60	6	MECRN4060005200A
6.0	0.5	8.0	25	60	6	MECRN4060005250A
6.0	0.5	8.0	30	60	6	MECRN4060005300A
6.0	1.0	8.0	20	60	6	MECRN4060010200A
6.0	1.0	8.0	25	60	6	MECRN4060010250A
6.0	1.0	8.0	30	60	6	MECRN4060010300A
6.0	1.5	8.0	20	60	6	MECRN4060015200A
6.0	1.5	8.0	25	60	6	MECRN4060015250A
6.0	1.5	8.0	30	60	6	MECRN4060015300A

MEMHM4-F / MEMH4-F

M520極細鎢鋼不銹鋼用平銑刀-高導小柄/標準型-4刃

M520 ULTRA CARBIDE END MILLS FOR STAINLESS- High Helix- Square Type- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	4	MEMHM40300F
4.0	10	50	4	MEMHM40400F
4.0	10	50	6	MEMH40400F
5.0	13	50	6	MEMH40500F
6.0	15	50	6	MEMH40600F
8.0	20	60	8	MEMH40800F
10.0	25	75	10	MEMH41000F
12.0	30	75	12	MEMH41200F
16.0	35	100	16	MEMH41600F
20.0	45	100	20	MEMH42000F

MEHHD3-A

M520極細鎢鋼平銑刀-短刃強重型-3刃

M520 ULTRA CARBIDE END MILLS- Square Type- Short Flute- 3F for Heavy- Duty Cutting



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	4.5	50	6	MEHHD30300A
4.0	6.0	50	6	MEHHD30400A
5.0	7.5	50	6	MEHHD30500A
6.0	9.0	50	6	MEHHD30600A
8.0	12.0	60	8	MEHHD30800A
10.0	15.0	75	10	MEHHD31000A
12.0	18.0	75	12	MEHHD31200A

MEHHD4-A

M520極細鎢鋼平銑刀-短刃強重型-4刃

M520 ULTRA CARBIDE END MILLS- Square Type- Short Flute- 4F for Heavy- Duty Cutting



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	4.5	50	6	MEHHD40300A
4.0	6.0	50	6	MEHHD40400A
5.0	7.5	50	6	MEHHD40500A
6.0	9.0	50	6	MEHHD40600A
8.0	12.0	60	8	MEHHD40800A
10.0	15.0	75	10	MEHHD41000A
12.0	18.0	75	12	MEHHD41200A

MEHUM4-A / MEHU4-A

M520極細鎢鋼平銑刀-不等距高導型-4刃

M520 ULTRA CARBIDE END MILLS- Unequal Flute Spacing Angle- Square Type- High Helix- 4F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	4	MEHUM40300A
4.0	10	50	4	MEHUM40400A
3.0	8	50	6	MEHU40300A
4.0	10	50	6	MEHU40400A
5.0	13	50	6	MEHU40500A
6.0	15	50	6	MEHU40600A
6.0	18	50	6	MEHU40600180CA
8.0	20	60	8	MEHU40800A
8.0	24	60	8	MEHU40800240CA
10.0	25	75	10	MEHU41000A
10.0	30	75	10	MEHU41000300CA
12.0	30	75	12	MEHU41200A
12.0	36	75	12	MEHU41200360CA
16.0	35	100	16	MEHU41600A

MEHH4-A

M520極細鎢鋼平銑刀-強重型-4刃

M520 ULTRA CARBIDE END MILLS- 4F for Heavy- Duty Cutting



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	MEHH40300A
4.0	11	50	6	MEHH40400A
5.0	13	50	6	MEHH40500A
6.0	13	50	6	MEHH40600A
8.0	19	60	8	MEHH40800A
10.0	22	75	10	MEHH41000A
12.0	26	75	12	MEHH41200A
16.0	32	100	16	MEHH41600A
20.0	38	100	20	MEHH42000A

MEP4-A

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



NEW	超精銑 Bright Finishing	—
	精銑 Finishing	②
	中銑 Semi Finishing	③
	粗銑 Roughing	④

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
4.0	10	50	6	MEP40400A
5.0	12	50	6	MEP40500A
6.0	14	50	6	MEP40600A
8.0	18	60	8	MEP40800A
10.0	22	75	10	MEP41000A
12.0	26	75	12	MEP41200A

MEP4-C-A

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



NEW	超精銑 Bright Finishing	—
	精銑 Finishing	②
	中銑 Semi Finishing	③
	粗銑 Roughing	④

刃徑 Diameter	倒C角 C(Max)	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
4.0	0.2	10	50	6	CEP40400-C0020A
5.0	0.2	12	50	6	CEP40500-C0020A
6.0	0.2	14	50	6	CEP40600-C0020A
8.0	0.3	18	60	8	CEP40800-C0030A
10.0	0.3	22	75	10	CEP41000-C0030A
12.0	0.4	26	75	12	CEP41200-C0040A

MEP4-R-A

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



NEW	超精銑 Bright Finishing	—
	精銑 Finishing	②
	中銑 Semi Finishing	③
	粗銑 Roughing	④

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	0.2R	14	50	6	CEP40600-R0020A
8.0	0.5R	18	60	8	CEP40800-R0050A
10.0	0.5R	22	75	10	CEP41000-R0050A
12.0	0.5R	26	75	12	CEP41200-R0050A

METV4-A

M520極細鎢鋼鈦合金用平銑刀-高效型-4刃

M520 ULTRA CARBIDE END MILLS FOR TITANIUM- High Performance- 4F



QR CODE	NEW	超精銑 Bright Finishing	—
CUT EXAMPLES		精銑 Finishing	②
		中銑 Semi Finishing	③
		粗銑 Roughing	④

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
4.0	10	50	6	METV40400A
6.0	15	50	6	METV40600A
8.0	20	60	8	METV40800A
10.0	25	75	10	METV41000A
10.0	30	75	10	METV41000300CA
12.0	30	75	12	METV41200A

MEV4-A

M520極細鎢鋼平銑刀-高效型-4刃

M520 ULTRA CARBIDE END MILLS- High Performance- 4F



QR CODE	性能升級 UPGRADE	超精銑 Bright Finishing	—
CUT EXAMPLES		精銑 Finishing	②
		中銑 Semi Finishing	③
		粗銑 Roughing	④

刃徑 Diameter	倒C角 C(Max)	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.1	6	50	6	MEV40300A
4.0	0.2	8	50	6	MEV40400A
5.0	0.2	10	50	6	MEV40500A
6.0	0.2	12	50	6	MEV40600A
6.0	0.2	18	50	6	MEV40600180CA
8.0	0.3	16	60	8	MEV40800A
8.0	0.3	24	60	8	MEV40800240CA
10.0	0.3	20	75	10	MEV41000A
10.0	0.3	30	75	10	MEV41000300CA
12.0	0.4	24	75	12	MEV41200A
12.0	0.4	36	75	12	MEV41200360CA

MEVB4-A M520極細鎢鋼球型銑刀-高效型-4刃

M520 ULTRA CARBIDE END MILLS- Ball Nosed- High Performance- 4F



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

半徑 R	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.5R	10	15	60	6	MEVB40250A
3.0R	12	15	60	6	MEVB40300A
4.0R	16	20	75	8	MEVB40400A
5.0R	20	25	75	10	MEVB40500A
6.0R	24	30	75	12	MEVB40600A
8.0R	32	40	100	16	MEVB40800A
10.0R	40	50	100	20	MEVB41000A

MEVC4-A M520極細鎢鋼圓鼻銑刀-高效型-4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- High Performance- 4F



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.2R	8	50	6	MEVC4030002A
3.0	0.5R	8	50	6	MEVC4030005A
4.0	0.2R	11	50	6	MEVC4040002A
4.0	0.5R	11	50	6	MEVC4040005A
4.0	1.0R	11	50	6	MEVC4040010A
5.0	0.2R	13	50	6	MEVC4050002A
5.0	0.5R	13	50	6	MEVC4050005A
5.0	1.0R	13	50	6	MEVC4050010A
6.0	0.3R	13	50	6	MEVC4060003A
6.0	0.5R	13	50	6	MEVC4060005A
6.0	1.0R	13	50	6	MEVC4060010A
8.0	0.3R	19	60	8	MEVC4080003A
8.0	0.5R	19	60	8	MEVC4080005A
8.0	1.0R	19	60	8	MEVC4080010A
8.0	1.5R	19	60	8	MEVC4080015A
8.0	2.0R	19	60	8	MEVC4080020A
10.0	0.3R	22	75	10	MEVC4100003A
10.0	0.5R	22	75	10	MEVC4100005A
10.0	1.0R	22	75	10	MEVC4100010A
10.0	1.5R	22	75	10	MEVC4100015A
10.0	2.0R	22	75	10	MEVC4100020A
10.0	3.0R	22	75	10	MEVC4100030A
12.0	0.5R	26	75	12	MEVC4120005A
12.0	1.0R	26	75	12	MEVC4120010A
12.0	1.5R	26	75	12	MEVC4120015A
12.0	2.0R	26	75	12	MEVC4120020A
12.0	3.0R	26	75	12	MEVC4120030A
16.0	1.0R	35	100	16	MEVC4160010A
16.0	1.5R	35	100	16	MEVC4160015A
16.0	2.0R	35	100	16	MEVC4160020A
16.0	3.0R	35	100	16	MEVC4160030A
20.0	1.0R	40	100	20	MEVC4200010A
20.0	1.5R	40	100	20	MEVC4200015A
20.0	2.0R	40	100	20	MEVC4200020A
20.0	3.0R	40	100	20	MEVC4200030A

MEHHC4-A M520極細鎢鋼圓鼻銑刀-強重型-4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- 4F for Heavy- Duty Cutting



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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.2R	8.0	50	6	MEHHC4030002A
3.0	0.5R	8.0	50	6	MEHHC4030005A
4.0	0.2R	11.0	50	6	MEHHC4040002A
4.0	0.5R	11.0	50	6	MEHHC4040005A
4.0	1.0R	11.0	50	6	MEHHC4040010A
5.0	0.2R	13.0	50	6	MEHHC4050002A
5.0	0.5R	13.0	50	6	MEHHC4050005A
5.0	1.0R	13.0	50	6	MEHHC4050010A
6.0	0.3R	13.0	50	6	MEHHC4060003A
6.0	0.5R	13.0	50	6	MEHHC4060005A
6.0	1.0R	13.0	50	6	MEHHC4060010A
8.0	0.3R	19.0	60	8	MEHHC4080003A
8.0	0.5R	19.0	60	8	MEHHC4080005A
8.0	1.0R	19.0	60	8	MEHHC4080010A
8.0	1.5R	19.0	60	8	MEHHC4080015A
8.0	2.0R	19.0	60	8	MEHHC4080020A
10.0	0.3R	22.0	75	10	MEHHC4100003A
10.0	0.5R	22.0	75	10	MEHHC4100005A
10.0	1.0R	22.0	75	10	MEHHC4100010A
10.0	1.5R	22.0	75	10	MEHHC4100015A
10.0	2.0R	22.0	75	10	MEHHC4100020A
10.0	3.0R	22.0	75	10	MEHHC4100030A
12.0	0.5R	26.0	75	12	MEHHC4120005A
12.0	1.0R	26.0	75	12	MEHHC4120010A
12.0	1.5R	26.0	75	12	MEHHC4120015A
12.0	2.0R	26.0	75	12	MEHHC4120020A
12.0	3.0R	26.0	75	12	MEHHC4120030A
16.0	1.0R	35.0	100	16	MEHHC4160010A
16.0	1.5R	35.0	100	16	MEHHC4160015A
16.0	2.0R	35.0	100	16	MEHHC4160020A
16.0	3.0R	35.0	100	16	MEHHC4160030A
20.0	1.0R	40.0	100	20	MEHHC4200010A
20.0	1.5R	40.0	100	20	MEHHC4200015A
20.0	2.0R	40.0	100	20	MEHHC4200020A
20.0	3.0R	40.0	100	20	MEHHC4200030A

MED6-A

M520極細鎢鋼平銑刀-高硬型-6刃

M520 ULTRA CARBIDE END MILLS- High Hardness- 6F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	MED60600A
8.0	20	60	8	MED60800A
10.0	25	75	10	MED61000A
12.0	30	75	12	MED61200A
14.0	30	75	14	MED61400A
16.0	40	100	16	MED61600A
18.0	40	100	18	MED61800A
20.0	45	100	20	MED62000A
25.0	45	100	25	MED62500A

MEDF6-A

M520極細鎢鋼平銑刀-高硬長刃型-6刃

M520 ULTRA CARBIDE END MILLS- High Hardness & Long Flute- 6F



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	35	75	6	MEDF60600A
8.0	45	100	8	MEDF60800A
10.0	55	100	10	MEDF61000A
12.0	55	100	12	MEDF61200A
14.0	75	150	14	MEDF61400A
16.0	75	150	16	MEDF61600A
18.0	90	150	18	MEDF61800A
20.0	90	150	20	MEDF62000A
25.0	90	150	25	MEDF62500A

MEBYS2-A / MEBYM2-A

M520極細鎢鋼球型銑刀-微/小柄-高精度型-2刃

M520 ULTRA CARBIDE END MILLS- Ball Nose- High R Tolerance Type- 2F- Micro Diameter



半徑 R	公差 Tolerance	刃徑 Diameter	公差 Tolerance
0.1R	±0.005	0.2	-0.01 ~ -0.02
0.15R	±0.005	0.3	-0.01 ~ -0.02
0.2R	±0.005	0.4	-0.01 ~ -0.02
0.25R	±0.005	0.5	-0.01 ~ -0.02
0.3R	±0.005	0.6	-0.01 ~ -0.02
0.35R	±0.005	0.7	-0.01 ~ -0.02
0.4R	±0.005	0.8	-0.01 ~ -0.02
0.45R	±0.005	0.9	-0.01 ~ -0.02
0.5R	±0.005	1.0	-0.01 ~ -0.02
0.75R	±0.005	1.5	-0.01 ~ -0.02
1.0R	±0.005	2.0	-0.01 ~ -0.02
1.25R	±0.005	2.5	-0.01 ~ -0.02
1.5R	±0.005	3.0	-0.01 ~ -0.02
2.0R	±0.005	4.0	-0.01 ~ -0.02

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

半徑 R	刃徑 d	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
0.1R	0.2	0.4	50	3	MEBYS20010A
0.15R	0.3	0.6	50	3	MEBYS20015A
0.2R	0.4	0.8	50	3	MEBYS20020A
0.25R	0.5	1.0	50	3	MEBYS20025A
0.3R	0.6	1.2	50	3	MEBYS20030A
0.35R	0.7	1.4	50	3	MEBYS20035A
0.4R	0.8	1.6	50	3	MEBYS20040A
0.45R	0.9	1.8	50	3	MEBYS20045A
0.5R	1.0	2.0	50	3	MEBYS20050A
0.6R	1.2	2.4	50	3	MEBYS20060A
0.7R	1.4	2.8	50	3	MEBYS20070A
0.75R	1.5	3.0	50	3	MEBYS20075A
0.8R	1.6	3.2	50	3	MEBYS20080A
0.9R	1.8	3.6	50	3	MEBYS20090A
1.0R	2.0	4.0	50	3	MEBYS20100A
1.5R	3.0	6.0	50	3	MEBYS20150A
0.1R	0.2	0.4	50	4	MEBYM20010A
0.15R	0.3	0.6	50	4	MEBYM20015A
0.2R	0.4	0.8	50	4	MEBYM20020A
0.25R	0.5	1.0	50	4	MEBYM20025A
0.3R	0.6	1.2	50	4	MEBYM20030A
0.35R	0.7	1.4	50	4	MEBYM20035A
0.4R	0.8	1.6	50	4	MEBYM20040A
0.45R	0.9	1.8	50	4	MEBYM20045A
0.5R	1.0	2.0	50	4	MEBYM20050A
0.75R	1.5	3.0	50	4	MEBYM20075A
1.0R	2.0	4.0	50	4	MEBYM20100A
1.25R	2.5	5.0	50	4	MEBYM20125A
1.5R	3.0	6.0	50	4	MEBYM20150A
2.0R	4.0	8.0	50	4	MEBYM20200A

MEBY2-A M520極細鎢鋼球型銑刀-小柄/標準-高精度型-2刃

M520 ULTRA CARBIDE END MILLS- Ball Nose- High R Tolerance Type- 2F



半徑 R	公差 Tolerance	刃徑 Diameter	公差 Tolerance
1.0R	±0.005	2.0	-0.01 ~ -0.02
1.25R	±0.005	2.5	-0.01 ~ -0.02
1.5R	±0.005	3.0	-0.01 ~ -0.02
2.0R	±0.005	4.0	-0.01 ~ -0.02
2.5R	±0.005	5.0	-0.01 ~ -0.02
3.0R	±0.005	6.0	-0.01 ~ -0.02

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

半徑 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	6	MEBY20100A
1.25R	5	50	6	MEBY20125A
1.5R	6	50	6	MEBY20150A
2.0R	8	50	6	MEBY20200A
2.5R	10	50	6	MEBY20250A
3.0R	12	50	6	MEBY20300A

MEBYM4-A / MEBY4-A M520極細鎢鋼球型銑刀-小柄/標準-高精度型-4刃

M520 ULTRA CARBIDE END MILLS- Ball Nose- High R Tolerance Type- 4F



半徑 R	公差 Tolerance	刃徑 Diameter	公差 Tolerance
1.0R	±0.005	2.0	-0.01 ~ -0.02
1.25R	±0.005	2.5	-0.01 ~ -0.02
1.5R	±0.005	3.0	-0.01 ~ -0.02
1.75R	±0.005	3.5	-0.01 ~ -0.02
2.0R	±0.005	4.0	-0.01 ~ -0.02
3.0R	±0.005	6.0	-0.01 ~ -0.02

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

半徑 R	刃徑 d	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0R	2.0	4	50	4	MEBYM40100A
1.25R	2.5	5	50	4	MEBYM40125A
1.5R	3.0	6	50	4	MEBYM40150A
1.75R	3.5	7	50	4	MEBYM40175A
2.0R	4.0	8	50	4	MEBYM40200A
3.0R	6.0	12	50	6	MEBY40300A

MECYM2-A / MECY2-A M520極細鎢鋼圓鼻銑刀-小柄/標準-高精度型-2刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- High R Tolerance Type- 2F



半徑 R	公差 Tolerance	刃徑 Diameter	公差 Tolerance
0.2R	+0.01 ~ 0	1.0	0 ~ -0.02
0.2R	+0.01 ~ 0	1.5	0 ~ -0.02
0.2R	+0.01 ~ 0	2.0	0 ~ -0.02
0.2R	+0.01 ~ 0	2.5	0 ~ -0.02
0.5R	+0.01 ~ 0	2.5	0 ~ -0.02
0.5R	+0.01 ~ 0	3.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	3.0	-0.01 ~ -0.02
0.5R	+0.01 ~ 0	4.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	4.0	-0.01 ~ -0.02
0.5R	+0.01 ~ 0	5.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	5.0	-0.01 ~ -0.02
0.5R	+0.01 ~ 0	6.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	6.0	-0.01 ~ -0.02

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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	MECYM2010002A
1.5	0.2R	3	50	4	MECYM2015002A
2.0	0.2R	4	50	4	MECYM2020002A
2.5	0.2R	5	50	4	MECYM2025002A
2.5	0.5R	5	50	4	MECYM2025005A
3.0	0.5R	6	50	4	MECYM2030005A
3.0	1.0R	6	50	4	MECYM2030010A
4.0	0.5R	8	50	6	MECY2040005A
4.0	1.0R	8	50	6	MECY2040010A
5.0	0.5R	10	50	6	MECY2050005A
5.0	1.0R	10	50	6	MECY2050010A
6.0	0.5R	12	50	6	MECY2060005A
6.0	1.0R	12	50	6	MECY2060010A

MECY4-A M520極細鎢鋼圓鼻銑刀-標準-高精度型-4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- High R Tolerance Type- 4F



半徑 R	公差 Tolerance	刃徑 Diameter	公差 Tolerance
0.5R	+0.01 ~ 0	3.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	3.0	-0.01 ~ -0.02
0.5R	+0.01 ~ 0	4.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	4.0	-0.01 ~ -0.02
0.5R	+0.01 ~ 0	5.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	5.0	-0.01 ~ -0.02
0.5R	+0.01 ~ 0	6.0	-0.01 ~ -0.02
1.0R	+0.01 ~ 0	6.0	-0.01 ~ -0.02

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

刃徑 Diameter	R角 R	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	0.5R	6	50	6	MECY4030005A
3.0	1.0R	6	50	6	MECY4030010A
4.0	0.5R	8	50	6	MECY4040005A
4.0	1.0R	8	50	6	MECY4040010A
5.0	0.5R	10	50	6	MECY4050005A
5.0	1.0R	10	50	6	MECY4050010A
6.0	0.5R	12	50	6	MECY4060005A
6.0	1.0R	12	50	6	MECY4060010A



N620 奈米鎢鋼銑刀系列 ***NANO CARBIDE END MILLS***

- 應用於高硬材質加工(45~63HRC)。
For hardened steel(45~63HRC) machining.
- 包裝盒蓋以「紅色」為主色。
N620's packaging-box-color is "red".

NESDM2-A / NESD2-A

N620奈米鎢鋼平銑刀-短刃型-2刃

N620 NANO CARBIDE END MILLS- Square Type- Short Flute- 2F with corner radii



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	R角 R	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.0	2.0	0.1R	50	4	NESDM20100A
2.0	2.0	4.0	0.1R	50	4	NESDM20200A
3.0	3.0	6.0	0.1R	50	4	NESDM20300A
4.0	4.0	8.0	0.2R	50	4	NESDM20400A
6.0	6.0	12.0	0.2R	50	6	NESD20600A
8.0	8.0	16.0	0.3R	60	8	NESD20800A
10.0	10.0	20.0	0.3R	75	10	NESD21000A
12.0	12.0	24.0	0.3R	75	12	NESD21200A

NESD3-A

N620奈米鎢鋼平銑刀-短刃型-3刃

N620 NANO CARBIDE END MILLS- Square Type- Short Flute- 3F with corner radii



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	R角 R	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
3.0	3.0	9.0	0.1R	50	6	NESD30300A
4.0	4.0	12.0	0.2R	50	6	NESD30400A
6.0	6.0	18.0	0.2R	50	6	NESD30600A
8.0	8.0	24.0	0.3R	60	8	NESD30800A
10.0	10.0	30.0	0.3R	75	10	NESD31000A
12.0	12.0	36.0	0.3R	75	12	NESD31200A

NEHD6-A

N620奈米鎢鋼平銑刀-高導短刃型-6刃

N620 NANO CARBIDE END MILLS- Square Type- High Helix- Short Flute- 6F with corner radii



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	R角 R	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	9.0	15.0	0.2R	50	6	NEHD60600A
8.0	12.0	20.0	0.3R	60	8	NEHD60800A
10.0	15.0	25.0	0.3R	75	10	NEHD61000A
12.0	18.0	30.0	0.3R	75	12	NEHD61200A
16.0	24.0	40.0	0.5R	100	16	NEHD61600A
20.0	30.0	50.0	0.5R	100	20	NEHD62000A

NESDM4-A / NESD4-A

N620奈米鎢鋼平銑刀-短刃型-4刃

N620 NANO CARBIDE END MILLS- Square Type- Short Flute- 4F with corner radii



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	R角 R	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.0	2.0	0.1R	50	4	NESDM40100A
1.5	1.5	3.0	0.1R	50	4	NESDM40150A
2.0	2.0	4.0	0.1R	50	4	NESDM40200A
2.5	2.5	5.0	0.1R	50	4	NESDM40250A
3.0	4.0	8.0	0.1R	50	6	NESD40300A
4.0	5.0	10.0	0.2R	50	6	NESD40400A
5.0	7.0	14.0	0.2R	50	6	NESD40500A
6.0	8.0	16.0	0.2R	50	6	NESD40600A
8.0	12.0	24.0	0.3R	60	8	NESD40800A
10.0	16.0	32.0	0.3R	75	10	NESD41000A
12.0	18.0	36.0	0.3R	75	12	NESD41200A

NEDM4-A / NED4-A

N620奈米鎢鋼平銑刀-短刃型-4刃

N620 NANO CARBIDE END MILLS- Square Type- Short Flute- 4F



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

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.0	2.0	50	4	NEDM40100A
1.5	1.5	3.0	50	4	NEDM40150A
2.0	2.0	4.0	50	4	NEDM40200A
2.5	2.5	5.0	50	4	NEDM40250A
3.0	3.0	8.0	50	6	NED40300A
4.0	4.0	10.0	50	6	NED40400A
5.0	5.0	14.0	50	6	NED40500A
6.0	6.0	16.0	50	6	NED40600A
8.0	8.0	24.0	60	8	NED40800A
10.0	10.0	32.0	75	10	NED41000A
12.0	12.0	36.0	75	12	NED41200A

NEDYM4-A / NEDY4-A

N620奈米鎢鋼平銑刀-短刃-高精度型-4刃

N620 NANO CARBIDE END MILLS- Square Type- Short Flute- High R Tolerance Type- 4F

刃徑 Diameter	公差 Tolerance
φ ≤ 5	0 ~ -0.01
6 ≤ φ ≤ 12	-0.01 ~ -0.025
13 ≤ φ ≤ 20	-0.015 ~ -0.03

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	1.0	2.0	50	4	NEDYM40100A
1.5	1.5	3.0	50	4	NEDYM40150A
2.0	2.0	4.0	50	4	NEDYM40200A
2.5	2.5	5.0	50	4	NEDYM40250A
3.0	3.0	8.0	50	6	NEDY40300A
4.0	4.0	10.0	50	6	NEDY40400A
5.0	5.0	14.0	50	6	NEDY40500A
6.0	6.0	16.0	50	6	NEDY40600A
8.0	8.0	24.0	60	8	NEDY40800A
10.0	10.0	32.0	75	10	NEDY41000A
12.0	12.0	36.0	75	12	NEDY41200A

NESND2-A

N620 奈米鎢鋼平銑刀-短刃長頸型-2刃

N620 NANO CARBIDE END MILLS- Square Type-
Short Flute- Long Neck- 2F with Corner Radii



40



超精銑 Bright Finishing	—
精銑 Finishing	○
中銑 Semi Finishing	●
粗銑 Roughing	⊙

刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	R角 R	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
0.5	1.0	2.0	0.1R	50	4	NESND20050020A
0.5	1.0	4.0	0.1R	50	4	NESND20050040A
1.0	1.5	4.0	0.1R	50	6	NESND20100040A
1.0	1.5	6.0	0.1R	50	6	NESND20100060A
1.0	1.5	8.0	0.1R	50	6	NESND20100080A
1.5	1.5	4.0	0.1R	50	6	NESND20150040A
1.5	1.5	8.0	0.1R	50	6	NESND20150080A
2.0	2.0	8.0	0.2R	50	6	NESND20200080A
2.0	2.0	10.0	0.2R	50	6	NESND20200100A
2.0	2.0	12.0	0.2R	50	6	NESND20200120A
3.0	3.0	8.0	0.2R	50	6	NESND20300080A
3.0	3.0	12.0	0.2R	50	6	NESND20300120A
3.0	3.0	16.0	0.2R	50	6	NESND20300160A
3.0	3.0	20.0	0.2R	50	6	NESND20300200A
4.0	4.0	16.0	0.3R	60	6	NESND20400160A
4.0	4.0	20.0	0.3R	60	6	NESND20400200A
4.0	4.0	26.0	0.3R	75	6	NESND20400260A
5.0	5.0	20.0	0.3R	75	6	NESND20500200A
5.0	5.0	30.0	0.3R	75	6	NESND20500300A
5.0	5.0	40.0	0.3R	75	6	NESND20500400A

NECDM4-A / NECD4-A

N620 奈米鎢鋼圓鼻銑刀-短刃型-4刃

N620 NANO CARBIDE END MILLS- Corner Radius- Short Flute-
4F



38



超精銑 Bright Finishing	○
精銑 Finishing	●
中銑 Semi Finishing	○
粗銑 Roughing	○

刃徑 Diameter	R角 R	有效長 Effective Length	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2.5	1.0	50	4	NECDM4010002A
1.5	0.15R	3.5	1.5	50	4	NECDM40150015A
1.5	0.3R	3.5	1.5	50	4	NECDM4015003A
2.0	0.25R	6.5	2.0	50	4	NECDM40200025A
2.5	0.25R	7.5	2.5	50	4	NECDM40250025A
2.5	0.5R	7.5	2.5	50	4	NECDM4025005A
3.0	0.25R	7.5	3.0	50	6	NECD40300025A
3.0	0.5R	7.5	3.0	50	6	NECD4030005A
4.0	0.25R	10.0	4.0	50	6	NECD40400025A
4.0	0.5R	10.0	4.0	50	6	NECD4040005A
5.0	0.25R	12.5	5.0	50	6	NECD40500025A
5.0	0.5R	12.5	5.0	50	6	NECD4050005A
6.0	0.5R	15.0	6.0	50	6	NECD4060005A
6.0	1.0R	15.0	6.0	50	6	NECD4060010A
8.0	0.5R	20.0	8.0	60	8	NECD4080005A
8.0	1.0R	20.0	8.0	60	8	NECD4080010A
8.0	1.5R	20.0	8.0	60	8	NECD4080015A
10.0	0.5R	25.0	10.0	75	10	NECD4100005A
10.0	1.0R	25.0	10.0	75	10	NECD4100010A
10.0	1.5R	25.0	10.0	75	10	NECD4100015A
10.0	2.0R	25.0	10.0	75	10	NECD4100020A
12.0	0.5R	30.0	12.0	75	12	NECD4120005A
12.0	1.0R	30.0	12.0	75	12	NECD4120010A
12.0	1.5R	30.0	12.0	75	12	NECD4120015A
12.0	2.0R	30.0	12.0	75	12	NECD4120020A

NEBDM2-A / NEBD2-A

N620 奈米鎢鋼球型銑刀-短刃型-2刃

N620 NANO CARBIDE END MILLS- Ball Nosed-
Short Flute- 2F



39



+SIZE

超精銑 Bright Finishing	○
精銑 Finishing	●
中銑 Semi Finishing	○
粗銑 Roughing	—

半徑 R	刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
0.05R	0.1	0.1	0.2	50	4	NEBDM20005A
0.1R	0.2	0.2	0.4	50	4	NEBDM20010A
0.15R	0.3	0.3	0.6	50	4	NEBDM20015A
0.2R	0.4	0.4	0.8	50	4	NEBDM20020A
0.25R	0.5	0.5	1.0	50	4	NEBDM20025A
0.3R	0.6	0.6	1.2	50	4	NEBDM20030A
0.35R	0.7	0.7	1.4	50	4	NEBDM20035A
0.4R	0.8	0.8	1.6	50	4	NEBDM20040A
0.45R	0.9	0.9	1.8	50	4	NEBDM20045A
0.5R	1.0	1.0	2.0	50	4	NEBDM20050A
1.0R	2.0	2.0	4.0	50	4	NEBDM20100A
1.5R	3.0	3.0	6.0	50	4	NEBDM20150A
1.0R	2.0	2.0	4.0	50	6	NEBD20100A
1.5R	3.0	3.0	6.0	50	6	NEBD20150A
2.0R	4.0	4.0	8.0	50	6	NEBD20200A
2.5R	5.0	5.0	10.0	50	6	NEBD20250A
3.0R	6.0	6.0	12.0	50	6	NEBD20300A
4.0R	8.0	8.0	16.0	60	8	NEBD20400A
5.0R	10.0	10.0	20.0	75	10	NEBD20500A
6.0R	12.0	12.0	24.0	75	12	NEBD20600A

NEB2-A

N620 奈米鎢鋼球型銑刀-標準型-2刃

N620 NANO CARBIDE END MILLS- Ball Nosed- 2F



39



超精銑 Bright Finishing	○
精銑 Finishing	●
中銑 Semi Finishing	○
粗銑 Roughing	—

半徑 R	刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
1.0R	2.0	4.0	50	6	NEB20100A
1.5R	3.0	6.0	50	6	NEB20150A
2.0R	4.0	8.0	50	6	NEB20200A
3.0R	6.0	12.0	50	6	NEB20300A
4.0R	8.0	16.0	60	8	NEB20400A
5.0R	10.0	20.0	75	10	NEB20500A
6.0R	12.0	24.0	75	12	NEB20600A

NEBL2-A

N620奈米鎢鋼球型銑刀-標準/長柄型-2刃

N620 NANO CARBIDE END MILLS- Ball Nosed- Square Type & Long Shank- 2F



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

半徑 R	刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
1.0R	2.0	4.0	75	6	NEBL20100A
1.5R	3.0	6.0	75	6	NEBL20150A
2.0R	4.0	8.0	75	6	NEBL20200A
3.0R	6.0	12.0	75	6	NEBL20300A
4.0R	8.0	16.0	100	8	NEBL20400A
5.0R	10.0	20.0	100	10	NEBL20500A
6.0R	12.0	24.0	100	12	NEBL20600A

NEBDYM2-A / NEBDY2-A

N620奈米鎢鋼球型銑刀-短刃-高精度型-2刃

N620 NANO CARBIDE END MILLS- Ball Nosed- Short Flute- High R Tolerance Type- 2F



NEW

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

半徑 R	刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
0.05R	0.1	0.1	0.2	50	4	NEBDYM20005A
0.1R	0.2	0.2	0.4	50	4	NEBDYM20010A
0.15R	0.3	0.3	0.6	50	4	NEBDYM20015A
0.2R	0.4	0.4	0.8	50	4	NEBDYM20020A
0.25R	0.5	0.5	1.0	50	4	NEBDYM20025A
0.3R	0.6	0.6	1.2	50	4	NEBDYM20030A
0.35R	0.7	0.7	1.4	50	4	NEBDYM20035A
0.4R	0.8	0.8	1.6	50	4	NEBDYM20040A
0.45R	0.9	0.9	1.8	50	4	NEBDYM20045A
0.5R	1.0	1.0	2.0	50	4	NEBDYM20050A
1.0R	2.0	2.0	4.0	50	4	NEBDYM20100A
1.5R	3.0	3.0	6.0	50	4	NEBDYM20150A
1.0R	2.0	2.0	4.0	50	6	NEBDY20100A
1.5R	3.0	3.0	6.0	50	6	NEBDY20150A
1.5R	3.0	3.0	6.0	50	4	NEBDY20150A
1.0R	2.0	2.0	4.0	50	6	NEBDY20100A
1.5R	3.0	3.0	6.0	50	6	NEBDY20150A
2.0R	4.0	4.0	8.0	50	6	NEBDY20200A
2.5R	5.0	5.0	10.0	50	6	NEBDY20250A
3.0R	6.0	6.0	12.0	50	6	NEBDY20300A
4.0R	8.0	8.0	16.0	60	8	NEBDY20400A
5.0R	10.0	10.0	20.0	75	10	NEBDY20500A
6.0R	12.0	12.0	24.0	75	12	NEBDY20600A

半徑 R	公差 Tolerance	刃徑 Diameter	公差 Tolerance
0.05 ~ 0.5R	±0.005	0.1 ~ 1.0	-0.00 ~ -0.01
1.00R	±0.005	2.0	-0.01 ~ -0.02
1.50R	±0.005	3.0	-0.01 ~ -0.02
2.00R	±0.005	4.0	-0.01 ~ -0.02
2.50R	±0.005	5.0	-0.01 ~ -0.02
3.00R	±0.005	6.0	-0.01 ~ -0.02
4.00R	±0.010	8.0	-0.01 ~ -0.03
5.00R	±0.010	10.0	-0.01 ~ -0.03
6.00R	±0.010	12.0	-0.01 ~ -0.03

NEBND2-A

N620奈米鎢鋼球型銑刀-短刃長頸型-2刃

N620 NANO CARBIDE END MILLS- Ball Nosed- Short Flute- Long Neck- 2F



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

半徑 R	刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
0.3R	0.6	0.6	3.0	50	4	NEBND20030030A
0.3R	0.6	0.6	4.0	50	4	NEBND20030040A
0.4R	0.8	0.8	4.0	50	4	NEBND20040040A
0.4R	0.8	0.8	6.0	50	4	NEBND20040060A
0.5R	1.0	1.0	4.0	50	4	NEBND20050040A
0.5R	1.0	1.0	6.0	50	4	NEBND20050060A
0.5R	1.0	1.0	8.0	50	4	NEBND20050080A
0.75R	1.5	1.5	6.0	50	4	NEBND20075060A
0.75R	1.5	1.5	9.0	50	4	NEBND20075090A
0.75R	1.5	1.5	12.0	50	4	NEBND20075120A
1.0R	2.0	2.0	8.0	50	4	NEBND20100080A
1.0R	2.0	2.0	12.0	50	4	NEBND20100120A
1.0R	2.0	2.0	16.0	50	4	NEBND20100160A
1.5R	3.0	3.0	12.0	60	6	NEBND20150120A
1.5R	3.0	3.0	18.0	60	6	NEBND20150180A
1.5R	3.0	3.0	25.0	75	6	NEBND20150250A
2.0R	4.0	4.0	16.0	75	6	NEBND20200160A
2.0R	4.0	4.0	25.0	75	6	NEBND20200250A
2.0R	4.0	4.0	30.0	75	6	NEBND20200300A
2.5R	5.0	5.0	20.0	75	6	NEBND20250200A
2.5R	5.0	5.0	30.0	75	6	NEBND20250300A
2.5R	5.0	5.0	40.0	75	6	NEBND20250400A
3.0R	6.0	6.0	30.0	75	6	NEBND20300300A
3.0R	6.0	6.0	45.0	100	6	NEBND20300450A

NEBDML2-A / NEBDL2-A

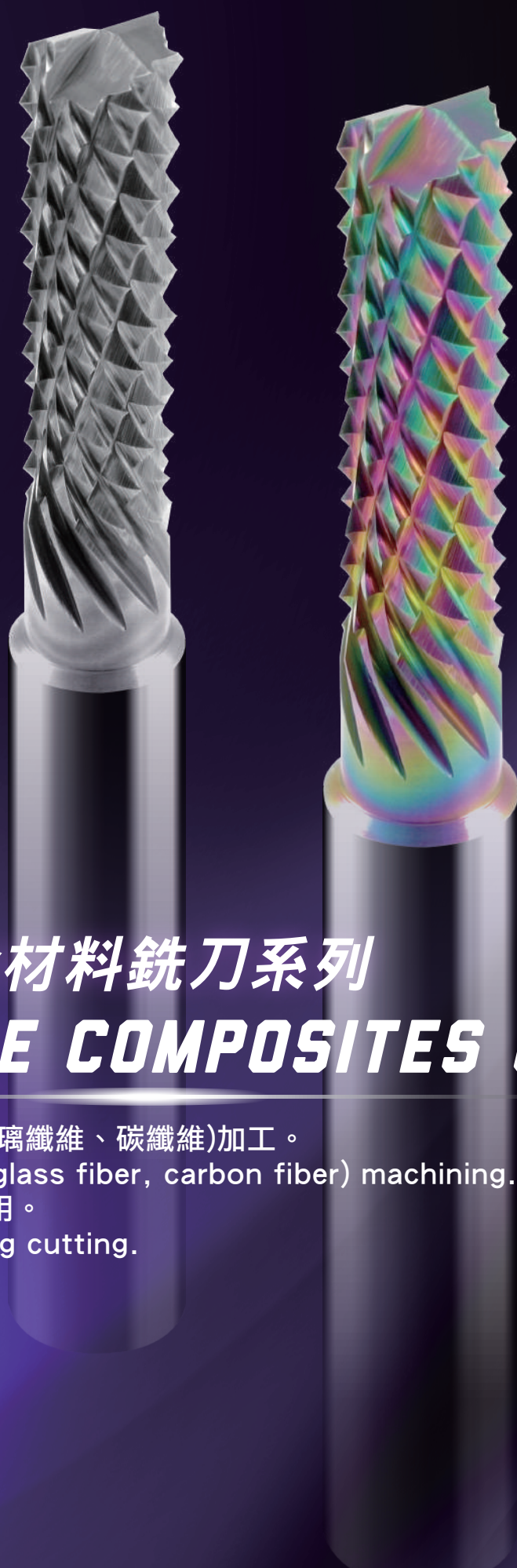
N620奈米鎢鋼球型銑刀-短刃長柄型-2刃

N620 NANO CARBIDE END MILLS- Ball Nosed- Short Flute & Long Shank- 2F



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

半徑 R	刃徑 Diameter	刃長 Cutting Length	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂單編號 Coated Order No.
0.5R	1.0	1.0	2.0	75	4	NEBDML20050A
1.0R	2.0	2.0	4.0	75	4	NEBDML20100A
1.5R	3.0	3.0	6.0	75	4	NEBDML20150A
1.0R	2.0	2.0	4.0	75	6	NEBDL20100A
1.5R	3.0	3.0	6.0	75	6	NEBDL20150A
2.0R	4.0	4.0	8.0	75	6	NEBDL20200A
2.5R	5.0	5.0	10.0	75	6	NEBDL20250A
3.0R	6.0	6.0	12.0	75	6	NEBDL20300A
4.0R	8.0	8.0	16.0	100	8	NEBDL20400A
5.0R	10.0	10.0	20.0	100	10	NEBDL20500A
6.0R	12.0	12.0	24.0	100	12	NEBDL20600A



鎢鋼複合材料銑刀系列

CARBIDE COMPOSITES CUTTER

- 應用於非金屬(玻璃纖維、碳纖維)加工。
For Non-metal(glass fiber, carbon fiber) machining.
- 適合粗加工之應用。
Use for roughing cutting.

CEFM-D / CEF-D

鎢鋼複合材料用銑刀-小柄/標準型

CARBIDE END MILLS FOR COMPOSITES- Square Type



67



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	DIA 鍍膜訂購編號 Coated Order No.
4.0	20	60	4	CEFM80400D
6.0	25	60	6	CEF110600D
8.0	25	60	8	CEF140800D
10.0	30	75	10	CEF161000D
12.0	32	100	12	CEF171200D

CEFM-A / CEF-A

鎢鋼複合材料用銑刀-小柄/標準型

CARBIDE END MILLS FOR COMPOSITES- Square Type

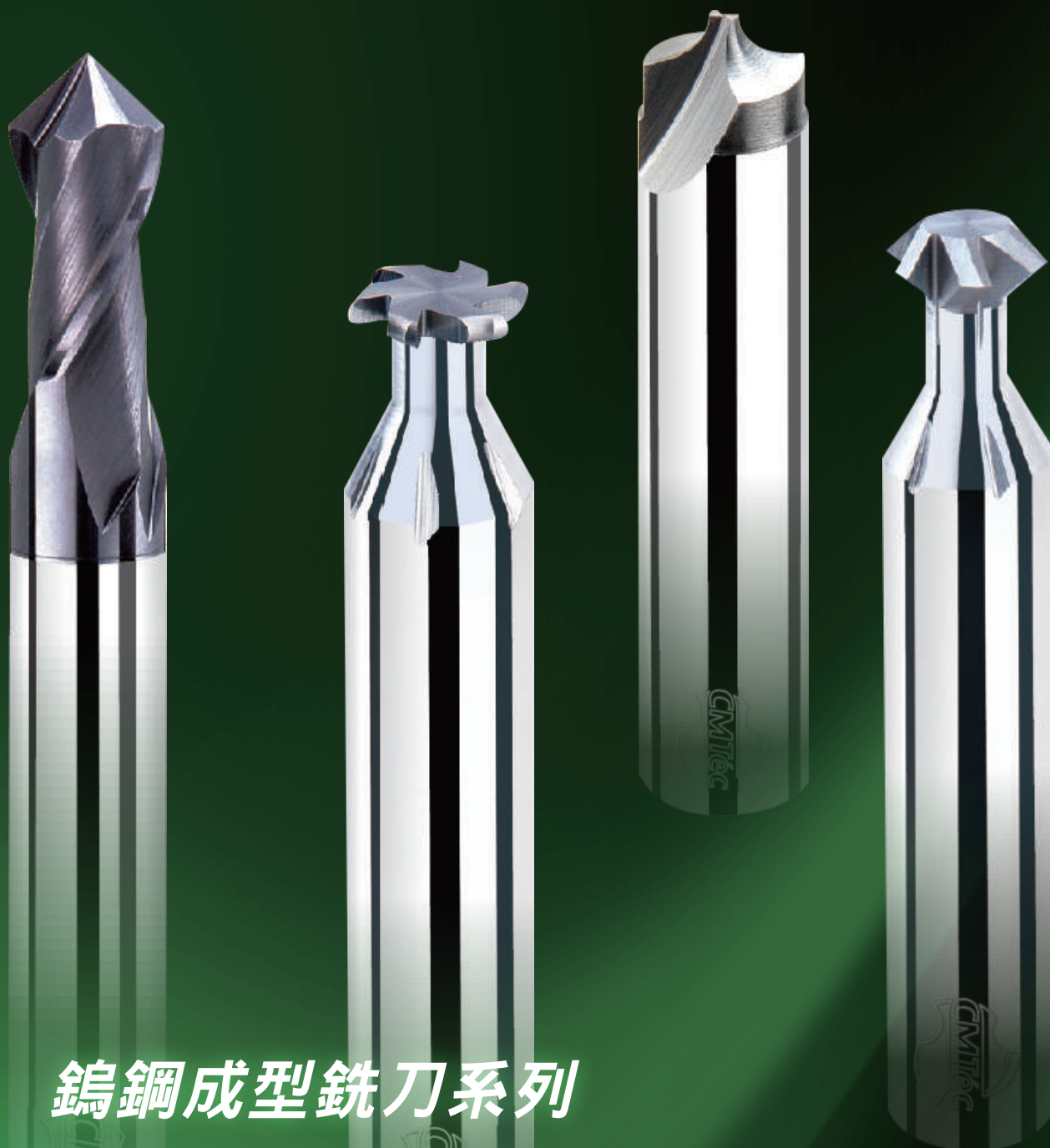


67



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	RD 鍍膜訂購編號 Coated Order No.
4.0	20	60	4	CEFM80400A
6.0	25	60	6	CEF110600A
8.0	25	60	8	CEF140800A
10.0	30	75	10	CEF161000A
12.0	32	100	12	CEF171200A



鎢鋼成型銑刀系列

CARBIDE SPECIAL CUTTER

- 應用於碳素鋼、鋁/銅合金加工。
For carbon steel and aluminum/copper alloy machining.

CEK

鎢鋼T型銑刀-直刃

MICRO GRAIN CARBIDE T-SLOT CUTTER (Key seat)- Flat Flute



62



刃長	公差 Tolerance
L1	±0.02

刃徑 Diameter	刃長 L1 Cutting Length	頸徑 Neck Diameter	頸長 Neck Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
4.0	0.5	2.5	3.5	50	4	CEK040005004
4.0	0.6	2.5	3.5	50	4	CEK040006004
4.0	0.7	2.5	3.5	50	4	CEK040007004
4.0	0.8	2.5	3.5	50	4	CEK040008004
4.0	0.9	2.5	3.5	50	4	CEK040009004
4.0	1.0	2.5	3.5	50	4	CEK040010004
4.0	1.5	2.5	3.5	50	4	CEK040015004
4.0	2.0	2.5	3.5	50	4	CEK040020004
5.0	0.5	2.5	4.0	50	6	CEK050005004
5.0	0.6	2.5	4.0	50	6	CEK050006004
5.0	0.7	2.5	4.0	50	6	CEK050007004
5.0	0.8	2.5	4.0	50	6	CEK050008004
5.0	0.9	2.5	4.0	50	6	CEK050009004
5.0	1.0	2.5	4.0	50	6	CEK050010004
5.0	1.5	2.5	4.0	50	6	CEK050015004
5.0	2.0	2.5	4.0	50	6	CEK050020004
6.0	0.5	3.0	4.0	50	6	CEK060005006
6.0	0.6	3.0	4.0	50	6	CEK060006006
6.0	0.7	3.0	4.0	50	6	CEK060007006
6.0	0.8	3.0	4.0	50	6	CEK060008006
6.0	0.9	3.0	4.0	50	6	CEK060009006
6.0	1.0	3.0	4.0	50	6	CEK060010006
6.0	1.5	3.0	4.0	50	6	CEK060015006
6.0	2.0	3.0	4.0	50	6	CEK060020006
8.0	1.0	4.0	4.0	60	8	CEK080010006
8.0	1.5	4.0	4.0	60	8	CEK080015006
8.0	2.0	4.0	4.0	60	8	CEK080020006
10.0	1.0	5.0	6.0	75	10	CEK100010006
10.0	1.5	5.0	6.0	75	10	CEK100015006
10.0	2.0	5.0	6.0	75	10	CEK100020006
12.0	1.0	6.0	7.0	75	12	CEK120010006
12.0	1.5	6.0	7.0	75	12	CEK120015006
12.0	2.0	6.0	7.0	75	12	CEK120020006

AEK

鎢鋼焊接T型銑刀-直刃

BRAZED- MICRO GRAIN CARBIDE T-SLOT CUTTER (Key seat)- Flat Flute



62



刃長	公差 Tolerance
L1	±0.02

刃徑 Diameter	刃長 L1 Cutting Length	頸徑 Neck Diameter	頸長 Neck Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
16.0	1.0	8.0	10.0	100	12	AEK160010010
16.0	1.5	8.0	10.0	100	12	AEK160015010
16.0	2.0	8.0	10.0	100	12	AEK160020010
16.0	2.5	8.0	10.0	100	12	AEK160025010
16.0	3.0	8.0	10.0	100	12	AEK160030010
20.0	0.5	10.0	14.0	100	12	AEK200005012
20.0	1.0	10.0	14.0	100	12	AEK200010012
20.0	1.5	10.0	14.0	100	12	AEK200015012
20.0	2.0	10.0	14.0	100	12	AEK200020012
20.0	2.5	10.0	14.0	100	12	AEK200025012
20.0	3.0	10.0	14.0	100	12	AEK200030012
25.0	1.0	12.0	16.0	100	16	AEK250010016
25.0	2.0	12.0	16.0	100	16	AEK250020016
25.0	2.5	12.0	16.0	100	16	AEK250025016
25.0	3.0	12.0	16.0	100	16	AEK250030016
25.0	4.0	12.0	16.0	100	16	AEK250040016
25.0	5.0	12.0	16.0	100	16	AEK250050016
30.0	1.0	15.0	18.0	100	16	AEK300010016
30.0	2.0	15.0	18.0	100	16	AEK300020016
30.0	3.0	15.0	18.0	100	16	AEK300030016
30.0	4.0	15.0	18.0	100	16	AEK300040016
30.0	5.0	15.0	18.0	100	16	AEK300050016

CEC 鎢鋼外圓槽銑刀 MICRO GRAIN CARBIDE CONVEX CUTTER



R角	公差 Tolerance
R	±0.02

刃徑 Diameter	R角 R	刃長 Cutting Length	頸徑 Neck Diameter	頸長 Neck Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
4.0	0.3R	0.6	2.0	3.5	50	6	CEC040006004
4.0	0.5R	1.0	2.0	3.5	50	6	CEC040010004
4.0	1.0R	2.0	2.0	3.5	50	6	CEC040020004
5.0	0.3R	0.6	2.2	3.5	50	6	CEC050006004
5.0	0.5R	1.0	2.2	3.5	50	6	CEC050010004
5.0	1.0R	2.0	2.2	3.5	50	6	CEC050020004
6.0	0.3R	0.6	2.7	4.0	50	6	CEC060006004
6.0	0.5R	1.0	2.7	4.0	50	6	CEC060010004
6.0	1.0R	2.0	2.7	4.0	50	6	CEC060020004
8.0	0.3R	0.6	3.6	5.0	60	8	CEC080006006
8.0	0.5R	1.0	3.6	5.0	60	8	CEC080010006
8.0	1.0R	2.0	3.6	5.0	60	8	CEC080020006
10.0	0.3R	0.6	4.5	6.0	75	10	CEC100006006
10.0	0.5R	1.0	4.5	6.0	75	10	CEC100010006
10.0	1.0R	2.0	4.5	6.0	75	10	CEC100020006
10.0	1.5R	3.0	4.5	6.0	75	10	CEC100030006
10.0	2.0R	4.0	4.5	6.0	75	10	CEC100040006
12.0	0.3R	0.6	5.5	6.0	75	12	CEC120006006
12.0	0.5R	1.0	5.5	6.0	75	12	CEC120010006
12.0	1.0R	2.0	5.5	6.0	75	12	CEC120020006
12.0	1.5R	3.0	5.5	6.0	75	12	CEC120030006
12.0	2.0R	4.0	5.5	6.0	75	12	CEC120040006

AEC 鎢鋼焊接外圓槽銑刀 BRAZED- MICRO GRAIN CARBIDE CONVEX CUTTER



R角	公差 Tolerance
R	±0.02

刃徑 Diameter	R角 R	刃長 Cutting Length	頸徑 Neck Diameter	頸長 Neck Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
16.0	0.3R	0.6	8.0	10.0	100	12	AEC160006010
16.0	0.5R	1.0	8.0	10.0	100	12	AEC160010010
16.0	1.0R	2.0	8.0	10.0	100	12	AEC160020010
16.0	1.5R	3.0	8.0	10.0	100	12	AEC160030010
16.0	2.0R	4.0	8.0	10.0	100	12	AEC160040010
16.0	3.0R	6.0	8.0	10.0	100	12	AEC160060010
20.0	0.3R	0.6	10.0	14.0	100	12	AEC200006012
20.0	0.5R	1.0	10.0	14.0	100	12	AEC200010012
20.0	1.0R	2.0	10.0	14.0	100	12	AEC200020012
20.0	1.5R	3.0	10.0	14.0	100	12	AEC200030012
20.0	2.0R	4.0	10.0	14.0	100	12	AEC200040012
20.0	3.0R	6.0	12.0	14.0	100	12	AEC200060012
25.0	0.5R	1.0	12.0	16.0	100	16	AEC250010016
25.0	1.0R	2.0	12.0	16.0	100	16	AEC250020016
25.0	1.5R	3.0	12.0	16.0	100	16	AEC250030016
25.0	2.0R	4.0	12.0	16.0	100	16	AEC250040016
25.0	3.0R	6.0	12.0	16.0	100	16	AEC250060016
30.0	0.5R	1.0	15.0	18.0	100	16	AEC300010016
30.0	1.0R	2.0	15.0	18.0	100	16	AEC300020016
30.0	1.5R	3.0	15.0	18.0	100	16	AEC300030016
30.0	2.0R	4.0	15.0	18.0	100	16	AEC300040016
30.0	3.0R	6.0	15.0	18.0	100	16	AEC300060016

CECS 鎢鋼鳩尾槽銑刀-直刃 MICRO GRAIN CARBIDE ANGULAR CUTTER (Dovetail)- Flat Flute



角度(單邊)	公差 Tolerance
δ°	±1°

刃徑 Diameter	角度 δ° Angle	刃長 Cutting Length	頸徑 Neck Diameter	頸長 Neck Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
3.0	45°	0.8	1.4	3.0	60	6	CECS03000800445
4.0	45°	1.0	2.0	3.5	60	6	CECS04001000445
5.0	45°	1.2	2.5	4.0	60	6	CECS05001200445
6.0	45°	1.4	3.0	4.0	60	6	CECS06001400445
8.0	45°	1.9	4.0	5.0	60	8	CECS08001900645
10.0	45°	2.4	5.0	6.0	75	10	CECS10002400645
12.0	45°	2.9	6.0	7.0	75	12	CECS12002900645
3.0	60°	1.2	1.5	3.0	60	6	CECS03001200460
4.0	60°	1.6	2.0	3.5	60	6	CECS04001600460
5.0	60°	2.2	2.3	4.0	60	6	CECS05002200460
6.0	60°	2.7	2.7	4.0	60	6	CECS06002700460
8.0	60°	3.7	3.6	5.0	60	8	CECS08003700660
10.0	60°	4.6	4.5	6.0	75	10	CECS10004600660
12.0	60°	5.6	5.4	7.0	75	12	CECS12005600660

CECSW 鎢鋼等角鳩尾槽銑刀 MICRO GRAIN CARBIDE W-ANGULAR CUTTER (Dovetail)



角度	公差 Tolerance
δ°	±1°

刃徑 Diameter	角度 δ° Angle	刃長 Cutting Length	頸徑 Neck Diameter	頸長 Neck Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
6.0	60°	1.8	2.7	4	60	6	CECSW060018060
8.0	60°	2.4	3.6	5	60	8	CECSW080024060
10.0	60°	3.1	4.5	6	75	10	CECSW100031060
12.0	60°	3.7	5.4	7	75	12	CECSW120037060
6.0	90°	2.8	3.0	4	60	6	CECSW060028090
8.0	90°	3.8	4.0	5	60	8	CECSW080038090
10.0	90°	4.8	5.0	6	75	10	CECSW100048090
12.0	90°	5.8	6.0	7	75	12	CECSW120058090

CEC2-A

鎢鋼倒角兼用銑刀-2刃

MICRO GRAIN CARBIDE V-pointed END MILLS- 2F



角度	公差 Tolerance
ε °	± 1°

頂角 Tip Angle	刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
90°	3.0	6.0	50	6	CEC2030090A
90°	4.0	8.0	50	6	CEC2040090A
90°	5.0	10.0	50	6	CEC2050090A
90°	6.0	12.0	50	6	CEC2060090A
90°	8.0	16.0	60	8	CEC2080090A
90°	10.0	20.0	75	10	CEC2100090A
90°	12.0	24.0	75	12	CEC2120090A
90°	16.0	32.0	100	16	CEC2160090A
90°	20.0	40.0	100	20	CEC2200090A
120°	3.0	6.0	50	6	CEC20300C0A
120°	4.0	8.0	50	6	CEC20400C0A
120°	5.0	10.0	50	6	CEC20500C0A
120°	6.0	12.0	50	6	CEC20600C0A
120°	8.0	16.0	60	8	CEC20800C0A
120°	10.0	20.0	75	10	CEC21000C0A
120°	12.0	24.0	75	12	CEC21200C0A
120°	16.0	32.0	100	16	CEC21600C0A
120°	20.0	40.0	100	20	CEC22000C0A

CEFC

鎢鋼扁形倒角銑刀-2刃

MICRO GRAIN CARBIDE FLAT CHAMFERING END MILLS- 2F



角度	公差 Tolerance
ε °	± 1°

頂角 Tip Angle	刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
60°	3	2.59	50	3	CEFC03060
60°	4	3.46	50	4	CEFC04060
60°	6	5.19	50	6	CEFC06060
60°	8	6.92	50	8	CEFC08060
60°	10	8.66	75	10	CEFC10060
60°	12	10.39	75	12	CEFC12060
60°	16	13.85	75	16	CEFC16060
90°	3	1.50	50	3	CEFC03090
90°	4	2.00	50	4	CEFC04090
90°	6	3.00	50	6	CEFC06090
90°	8	4.00	50	8	CEFC08090
90°	10	5.00	75	10	CEFC10090
90°	12	6.00	75	12	CEFC12090
90°	16	8.00	75	16	CEFC16090
120°	3	0.86	50	3	CEFC030C0
120°	4	1.15	50	4	CEFC040C0
120°	6	1.73	50	6	CEFC060C0
120°	8	2.30	50	8	CEFC080C0
120°	10	2.88	75	10	CEFC100C0
120°	12	3.46	75	12	CEFC120C0
120°	16	4.61	75	16	CEFC160C0

CEUM / CEU

鎢鋼雕刻刀-標準型-1刃

MICRO CARBIDE ENGRAVING CUTTERS- Square Type- 1F



刃徑 d	頂角 Tip Angle	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
0.10	30°	50	4	1	CEUM001030
0.25	30°	50	4	1	CEUM002530
0.50	30°	50	4	1	CEUM005030
0.75	30°	50	4	1	CEUM007530
1.0	30°	50	4	1	CEUM010030
1.5	30°	50	4	1	CEUM015030
0.10	60°	50	4	1	CEUM001060
0.25	60°	50	4	1	CEUM002560
0.50	60°	50	4	1	CEUM005060
0.75	60°	50	4	1	CEUM007560
1.0	60°	50	4	1	CEUM010060
1.5	60°	50	4	1	CEUM015060
0.10	90°	50	4	1	CEUM001090
0.25	90°	50	4	1	CEUM002590
0.50	90°	50	4	1	CEUM005090
0.75	90°	50	4	1	CEUM007590
1.0	90°	50	4	1	CEUM010090
1.5	90°	50	4	1	CEUM015090
0.10	30°	50	6	1	CEU001030
0.25	30°	50	6	1	CEU002530
0.50	30°	50	6	1	CEU005030
0.75	30°	50	6	1	CEU007530
1.0	30°	50	6	1	CEU010030
1.5	30°	50	6	1	CEU015030
0.10	60°	50	6	1	CEU001060
0.25	60°	50	6	1	CEU002560
0.50	60°	50	6	1	CEU005060
0.75	60°	50	6	1	CEU007560
1.0	60°	50	6	1	CEU010060
1.5	60°	50	6	1	CEU015060
0.10	90°	50	6	1	CEU001090
0.25	90°	50	6	1	CEU002590
0.50	90°	50	6	1	CEU005090
0.75	90°	50	6	1	CEU007590
1.0	90°	50	6	1	CEU010090
1.5	90°	50	6	1	CEU015090

CEFC1 / CEFCL1

鎢鋼鋁用倒角銑刀-標準 & 長柄型-1刀

MICRO GRAIN CARBIDE CHAMFERING CUTTER- For Aluminum- Standard & Long Shank- 1F



NEW

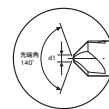
角度	公差 Tolerance
ε°	±1°

頂角 Tip Angle	刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
60°	3	2.59	50	3	CEFC103060
60°	4	3.46	50	4	CEFC104060
60°	6	5.19	50	6	CEFC106060
60°	8	6.92	60	8	CEFC108060
60°	10	8.66	60	10	CEFC110060
60°	12	10.39	60	12	CEFC112060
90°	3	1.50	50	3	CEFC103090
90°	4	2.00	50	4	CEFC104090
90°	6	3.00	50	6	CEFC106090
90°	8	4.00	60	8	CEFC108090
90°	10	5.00	60	10	CEFC110090
90°	12	6.00	60	12	CEFC112090
60°	3	2.59	75	3	CEFCL103060
60°	4	3.46	75	4	CEFCL104060
60°	6	5.19	75	6	CEFCL106060
60°	8	6.92	100	8	CEFCL108060
60°	10	8.66	100	10	CEFCL110060
60°	12	10.39	100	12	CEFCL112060
90°	3	1.50	75	3	CEFCL103090
90°	4	2.00	75	4	CEFCL104090
90°	6	3.00	75	6	CEFCL106090
90°	8	4.00	100	8	CEFCL108090
90°	10	5.00	100	10	CEFCL110090
90°	12	6.00	100	12	CEFCL112090

MEFCD3 / MEFCDL3

鎢鋼高硬用倒角銑刀-標準 & 長柄型-3刀

ULTRA CARBIDE CHAMFERING CUTTER- For High Hardness- Standard & Long Shank- 3F



NEW

角度	公差 Tolerance
ε°	±1°

頂角 Tip Angle	刃徑 Diameter	先端徑 d1	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
60°	3	0.6	2.17	50	3	MEFCD303060A
60°	4	0.8	2.91	50	4	MEFCD304060A
60°	6	1.2	4.37	50	6	MEFCD306060A
60°	8	1.6	5.83	60	8	MEFCD308060A
60°	10	2.0	7.28	60	10	MEFCD310060A
60°	12	2.4	8.74	60	12	MEFCD312060A
90°	3	0.6	1.30	50	3	MEFCD303090A
90°	4	0.8	1.74	50	4	MEFCD304090A
90°	6	1.2	2.61	50	6	MEFCD306090A
90°	8	1.6	3.49	60	8	MEFCD308090A
90°	10	2.0	4.36	60	10	MEFCD310090A
90°	12	2.4	5.23	60	12	MEFCD312090A
60°	3	0.6	2.17	75	3	MEFCDL303060A
60°	4	0.8	2.91	75	4	MEFCDL304060A
60°	6	1.2	4.37	75	6	MEFCDL306060A
60°	8	1.6	5.83	100	8	MEFCDL308060A
60°	10	2.0	7.28	100	10	MEFCDL310060A
60°	12	2.4	8.74	100	12	MEFCDL312060A
90°	3	0.6	1.30	75	3	MEFCDL303090A
90°	4	0.8	1.74	75	4	MEFCDL304090A
90°	6	1.2	2.61	75	6	MEFCDL306090A
90°	8	1.6	3.49	100	8	MEFCDL308090A
90°	10	2.0	4.36	100	10	MEFCDL310090A
90°	12	2.4	5.23	100	12	MEFCDL312090A

CEIR2

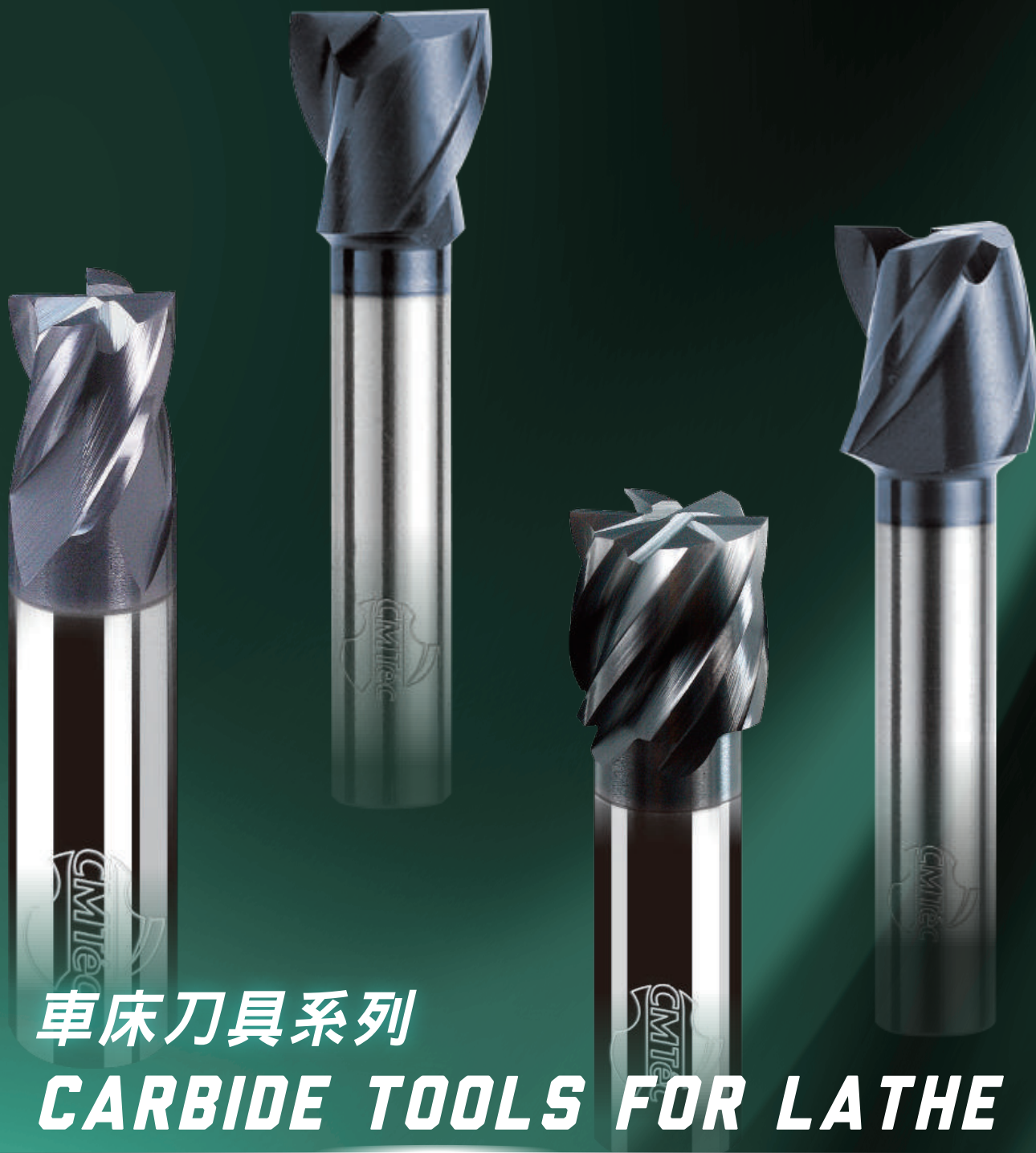
鎢鋼內R角銑刀-2刀

MICRO GRAIN CARBIDE INNER RADIUS CUTTER- 2F



R角	Tolerance(公差)
R<1	±0.02
1≤R<5	±0.03
5≤R	±0.05

R角 R	柄斜角 Shank Angle	先端徑 First Diameter	粗端徑 Second Diameter	全長 O.A.L.	柄徑 Shank Dia.	白刀訂購編號 Uncoated Order No.
0.5R	15°	1.5	2.7	50	4	CEIR20150050
0.75R	15°	1.5	3.2	50	4	CEIR20150075
1.0R	15°	1.5	3.7	50	4	CEIR20150100
1.25R	-	1.5	4.2	50	6	CEIR20150125
1.5R	15°	1.5	4.7	50	6	CEIR20150150
1.75R	15°	1.5	5.2	50	6	CEIR20150175
2.0R	15°	1.5	5.7	50	6	CEIR20150200
2.5R	-	1.5	6.7	50	8	CEIR20150250
3.0R	15°	1.5	7.7	50	8	CEIR20150300
4.0R	15°	2.0	10.2	60	12	CEIR20200400
5.0R	15°	3.0	13.2	75	16	CEIR20300500
6.0R	15°	3.0	15.2	75	16	CEIR20300600



車床刀具系列

CARBIDE TOOLS FOR LATHE

- 應用於泛用鋼材加工($\leq 50\text{HRC}$)。
- For general steel($\leq 50\text{HRC}$) machining.

CLES2-A

S220 鎢鋼平銑刀-小柄短刃型-2刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F
with small shank For Lathe



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	2	40	6	CLES20200A
3.0	3	40	6	CLES20300A
4.0	4	40	6	CLES20400A
5.0	5	40	6	CLES20500A
6.0	6	40	6	CLES20600A
7.0	7	40	6	CLES20700A
8.0	8	40	6	CLES20800A
9.0	9	40	6	CLES20900A
10.0	10	40	6	CLES21000A
12.0	12	40	10	CLES21200A

CLES3-A

S220 鎢鋼平銑刀-小柄短刃型-3刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 3F
with small shank For Lathe



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
2.0	2	40	6	CLES30200A
3.0	3	40	6	CLES30300A
4.0	4	40	6	CLES30400A
5.0	5	40	6	CLES30500A
6.0	6	40	6	CLES30600A
7.0	7	40	6	CLES30700A
8.0	8	40	6	CLES30800A
9.0	9	40	6	CLES30900A
10.0	10	40	6	CLES31000A
12.0	12	40	10	CLES31200A

CLES4-A

S220 鎢鋼平銑刀-小柄短刃型-4刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 4F
with small shank For Lathe



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
4.0	4	40	6	CLES40400A
5.0	5	40	6	CLES40500A
6.0	6	40	6	CLES40600A
7.0	7	40	6	CLES40700A
8.0	8	40	6	CLES40800A
8.0	8	40	8	CLES4080008A
10.0	10	40	6	CLES41000A
10.0	10	40	10	CLES4100010A
12.0	12	40	10	CLES41200A
16.0	16	40	10	CLES41600A

CLES6-A

S220 鎢鋼平銑刀-小柄短刃型-6刃

S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 6F
with small shank For Lathe



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

刃徑 Diameter	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
6.0	6	40	6	CLES60600A
7.0	7	40	6	CLES60700A
8.0	8	40	6	CLES60800A
9.0	9	40	6	CLES60900A
10.0	10	40	6	CLES61000A
12.0	12	40	10	CLES61200A
16.0	16	40	10	CLES61600A



鎢鋼銑牙刀系列

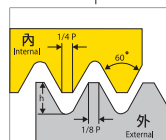
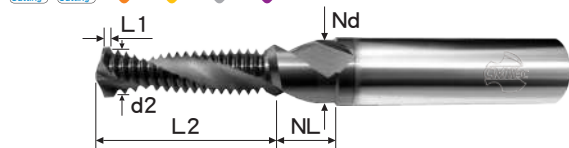
CARBIDE THREAD CUTTER

- 應用於碳素鋼、合金鋼、不銹鋼、鑄鐵、鋁/銅合金、鈦合金加工。
For carbon steel, alloy steel, stainless steel, cast iron,
aluminum/copper alloy and titanium alloy machining.

CSHI2-A

鎢鋼多功能螺旋鑽銑牙刀(鑽-螺紋-倒角)-內螺紋用(ISO規格)

MICRO GRAIN CARBIDE DRILL- THREAD- CHAMFER- HELIX FLUTE- INTERNAL(ISO Metric)

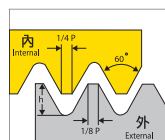


螺紋 Thread	螺距 Pitch	刃徑 Dia.	d2	L1	L2	Nd	NL	全長 L	柄徑 D	鍍膜訂購編號 Coated Order No.
M6	1.00	5.0	4.85	1.0	14.5	6.6	9.5	60	8	CSHI205008-100A
M8	1.25	6.8	6.45	1.3	18.2	9.0	16.8	75	10	CSHI206810-125A
M10	1.50	8.5	8.08	1.5	23.4	11.0	11.6	80	12	CSHI208512-150A
M12	1.75	10.3	9.74	1.5	27.1	13.5	17.9	90	14	CSHI210314-175A

MSHIDA1-A / MSHIDA2-A / MSHIDA3-A

極細鎢鋼多功能單/雙牙螺旋鑽銑牙刀(鑽-倒角-螺紋)-硬材質用-內螺紋用(ISO規格)

ULTRA CARBIDE MULTIPURPOSE THREAD MILLS- 1 / 2 / 3 TEETH- HELIX FLUTE(DRILL-CHAMFER-THREAD)- HARD MATERIALS CUTTING- INTERNAL(ISO Metric)

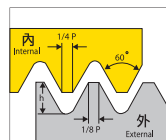


螺紋 Thread	螺距 Pitch	刃徑 Dia.	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	倒角 Chamfer	牙數 Teeth	鍍膜訂購編號 Coated Order No.
M0.8	0.20	0.60	2.4	50	4	0.10	1	MSHIDA100604-020A
M0.9	0.225	0.66	2.7	50	4	0.12	1	MSHIDA100604-022A
M1.0	0.25	0.73	3.0	50	4	0.15	1	MSHIDA100704-025A
M1.2	0.25	0.92	3.6	50	4	0.15	1	MSHIDA100904-025A
M1.4	0.30	1.05	4.2	50	4	0.19	1	MSHIDA101004-030A
M1.6	0.35	1.21	4.8	50	4	0.22	1	MSHIDA101204-035A
M2.0	0.40	1.55	6.0	50	4	0.25	1	MSHIDA201504-040A
M2.5	0.45	2.00	7.5	50	4	0.29	1	MSHIDA202004-045A
M3.0	0.50	2.44	9.0	60	6	0.33	1	MSHIDA202406-050A
M4.0	0.70	3.20	12.0	60	6	0.45	1	MSHIDA203206-070A
M5.0	0.80	4.00	15.0	60	6	0.53	1	MSHIDA204006-080A
M6.0	1.00	4.85	18.0	75	6	0.65	2	MSHIDA304806-100A
M8.0	1.25	6.50	24.0	75	8	0.80	2	MSHIDA306508-125A
M10.0	1.50	7.90	30.0	75	8	1.00	2	MSHIDA307908-150A

MSHIA1 / MSHIA2 / MSHIA3

極細鎢鋼多功能單/雙牙螺旋鑽銑牙刀(鑽-螺紋-倒角)-鋁用-內螺紋用(ISO規格)

ULTRA CARBIDE MULTIPURPOSE THREAD MILLS- 1 / 2 / 3 TEETH- HELIX FLUTE(DRILL-CHAMFER-THREAD)- For Aluminum- INTERNAL(ISO Metric)

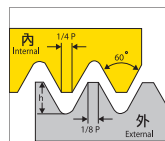


螺紋 Thread	螺距 Pitch	刃徑 Dia.	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	倒角 Chamfer	牙數 Teeth	白刀訂購編號 Uncoated Order No.
M0.8	0.20	0.60	2.4	50	4	0.10	1	MSHIA100604-020
M0.9	0.225	0.66	2.7	50	4	0.12	1	MSHIA100604-022
M1.0	0.25	0.73	3.0	50	4	0.15	1	MSHIA100704-025
M1.2	0.25	0.92	3.6	50	4	0.15	1	MSHIA100904-025
M1.4	0.30	1.05	4.2	50	4	0.19	1	MSHIA101004-030
M1.6	0.35	1.21	4.8	50	4	0.22	1	MSHIA101204-035
M2.0	0.40	1.55	6.0	50	4	0.25	1	MSHIA201504-040
M2.5	0.45	2.00	7.5	50	4	0.29	1	MSHIA202004-045
M3.0	0.50	2.44	9.0	60	6	0.33	1	MSHIA202406-050
M4.0	0.70	3.20	12.0	60	6	0.45	1	MSHIA203206-070
M5.0	0.80	4.00	15.0	60	6	0.53	1	MSHIA204006-080
M6.0	1.00	4.85	18.0	75	6	0.65	2	MSHIA304806-100
M8.0	1.25	6.50	24.0	75	8	0.80	2	MSHIA306508-125
M10.0	1.50	7.90	30.0	75	8	1.00	2	MSHIA307908-150

CTSE-A

鎢鋼直刃銑牙刀-外螺紋用(ISO規格)

MICRO GRAIN CARBIDE THREAD- STRAIGHT FLUTE- EXTERNAL(ISO Metric)



螺紋 Thread	螺距 Pitch	刃徑 Dia.	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
M3	0.50	5.9	15.0	60	6	CTSE305906-050A
M4.5	0.75	7.9	19.5	60	8	CTSE307908-075A
M6	1.00	9.9	24.0	75	10	CTSE509910-100A
M10	1.50	11.9	30.0	100	12	CTSE511912-150A
M14	2.00	11.9	30.0	100	12	CTSE511912-200A
M24	3.00	15.9	36.0	100	16	CTSE515916-300A
M36	4.00	15.9	40.0	100	16	CTSE515916-400A
M64	6.00	19.9	36.0	100	20	CTSE519920-600A

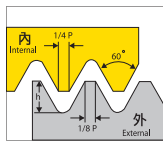
CTSI-A

鎢鋼直刃銑牙刀-內螺紋用(ISO規格)

MICRO GRAIN CARBIDE THREAD- STRAIGHT FLUTE- INTERNAL (ISO Metric)



43



螺紋 Thread	螺距 Pitch	刃徑 Dia.	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
M4.5	0.75	3.0	6.7	50	4	CTSI303004-075A
M8	0.75	5.9	15.0	60	6	CTSI305906-075A
M5	0.80	3.6	8.0	50	4	CTSI303604-080A
M6	1.00	4.0	9.0	60	6	CTSI304006-100A
M12	1.00	7.9	20.0	60	8	CTSI307908-100A
M8	1.25	5.0	12.5	60	6	CTSI305006-125A
M10	1.50	5.9	15.0	60	6	CTSI305906-150A
M14	1.50	9.9	24.0	75	10	CTSI509910-150A
M18	1.50	11.9	30.0	100	12	CTSI511912-150A
M12	1.75	7.9	19.2	60	8	CTSI307908-175A
M16	2.00	9.9	24.0	75	10	CTSI509910-200A
M18	2.00	11.9	30.0	100	12	CTSI511912-200A
M20	2.50	11.9	30.0	100	12	CTSI511912-250A
M24	3.00	15.9	36.0	100	16	CTSI515916-300A
M30	3.50	15.9	38.5	100	16	CTSI515916-350A
M36	4.00	15.9	40.0	100	16	CTSI515916-400A
M48	5.00	19.9	40.0	100	20	CTSI519920-500A
M64	6.00	19.9	36.0	100	20	CTSI519920-600A

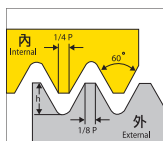
CTHI-A

鎢鋼螺旋銑牙刀-內螺紋用(ISO規格)

MICRO GRAIN CARBIDE THREAD- HELIX FLUTE- INTERNAL (ISO Metric)



43



螺紋 Thread	螺距 Pitch	刃徑 Dia.	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
M粗牙	Mx1細牙					
M3	M3.5~M16	0.50	2.2	6.00	50	CTHI302204-050A
	M4	0.50	3.0	8.00	50	CTHI303004-050A
	M5	0.50	3.9	10.00	50	CTHI303904-050A
M4		0.70	2.8	8.40	50	CTHI302804-070A
	M6	0.75	3.9	12.00	50	CTHI303904-075A
M5		0.80	3.5	10.40	50	CTHI303504-080A
M6	M8~M40	1.00	3.9	12.00	50	CTHI303904-100A
	M8	1.00	5.9	16.00	60	CTHI305906-100A
	M10	1.00	7.9	20.00	60	CTHI307908-100A
	M12	1.00	9.9	24.00	75	CTHI409910-100A
M8		1.25	5.8	16.25	60	CTHI305806-125A
	M10	1.25	7.7	20.00	60	CTHI307708-125A
M10	M12~M48	1.50	7.7	21.00	60	CTHI307708-150A
	M12	1.50	9.4	24.00	75	CTHI409410-150A
	M14	1.50	11.2	28.50	100	CTHI411212-150A
	M16	1.50	11.9	33.00	100	CTHI411912-150A
M12		1.75	8.7	24.50	75	CTHI408710-175A
M14	M17~M80	2.00	9.9	28.00	75	CTHI409910-200A
M16	M17~M80	2.00	11.9	32.00	100	CTHI411912-200A
M18~M22		2.50	13.9	40.00	100	CTHI513916-250A
M24		3.00	15.9	42.00	100	CTHI415916-300A

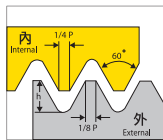
CTSIU-A

鎢鋼直刃銑牙刀-內螺紋用(UN美製規格)

MICRO GRAIN CARBIDE THREAD- STRAIGHT FLUTE- INTERNAL (American UN)



43



螺紋 Thread	牙/吋 Tpi	刃徑 Dia.	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
No.8	36	3.0	6.3	50	4	CTSIU303004-360A
No.8	32	3.0	6.3	50	4	CTSIU303004-320A
5/16"	32	5.9	14.3	60	6	CTSIU305906-320A
No.12	28	3.6	8.2	50	4	CTSIU303604-280A
7/16"	28	7.9	19.9	60	8	CTSIU307908-280A
No.12	24	4.0	8.5	60	6	CTSIU304006-240A
1/4"	20	4.0	10.2	60	6	CTSIU304006-200A
9/16"	20	9.9	22.9	75	10	CTSIU509910-200A
5/16"	18	5.0	12.7	60	6	CTSIU305006-180A
9/16"	18	9.9	24.0	75	10	CTSIU509910-180A
3/8"	16	5.9	14.3	60	6	CTSIU305906-160A
3/4"	16	11.9	28.6	100	12	CTSIU511912-160A
7/16"	14	7.9	18.1	60	8	CTSIU307908-140A
1/2"	13	7.9	19.5	60	8	CTSIU307908-130A
9/16"	12	9.9	23.3	75	10	CTSIU509910-120A
1"	12	11.9	29.6	100	12	CTSIU511912-120A
5/8"	11	9.9	23.1	75	10	CTSIU509910-110A
3/4"	10	11.9	27.9	100	12	CTSIU511912-100A
7/8"	9	15.9	33.3	100	16	CTSIU515916-090A
1"	8	15.9	38.1	100	16	CTSIU515916-080A
1 1/8"	7	15.9	36.3	100	16	CTSIU515916-070A
1 3/8"	6	19.9	38.1	100	20	CTSIU519920-060A
1 3/4"	5	19.9	40.6	100	20	CTSIU519920-050A
2"	4.5	19.9	39.5	100	20	CTSIU519920-045A

※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

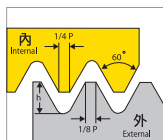
CTSEU-A

鎢鋼直刃銑牙刀-外螺紋用(UN美製規格)

MICRO GRAIN CARBIDE THREAD- STRAIGHT FLUTE- EXTERNAL (American UN)



43



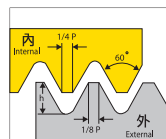
螺紋 Thread	牙/吋 Tpi	刃徑 Dia.	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
No.6	32	5.9	14.3	60	6	CTSEU305906-320A
No.12	28	7.9	19.9	60	8	CTSEU307908-280A
1/4"	20	9.9	22.9	75	10	CTSEU509910-200A
5/16"	18	9.9	24.0	75	10	CTSEU509910-180A
3/8"	16	11.9	28.6	100	12	CTSEU511912-160A
9/16"	12	11.9	29.6	100	12	CTSEU511912-120A
1"	8	15.9	38.1	100	16	CTSEU515916-080A
1 3/8"	6	19.9	38.1	100	20	CTSEU519920-060A

※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

CTHIU-A

鎢鋼螺旋銑牙刀-內螺紋用(UN美製規格)

MICRO GRAIN CARBIDE THREAD- HELIX FLUTE- INTERNAL(UN Metric)



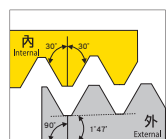
螺紋 Thread			牙/吋 Tpi	刃徑 Dia.	刃長 Cutting Length	全長 OAL	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
UNC 粗牙	UNF 細牙	UNEF 超細牙						
	No.8		36	3.0	8.5	50	4	CTHIU303004-360A
	No.10		32	3.3	11.1	50	4	CTHIU303304-320A
	No.12 · 1/4"		28	3.8	11.8	50	4	CTHIU303804-280A
	1/4"	7/16" · 1/2"	28	4.6	12.7	60	6	CTHIU304606-280A
		7/16" · 1/2"	28	9.2	22.7	75	10	CTHIU409210-280A
No.10	5/16" · 3/8"	9/16"-11/16"	24	2.9	10.6	50	4	CTHIU302904-240A
No.12	5/16" · 3/8"	9/16"-11/16"	24	3.5	11.6	50	4	CTHIU303504-240A
	5/16" · 3/8"	9/16"-11/16"	24	5.7	15.9	60	6	CTHIU305706-240A
	3/8"	9/16"-11/16"	24	7.4	19.1	60	8	CTHIU307408-240A
		9/16"-11/16"	24	11.9	28.6	100	12	CTHIU411912-240A
1/4"	7/16" · 1/2"	3/4"-1"	20	3.9	12.7	50	4	CTHIU303904-200A
	7/16" · 1/2"	3/4"-1"	20	8.5	22.9	75	10	CTHIU408510-200A
	1/2"	3/4"-1"	20	9.9	25.4	75	10	CTHIU409910-200A
		3/4"-1"	20	15.9	38.1	100	16	CTHIU515916-200A
5/16"	9/16" · 5/8"	11/16"-1 1/16"	18	5.2	16.9	60	6	CTHIU305206-180A
	9/16" · 5/8"	11/16"-1 1/16"	18	11.3	29.6	100	12	CTHIU411312-180A
	5/8"	11/16"-1 1/16"	18	11.9	32.5	100	12	CTHIU411912-180A
3/8"	3/4"		16	6.7	19.1	60	8	CTHIU306708-160A
	3/4"		16	15.9	38.1	100	16	CTHIU415916-160A
7/16"	7/8"		14	7.6	23.6	60	8	CTHIU407608-140A
	7/8"		14	18.7	44.4	100	20	CTHIU418720-140A
1/2"			13	8.9	25.4	75	10	CTHIU408910-130A
9/16"	1"-1 1/2"		12	10.3	29.6	100	12	CTHIU410312-120A
	1"-1 1/2"		12	19.9	50.8	100	20	CTHIU519920-120A
5/8"			11	11.0	32.3	100	12	CTHIU411012-110A
3/4"			10	13.5	38.1	100	16	CTHIU513516-100A
7/8"			9	15.2	45.2	100	16	CTHIU415216-090A
1"			8	17.0	50.8	100	20	CTHIU417020-080A

※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

CTHPT-A

鎢鋼螺旋銑牙刀-外/內螺紋用(NPT美製錐度管螺紋60°)

MICRO GRAIN CARBIDE THREAD- HELIX FLUTE- EXTERNAL/INTERNAL(NPT National American Taper Pipe Thread 60°)



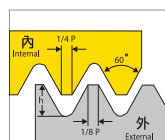
螺紋 Thread	牙/吋 Tpi	刃徑 Dia.	刃長 Cutting Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
1/16"	27	5.3	9.4	60	6	CTHPT305306-270A
1/8"	27	7.5	9.4	60	8	CTHPT407508-270A
1/4"	18	9.4	14.1	75	10	CTHPT409410-180A
3/8"	18	11.9	14.1	100	12	CTHPT411912-180A
1/2", 3/4"	14	15.5	25.4	100	16	CTHPT515516-140A

※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

MTHIA-A

鎢鋼螺旋銑牙刀-長頸型-內螺紋用(ISO規格)

ULTRA CARBIDE THREAD- HELIX FLUTE- Long Neck-INTERNAL(ISO Metric)



螺紋加工深度可到2D/ 2D(L2 ≤ 2 × Thread Diameter)



螺紋 Thread M粗牙	螺紋 Thread M×1 細牙	螺距 Pitch	刃徑 Dia.	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
M1.6		0.35	1.20	3.4	50	3	MTHIA301203-035A
M2		0.40	1.55	4.2	60	6	MTHIA301506-040A
M2.2		0.45	1.65	4.6	60	6	MTHIA301606-045A
M2.5		0.45	1.95	5.2	60	6	MTHIA301906-045A
M3	M3.5~M16	0.50	2.40	6.2	60	6	MTHIA302406-050A
M3.5		0.60	2.75	7.3	60	6	MTHIA302706-060A
M4		0.70	3.15	8.3	60	6	MTHIA303106-070A
M5		0.80	4.05	10.4	60	6	MTHIA304006-080A
M6	M8~M40	1.00	4.80	12.5	60	6	MTHIA304806-100A
M8		1.25	6.50	16.6	60	8	MTHIA306508-125A
M10	M12~M48	1.50	8.20	20.8	75	10	MTHIA308210-150A
M12		1.75	9.90	25.0	75	10	MTHIA309910-175A
M16		2.00	11.90	33.0	100	12	MTHIA311912-200A
M20		2.50	15.90	41.3	100	16	MTHIA315916-250A

螺紋加工深度可到3D/ 3D(L2 ≤ 3 × Thread Diameter)

螺紋 Thread M粗牙	螺紋 Thread M×1 細牙	螺距 Pitch	刃徑 Dia.	有效長 Effective Length	全長 O.A.L.	柄徑 Shank Dia.	鍍膜訂購編號 Coated Order No.
M1.6		0.35	1.20	5.0	50	3	MTHIA301203050-035A
M2		0.40	1.55	6.2	60	6	MTHIA301506062-040A
M2.5		0.45	1.95	7.7	60	6	MTHIA301906077-045A
M3	M3.5~M16	0.50	2.40	9.2	60	6	MTHIA302406092-050A
M4		0.70	3.15	12.3	60	6	MTHIA303106123-070A
M5		0.80	4.05	15.4	60	6	MTHIA304006154-080A
M6	M8~M40	1.00	4.80	18.5	60	6	MTHIA304806185-100A
M8		1.25	6.50	24.6	60	8	MTHIA306508246-125A

切 削 條 件 表

CUTTING CONDITION TABLE

Table 01 鎢鋼平銑刀- 2 / 3刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

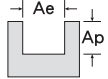
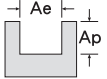
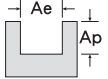
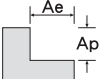
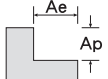
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	68m/min		54m/min		45m/min		27m/min		20m/min		54m/min		79m/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)	S (rpm)	F (mm/min)
1mm	20,000	120	17,100	100	14,400	65	8,000	50	6,000	35	17,100	100	25,200	270
2mm	10,800	155	8,640	120	7,200	85	4,320	65	3,240	45	8,640	120	12,600	290
3mm	7,560	155	5,760	135	4,680	90	3,000	65	2,230	45	5,760	135	8,640	290
4mm	5,400	165	4,320	135	3,600	100	2,160	65	1,620	50	4,320	135	6,480	290
5mm	4,500	180	3,420	135	2,880	100	1,800	75	1,350	55	3,420	135	5,040	325
6mm	3,600	180	2,880	135	2,340	100	1,440	75	1,080	55	2,880	135	4,320	360
8mm	2,700	180	2,160	155	1,800	110	1,080	75	810	55	2,160	155	3,240	360
10mm	2,160	180	1,710	155	1,440	120	870	75	650	55	1,710	155	2,520	380
12mm	1,800	180	1,440	155	1,200	120	720	75	540	55	1,440	155	2,160	400
14mm	1,800	200	1,360	170	1,140	130	720	80	540	60	1,360	170	2,000	440
16mm	1,560	220	2,100	180	1,000	140	630	90	470	65	2,100	180	1,800	480
18mm	1,560	220	1,060	180	880	140	630	90	470	65	1,060	180	1,600	480
20mm	1,200	220	960	180	800	140	480	90	360	65	960	180	1,400	480
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ap≤0.25D)				Ap=0.1D (D<3, Ap≤0.05D)				Ap=0.5D (D<3, Ap≤0.25D)					

Table 02 鎢鋼平銑刀- 3 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	68m/min		54m/min		45m/min		27m/min		20m/min		54m/min		79m/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)	S (rpm)	F (mm/min)
3mm	7,560	490	5,760	345	4,680	165	3,020	200	2,300	150	5,760	345	8,640	900
4mm	5,400	490	4,320	345	3,600	165	2,160	200	1,620	150	4,320	345	6,480	1,080
5mm	4,500	490	3,420	345	2,880	165	1,800	200	1,350	150	3,420	345	5,040	1,080
6mm	3,600	490	2,880	345	2,340	165	1,440	200	1,080	150	2,880	345	4,320	1,080
8mm	2,700	490	2,160	345	1,800	175	1,080	200	810	150	2,160	345	3,240	1,080
10mm	2,160	505	1,710	360	1,440	175	860	210	650	155	1,710	360	2,520	1,170
12mm	1,800	505	1,440	360	1,200	175	720	210	540	155	1,440	360	2,160	1,260
14mm	1,800	560	1,360	400	1,140	190	720	230	540	170	1,360	400	2,000	1,400
16mm	1,560	600	1,200	420	1,000	200	620	240	470	180	1,200	420	1,800	1,500
18mm	1,400	600	1,060	420	880	200	560	240	420	180	1,060	420	1,600	1,500
20mm	1,200	600	960	420	800	200	480	240	360	180	960	420	1,490	1,400
切削量 Cutting Amount (mm)	Ap=1.5D Ae≤0.1D				Ap=1.5D Ae≤0.05D				Ap=1.5D Ae≤0.1D					

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

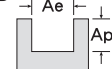
Table 03 極細鎢鋼不等距雙心徑型- 3刃(鍍膜) 切削條件表

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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—		—	
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)
2mm	21,170	720	19,500	530	13,370	470	11,140	250	10,020	230	3,340	100
3mm	14,110	840	13,000	620	8,920	550	7,430	290	6,690	270	2,230	110
4mm	10,580	840	9,750	620	6,690	550	5,570	290	5,010	270	1,670	110
5mm	8,470	840	7,800	620	5,350	550	4,460	290	4,010	270	1,340	110
6mm	7,060	840	6,500	620	4,460	550	3,720	290	3,340	270	1,110	110
8mm	5,290	1,200	4,870	890	3,350	790	2,790	420	2,510	380	830	160
10mm	4,240	1,200	3,900	890	2,670	790	2,230	420	2,000	380	670	160
12mm	3,530	1,200	3,250	890	2,230	790	1,860	420	1,670	380	560	160
14mm	3,020	1,200	2,790	890	1,910	790	1,590	420	1,440	380	480	160
16mm	2,650	900	2,440	670	1,670	590	1,390	320	1,250	290	420	120
20mm	2,110	900	1,950	670	1,340	590	1,110	320	1,000	290	340	120
25mm	1,690	900	1,560	670	1,070	590	890	320	810	290	270	120
切削量 Cutting Amount (mm)	Ap=1D Ae=0.4D				Ap=1D Ae=0.4D				Ap=1D Ae=0.4D			

溝銑加工 Slot 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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—		—	
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		50m/min		17.5m/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)
2mm	19,100	420	15,600	390	13,370	290	8,910	160	7,800	140	2,790	30
3mm	12,740	490	10,400	460	8,910	340	6,260	190	5,200	160	1,860	35
4mm	9,550	490	7,800	460	6,690	340	4,460	190	3,900	160	1,390	35
5mm	7,640	490	6,240	460	5,350	340	3,560	190	3,120	160	1,110	35
6mm	6,370	490	5,200	460	4,460	340	2,970	190	2,600	160	930	35
8mm	4,780	700	3,900	650	3,340	480	2,230	270	1,950	230	690	50
10mm	3,820	700	3,120	650	2,670	480	1,790	270	1,560	230	560	50
12mm	3,180	700	2,600	650	2,230	480	1,480	270	1,300	230	460	50
14mm	2,730	700	2,230	650	1,910	480	1,270	270	1,110	230	400	50
16mm	2,380	530	1,950	490	1,670	360	1,110	200	970	170	350	40
20mm	1,910	530	1,560	490	1,340	360	890	200	780	170	280	40
25mm	1,530	530	1,250	490	1,070	360	710	200	620	170	220	40
切削量 Cutting Amount (mm)	Ap=1D				Ap=0.8D				Ap=0.5D			

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 04 極細鎢鋼不等距雙心徑型- 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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—		—	
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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—		—	
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	560	10,400	530	8,910	380	5,940	200	5,200	150	1,860	40
4mm	8,360	560	7,800	530	6,690	380	4,460	200	3,900	150	1,390	40
5mm	6,690	560	6,240	530	5,350	380	3,560	200	3,120	150	1,110	40
6mm	5,570	560	5,200	530	4,460	380	2,970	200	2,600	150	930	40
8mm	4,180	800	3,900	750	3,340	540	2,230	290	1,950	250	690	70
10mm	3,340	800	3,120	750	2,670	540	1,790	290	1,560	250	560	70
12mm	2,790	800	2,600	750	2,230	540	1,480	290	1,300	250	460	70
16mm	2,090	600	2,080	560	1,670	400	1,110	220	970	190	350	50
20mm	1,670	600	1,560	560	1,340	400	890	220	780	190	280	50
25mm	1,340	600	1,250	560	1,070	400	710	220	620	190	220	50
切削量 Cutting Amount (mm)	Ap=1D 						Ap=0.8D 		Ap=1D 		Ap=0.5D 	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 05 鎢鋼球型銑刀- 2 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

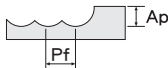
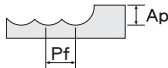
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	80m/min		70m/min		60m/min		50m/min		35m/min		55m/min		80m/min	
半徑 R	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)	S (rpm)	F (mm/min)
0.5R	25,480	620	22,290	500	19,110	320	15,920	170	11,150	110	17,520	230	25,480	620
1.0R	12,740	620	11,150	500	9,550	320	7,960	170	5,570	110	8,760	230	12,740	750
2.0R	6,370	620	5,570	500	4,780	360	3,980	220	2,790	140	4,380	300	6,370	750
3.0R	4,250	690	3,720	540	3,190	380	2,650	240	1,860	150	2,920	310	4,250	840
4.0R	3,190	840	2,790	630	2,390	450	1,990	260	1,390	170	2,190	370	3,190	1,040
5.0R	2,550	770	2,230	600	1,910	420	1,590	270	1,120	170	1,750	340	2,550	960
6.0R	2,120	710	1,860	560	1,590	390	1,330	250	930	160	1,460	340	2,120	880
8.0R	1,590	670	1,390	520	1,190	380	1,000	220	700	150	1,100	300	1,590	840
10.0R	1,270	620	1,120	460	960	360	800	200	560	140	880	300	1,270	750
切削量 Cutting Amount (mm)	Ap=0.05D Pf=0.1D 													

Table 06 鎢鋼球型銑刀- 3刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	80m/min		70m/min		60m/min		50m/min		35m/min		55m/min		80m/min	
半徑 R	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)	S (rpm)	F (mm/min)
0.5R	25,480	680	22,290	550	19,110	350	15,920	180	11,150	120	17,520	250	25,480	680
1.0R	12,740	680	11,150	550	9,550	350	7,960	180	5,570	120	8,760	250	12,740	830
2.0R	6,370	680	5,570	550	4,780	400	3,980	240	2,790	150	4,380	330	6,370	830
3.0R	4,250	760	3,720	590	3,190	420	2,650	260	1,860	170	2,920	340	4,250	920
4.0R	3,190	920	2,790	690	2,390	500	1,990	290	1,390	190	2,190	410	3,190	1,140
5.0R	2,550	850	2,230	660	1,910	460	1,590	300	1,120	190	1,750	370	2,550	1,060
6.0R	2,120	890	1,860	620	1,590	430	1,330	280	930	180	1,460	370	2,120	970
8.0R	1,590	740	1,390	570	1,190	420	1,000	240	700	170	1,100	330	1,590	920
10.0R	1,270	680	1,120	510	960	400	800	220	560	150	880	330	1,270	830
切削量 Cutting Amount (mm)	Ap=0.05D Pf=0.1D 													

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 07 鎢鋼圓鼻銑刀-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

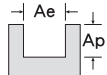
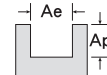
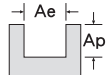
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	95m/min		75m/min		63m/min		38m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
1mm	22,400	140	19,150	110	16,130	70	8,960	60	6,720	40	19,150	110	28,220	300
2mm	12,100	180	9,680	140	8,060	100	4,840	70	3,630	50	9,680	140	14,110	330
3mm	8,460	180	6,450	150	5,240	100	3,360	70	2,500	50	6,450	150	9,680	330
4mm	6,050	180	4,840	150	4,030	110	2,420	70	1,820	60	4,840	150	7,260	330
5mm	5,040	200	3,830	150	3,220	110	2,020	80	1,510	60	3,830	150	5,650	360
6mm	4,030	200	3,220	150	2,620	110	1,620	80	1,210	60	3,220	150	4,840	400
8mm	3,020	200	2,420	180	2,020	120	1,210	80	900	60	2,420	180	3,630	400
10mm	2,420	200	1,910	180	1,620	140	980	80	730	60	1,910	180	2,820	420
12mm	2,020	200	1,620	180	1,340	140	810	80	610	60	1,620	180	2,420	450
14mm	2,020	220	1,520	190	1,280	140	810	90	610	60	1,520	190	2,240	500
16mm	1,740	250	1,340	200	1,120	160	700	100	530	70	1,340	200	2,020	540
18mm	1,740	250	1,180	200	980	160	700	100	530	70	1,180	200	1,790	540
20mm	1,340	250	1,070	200	900	160	540	100	400	70	1,070	200	1,570	540
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ap≦0.25D)						Ap=0.1D (D<3, Ap≦0.05D)				Ap=0.5D (D<3, Ap≦0.25D)			

Table 08 鎢鋼圓鼻銑刀-4刃(鍍膜) / 長柄型-4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	94m/min		75m/min		63m/min		37m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
3mm	5,040	550	6,450	380	5,240	180	3,380	220	2,580	170	6,450	380	9,680	1,010
4mm	6,050	550	4,840	380	4,030	180	2,420	220	1,820	170	4,840	380	7,260	1,210
5mm	5,040	550	3,830	380	3,220	180	2,020	220	1,510	170	3,830	380	5,650	1,210
6mm	4,030	550	3,220	380	2,620	180	1,620	220	1,210	170	3,220	380	4,840	1,210
8mm	3,020	550	2,420	380	2,020	200	1,210	220	900	170	2,420	380	3,630	1,210
10mm	2,420	570	1,910	400	1,620	200	960	230	730	180	1,910	400	2,820	1,310
12mm	2,020	570	1,920	400	1,340	200	810	230	610	180	1,620	400	2,420	1,410
14mm	2,020	620	1,520	450	1,280	220	810	260	610	190	1,520	450	2,240	1,570
16mm	1,740	670	1,340	470	1,120	220	700	270	530	200	1,340	470	2,020	1,680
18mm	1,570	670	1,180	470	980	220	620	270	470	200	1,180	470	1,790	1,680
20mm	1,340	670	1,070	470	900	220	540	270	400	200	1,070	470	1,570	1,790
切削量 Cutting Amount (mm)	Ap=1.5D Ap≦0.1D						Ap=1D Ae≦0.05D				Ap=1.5D Ae≦0.1D			

- 當加工聲音尖銳時，請調降主軸轉速(S)&進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 09 鎢鋼平銑刀-高導標準型-3刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels	
工件料號 Material Code	SCM,SKT,SKD		SKT,SKD		SKT,SKD	
硬度 Hardness	HRC30~45		HRC45~55		HRC55~63	
切削速度 Vc	27m/min		18m/min		16m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	2,880	75	1,890	75	1,710	70
4mm	2,160	80	1,440	80	1,300	75
5mm	1,710	80	1,170	80	1,040	70
6mm	1,440	155	990	110	860	90
8mm	1,080	155	720	110	650	90
10mm	860	155	580	90	520	75
12mm	720	155	480	80	430	65
14mm	600	130	450	75	410	60
16mm	540	120	360	75	320	55
18mm	480	100	350	60	310	50
20mm	430	95	290	65	270	45
切削量 Cutting Amount (mm)	Ap=0.1D 					

Table 10 鎢鋼平銑刀-6刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

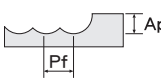
加工材質 Material	合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels	
工件料號 Material Code	SCM,SKT,SKD		SKT,SKD		SKT,SKD	
硬度 Hardness	HRC30~45		HRC45~55		HRC55~63	
切削速度 Vc	27m/min		18m/min		16m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	2,880	75	1,890	75	1,710	70
4mm	2,160	80	1,440	80	1,300	75
5mm	1,710	80	1,170	80	1,040	70
6mm	1,440	155	990	110	860	90
8mm	1,080	155	720	110	650	90
10mm	860	155	580	90	520	75
12mm	720	155	480	80	430	65
14mm	600	130	450	75	410	60
16mm	540	120	360	75	320	55
18mm	480	100	350	60	310	50
20mm	430	95	290	65	270	45
切削量 Cutting Amount (mm)	Ap=0.1D 					

1. 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (10~40%).
2. 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%).
3. 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%).
4. 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.

Table 11 鎢鋼平銑刀- (特)高導鋁用型- 2 / 3刃(白刀) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE****側銑加工 Side Milling**

加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075		C1100	
硬度 Hardness	—		—	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	18,000	810	7,200	290
4mm	13,500	950	5,400	320
5mm	10,800	990	4,320	340
6mm	9,000	1,080	3,600	360
8mm	7,200	1,170	2,700	410
10mm	5,760	1,260	2,030	430
12mm	4,680	1,350	1,710	460
16mm	3,510	1,350	1,260	460
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.1D 			

Table 12 鎢鋼鋁用球型銑刀- 2刃(白刀) 切削條件表**SOLID CARBIDE BALL NOSED END MILLS- CUTTING CONDITION TABLE**

加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075		—	
切削速度 Vc	100~200m/min		70~110m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
1.0R	21,420	1,485	17,190	630
2.0R	10,800	1,485	8,550	810
3.0R	7,200	1,485	5,760	810
4.0R	5,400	1,485	4,320	810
5.0R	7,320	1,485	3,420	810
6.0R	3,780	1,485	2,880	810
8.0R	2,980	1,170	1,790	500
切削量 Cutting Amount (mm)	Ap=0.02D Pf=0.05D 			

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 13 鎢鋼鋁用平銑刀- 波浪型- 3刃(白刀) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	鋁合金 Aluminum Alloys			
工件料號 Material Code	Al 5052 / 6061 / 7075			
切削速度 Vc	200m/min		250m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
6mm	10,600	2,000	13,200	2,300
8mm	8,000	1,500	10,000	2,000
10mm	6,400	1,200	8,000	1,900
12mm	5,300	1,000	6,600	1,600
16mm	4,000	750	5,000	1,200
20mm	3,200	600	4,000	960
切削量 Cutting Amount (mm)	Ap=1D 		Ap=0.5D 	

Table 14 鎢鋼平銑刀- 波浪型- 2 / 3 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys	
工件料號 Material Code	TiAl6V4(DIN)		TiAl5Sn2(DIN)		TiAl6V4(DIN)		TiAl5Sn2(DIN)	
硬度 Hardness	HRC> 30		HRC≒30		HRC> 30		HRC≒30	
切削速度 Vc	40m/min		60m/min		40m/min		60m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
6mm	2,120	100	3,180	150	2,120	80	3,180	125
8mm	1,590	125	2,390	180	1,590	90	2,390	140
10mm	1,270	140	1,910	205	1,270	105	1,910	160
12mm	1,060	155	1,590	230	1,060	120	1,590	180
16mm	790	145	1,190	210	790	110	1,190	160
20mm	630	150	950	220	630	115	950	170
切削量 Cutting Amount (mm)	Ap=0.5D (2 / 3F) 	Ap=0.6D Ae=0.1D (4F) 	Ap=1D (2 / 3F) 	Ap=1.2D Ae=0.1D (4F) 				
備註 Remarks	※ 側銑時依上表可適時提高(溝銑)30%以上。 Side Milling could increase than 30% from Slotting one.							

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 15 鎢鋼平銑刀-強力型-2刃(鍍膜) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE**

加工材質 Material	不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鋁合金 Aluminum Alloys	
工件料號 Material Code	SUS304		TiAl5Sn2(DIN)		TiAl6V4(DIN)		Al 5052 / 6061 / 7075	
硬度 Hardness	—		HRC≒30		HRC>30		—	
切削速度 Vc	54m/min		60m/min		40m/min		120m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
2mm	8,600	515	9,550	375	6,370	240	19,110	150
3mm	5,760	345	6,370	250	4,250	160	12,740	190
4mm	4,320	345	4,780	190	3,180	120	9,550	140
5mm	3,420	345	3,820	150	2,550	95	7,640	190
6mm	2,880	345	3,180	125	2,120	80	6,370	160
8mm	2,160	345	2,390	140	1,590	90	4,780	170
10mm	1,710	360	1,910	160	1,270	105	3,820	190
12mm	1,440	360	1,590	180	1,060	120	3,180	160
16mm	1,200	420	1,190	160	790	110	2,390	190
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ap≦0.25D)		Ap=0.5D		Ap=1D		Ap=1D (D<3, Ap≦0.5D)	

Table 16 鎢鋼平銑刀-強力型-4刃(鍍膜) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE**

加工材質 Material	不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鋁合金 Aluminum Alloys	
工件料號 Material Code	SUS304		TiAl5Sn2(DIN)		TiAl6V4(DIN)		Al 5052 / 6061 / 7075	
硬度 Hardness	—		HRC≒30		HRC>30		—	
切削速度 Vc	54m/min		60m/min		40m/min		120m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
2mm	8,600	515	9,550	450	6,370	300	19,110	180
3mm	5,760	345	6,370	300	4,250	200	12,740	230
4mm	4,320	345	4,780	225	3,180	150	9,550	170
5mm	3,420	345	3,820	180	2,550	120	7,640	230
6mm	2,880	345	3,180	150	2,120	100	6,370	190
8mm	2,160	345	2,390	180	1,590	125	4,780	200
10mm	1,710	360	1,910	205	1,270	140	3,820	230
12mm	1,440	360	1,590	230	1,060	155	3,180	190
16mm	1,200	420	1,190	210	790	145	2,390	230
切削量 Cutting Amount (mm)	Ap=0.6D Ae≦0.1D		Ap=0.6D Ae≦0.1D		Ap=0.6D Ae≦0.1D		Ap=0.6D Ae≦0.1D	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 17 鎢鋼平銑刀-高導強力型-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

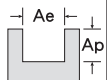
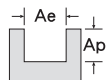
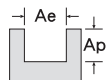
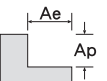
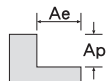
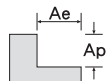
加工材質 Material	不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鋁合金 Aluminum Alloys	
工件料號 Material Code	SUS304		TiAl5Sn2(DIN)		TiAl6V4(DIN)		Al 5052 / 6061 / 7075	
硬度 Hardness	—		HRC≒30		HRC>30		—	
切削速度 Vc	54m/min		60m/min		40m/min		120m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
2mm	10,320	620	11,460	450	7,640	290	22,930	180
3mm	6,910	410	7,640	300	5,100	190	15,290	230
4mm	5,180	410	5,740	230	3,820	140	11,460	170
5mm	4,100	410	4,580	180	3,060	110	9,170	230
6mm	3,460	410	3,820	150	2,540	100	7,640	190
8mm	2,590	410	2,870	170	1,910	110	5,740	200
10mm	2,050	430	2,290	190	1,520	130	4,580	230
12mm	1,730	430	1,910	220	1,270	140	3,820	190
16mm	1,440	500	1,430	190	950	130	2,870	230
切削量 Cutting Amount (mm)	Ap=0.5D (D≤3, Ap≒0.25D) 		Ap=1D 		Ap=0.5D 		Ap=1D (D≤3, Ap≒0.5D) 	

Table 18 鎢鋼平銑刀-高導強力型-4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鋁合金 Aluminum Alloys	
工件料號 Material Code	SUS304		TiAl5Sn2(DIN)		TiAl6V4(DIN)		Al 5052 / 6061 / 7075	
硬度 Hardness	—		HRC≒30		HRC>30		—	
切削速度 Vc	54 m/min		60m/min		40m/min		120m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F(mm/min)	S (rpm)	F (mm/min)
2mm	10,320	620	11,460	540	7,640	360	22,930	220
3mm	6,910	410	7,640	360	5,100	240	15,290	280
4mm	5,180	410	5,740	270	3,820	180	11,460	200
5mm	4,100	410	4,580	220	3,060	140	9,170	280
6mm	3,460	410	3,820	180	2,540	120	7,640	230
8mm	2,590	410	2,870	220	1,910	150	5,740	240
10mm	2,050	430	2,290	250	1,520	170	4,580	280
12mm	1,730	430	1,910	280	1,270	190	3,820	230
16mm	1,440	500	1,430	250	950	170	2,870	280
切削量 Cutting Amount (mm)	Ap=0.6D Ae≦0.1D 		Ap=0.6D Ae≦0.1D 		Ap=0.6D Ae≦0.1D 		Ap=0.6D Ae≦0.1D 	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 19 鎢鋼平銑刀- 石墨專用型- 2 / 4刃(鍍膜) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE**

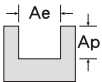
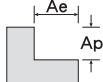
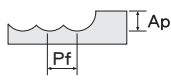
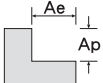
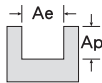
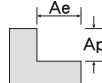
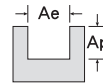
刀具 END MILLS	CESG2-A		CESG4-A		CEBG2-A	
切削速度 Vc	225m/min		250m/min		250m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	23,000	800	25,000	960	25,000	1,000
4mm	17,000	700	19,000	820	19,000	850
5mm	14,000	650	15,500	750	15,500	800
6mm	11,500	600	12,600	700	12,600	750
8mm	8,500	400	9,300	600	9,300	640
10mm	6,900	450	7,600	550	7,600	600
12mm	5,700	400	6,300	340	6,300	580
切削量 Cutting Amount (mm)						

Table 20 鎢鋼銅鋁用平銑刀- 2刃(鍍膜) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE**

加工材質 Material	鋁合金 Aluminum Alloys				銅合金 Copper Alloys			
切削速度 Vc	150m/min		150m/min		80m/min		80m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.5mm	15,920	480	15,920	400	12,740	300	12,740	250
1.0mm	15,920	480	15,920	400	12,740	300	12,740	250
1.5mm	15,920	560	15,920	480	12,740	300	12,740	250
2.0mm	15,920	560	15,920	480	12,740	300	12,740	250
2.5mm	15,920	640	15,920	560	10,190	300	10,190	250
3.0mm	15,920	640	15,920	560	8,490	300	8,490	250
4.0mm	11,940	770	11,940	600	6,370	350	6,370	300
5.0mm	9,550	770	9,550	600	5,100	350	5,100	300
6.0mm	7,960	1,100	7,960	750	4,250	500	4,250	380
8.0mm	5,970	1,270	5,970	900	3,190	580	3,190	450
10.0mm	4,780	1,490	4,780	1,100	2,550	680	2,550	550
12.0mm	3,980	1,870	3,980	1,350	2,120	850	2,120	680
切削量 Cutting Amount (mm)	Ap ≤ 1D Ae ≤ 0.25D 		Ap ≤ 0.5D 		Ap ≤ 1D Ae ≤ 0.25D 		Ap ≤ 0.5D 	

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 21 鎢鋼銅鋁用平銑刀-長刃型-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

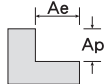
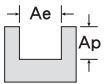
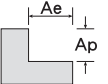
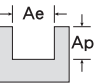
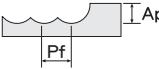
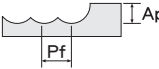
加工材質 Material	鋁合金 Aluminum Alloys				銅合金 Copper Alloys			
切削速度 Vc	150m/min		150m/min		80m/min		80m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.5mm	15,920	430	15,920	360	12,740	270	12,740	230
1.0mm	15,920	430	15,920	360	12,740	270	12,740	230
1.5mm	15,920	500	15,920	430	12,740	270	12,740	230
2.0mm	15,920	500	15,920	430	12,740	270	12,740	230
2.5mm	15,920	580	15,920	500	10,190	270	10,190	230
3.0mm	15,920	580	15,920	500	8,490	270	8,490	230
4.0mm	11,940	690	11,940	540	6,370	320	6,370	270
5.0mm	9,550	690	9,550	540	5,100	320	5,100	270
6.0mm	7,960	990	7,960	680	4,250	450	4,250	340
8.0mm	5,970	1,140	5,970	810	3,190	520	3,190	410
10.0mm	4,780	1,340	4,780	990	2,550	610	2,550	500
12.0mm	3,980	1,680	3,980	1,220	2,120	770	2,120	610
切削量 Cutting Amount (mm)	$A_p \leq 1.5D$ $A_e \leq 0.1D$ 		$A_p \leq 0.5D$ 		$A_p \leq 1.5D$ $A_e \leq 0.1D$ 		$A_p \leq 0.5D$ 	

Table 22 鎢鋼銅鋁用球型銑刀-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
切削速度 Vc	150m/min		80m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.50R	15,920	550	12,740	300
0.75R	15,920	550	12,740	300
1.00R	15,920	550	12,740	300
1.25R	15,920	610	10,190	330
1.50R	15,920	610	8,490	330
2.00R	11,940	760	6,370	410
2.50R	9,550	760	5,100	410
3.00R	7,960	880	4,250	440
4.00R	5,970	1,000	3,190	500
5.00R	4,780	1,180	2,550	580
6.00R	3,980	1,500	2,120	750
切削量 Cutting Amount (mm)	$A_p = 0.2D$ $P_f = 0.5D$ 		$A_p = 0.2D$ $P_f = 0.5D$ 	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 23 鎢鋼銅鋁用球型銑刀-長頸型-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

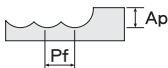
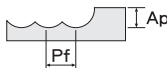
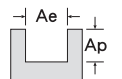
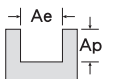
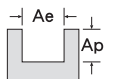
加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
切削速度 Vc	150m/min		80m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.50R	15,920	500	12,740	270
0.75R	15,920	500	12,740	270
1.00R	15,920	500	12,740	270
1.25R	15,920	550	10,190	300
1.50R	15,920	550	8,490	300
2.00R	11,940	680	6,370	370
2.50R	9,550	680	5,100	370
3.00R	7,960	790	4,250	400
4.00R	5,970	900	3,190	450
5.00R	4,780	1,060	2,550	520
6.00R	3,980	1,350	2,120	680
切削量 Cutting Amount (mm)	Ap=0.2D Pf=0.5D 		Ap=0.2D Pf=0.5D 	

Table 24 極細鎢鋼平銑刀-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron			
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD			
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30			
切削速度 Vc	136m/min		107m/min		90m/min		55m/min		41m/min		107m/min		158m/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)	S (rpm)	F (mm/min)		
1mm	40,000	180	34,200	150	28,800	97	16,000	75	12,000	52	34,200	150	50,400	405		
2mm	21,600	232	17,280	180	14,400	127	8,640	97	6,480	67	17,280	180	25,200	435		
3mm	15,120	232	11,520	202	9,360	135	6,000	97	4,460	67	11,520	202	17,280	435		
4mm	10,800	247	8,640	202	7,200	150	4,320	97	3,240	75	8,640	202	12,960	435		
5mm	9,000	270	6,840	202	5,760	150	3,600	112	2,700	82	6,840	202	10,080	487		
6mm	7,200	270	5,760	202	4,680	150	2,880	112	2,160	82	5,760	202	8,640	540		
8mm	5,400	270	4,320	232	3,600	165	2,160	112	1,620	82	4,320	232	6,480	540		
10mm	4,320	270	3,420	232	2,880	180	1,740	112	1,300	82	3,420	232	5,040	570		
12mm	3,600	270	2,880	232	2,400	180	1,440	112	1,080	82	2,880	232	4,320	600		
14mm	3,600	300	2,720	255	2,280	195	1,440	120	1,080	90	2,720	255	4,000	660		
16mm	3,120	330	2,400	270	2,000	210	1,260	135	940	97	2,400	270	3,600	720		
18mm	3,120	330	2,120	270	1,760	210	1,260	135	940	97	2,120	270	3,200	720		
20mm	2,400	330	1,920	270	1,600	210	960	135	720	97	1,920	270	2,800	720		
切削量 Cutting Amount (mm)	Ap=0.3D (D<3, Ap≦0.15D)						Ap=0.06D (D<3, Ap≦0.03D)						Ap=0.3D (D<3, Ap≦0.15D)			

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 25

極細鎢鋼平銑刀-短刃型-2刃(鍍膜) 切削條件表
極細鎢鋼平銑刀-短刃長柄型-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

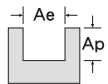
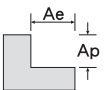
加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	94m/min		79m/min		55m/min		39m/min		94m/min	
外徑 Diameter	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)
1mm	22,650	410	20,200	320	15,130	220	10,060	100	23,920	430
2mm	12,280	420	10,690	320	7,840	220	5,300	100	12,590	440
3mm	8,390	460	6,730	320	5,030	220	3,800	110	8,390	480
4mm	6,940	450	5,660	320	4,080	220	2,980	110	6,940	450
6mm	5,030	420	4,200	420	2,930	200	2,100	100	5,030	420
8mm	3,800	420	3,170	300	2,220	200	1,580	100	3,800	420
10mm	3,010	420	2,540	300	1,780	200	1,260	100	3,010	420
12mm	2,540	420	2,100	300	1,470	200	1,070	100	2,540	420
切削量 Cutting Amount (mm)	D≤3, Ap=0.15D D>3, Ap=0.2D D≤6, Ap=0.1D D>6, Ap=0.15D 									

Table 26

極細鎢鋼平銑刀-3/4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC 30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	136m/min		107m/min		90m/min		54m/min		41m/min		107m/min		158m/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)	S (rpm)	F (mm/min)
3mm	15,120	735	11,520	517	9,360	247	6,040	300	4,600	225	11,520	517	17,280	1,350
4mm	10,800	735	8,640	517	7,200	247	4,320	300	3,240	225	8,640	517	12,960	1,620
5mm	9,000	735	6,840	517	5,760	247	3,600	300	2,700	225	6,840	517	10,080	1,620
6mm	7,200	735	5,760	517	4,680	247	2,880	300	2,160	225	5,760	517	8,640	1,620
8mm	5,400	735	4,320	517	3,600	262	2,160	300	1,620	225	4,320	517	6,480	1,620
10mm	4,320	757	3,420	540	2,880	262	1,720	315	1,300	232	3,420	540	5,040	1,755
12mm	3,600	757	2,880	540	2,400	262	1,440	315	1,080	232	2,880	540	4,320	1,890
14mm	3,600	840	2,720	600	2,280	285	1,440	345	1,080	255	2,720	600	4,000	2,100
16mm	3,120	900	2,400	630	2,000	300	1,240	360	940	270	2,400	630	3,600	2,250
18mm	3,120	900	2,120	630	1,760	300	1,120	360	940	270	2,120	630	3,200	2,250
20mm	2,400	900	1,920	630	1,600	300	960	360	720	270	1,920	630	2,800	2,400
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.06D 													

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 27

極細鎢鋼平銑刀- 短刃型- 4刃(鍍膜) 切削條件表
極細鎢鋼平銑刀- 短刃長柄型- 4刃(鍍膜) 切削條件表

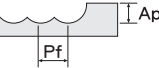
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	110m/min		110m/min		95m/min		79m/min		126m/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)
3mm	11,800	1,260	11,800	1,150	10,060	830	8,390	500	13,460	1,550
4mm	8,790	1,190	8,790	1,070	7,570	780	6,300	460	10,060	1,470
5mm	7,050	1,150	7,050	990	6,060	730	5,030	420	8,080	1,310
6mm	5,900	1,070	5,900	910	5,030	660	4,200	400	6,730	1,230
8mm	4,400	990	4,400	830	3,800	610	3,170	400	5,030	1,150
10mm	3,530	990	3,530	830	3,010	610	2,540	400	4,040	1,150
12mm	2,930	990	2,930	830	2,540	610	2,100	400	3,370	1,150
切削量 Cutting Amount (mm)	D<6, Ap=1D, Ae=0.02D D≥6, Ap=1D, Ae=0.05D 									

Table 28

極細鎢鋼球型銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	100m/min		90m/min		75m/min		60m/min		45m/min		70m/min		100m/min	
半徑 R	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)	S (rpm)	F (mm/min)
0.5R	31,850	770	28,660	620	23,890	400	19,110	210	14,330	140	22,290	290	31,850	770
1.0R	15,920	770	14,330	620	11,940	400	9,550	210	7,170	140	11,150	290	15,920	940
2.0R	7,960	770	7,170	630	5,970	450	4,780	270	3,580	180	5,570	370	7,960	940
3.0R	5,310	860	4,780	670	3,980	470	3,190	300	2,390	190	3,720	390	5,310	1,050
4.0R	3,980	1,050	3,580	790	2,990	560	2,390	330	1,790	210	2,790	460	3,980	1,300
5.0R	3,190	860	2,870	750	2,390	530	1,910	340	1,430	210	2,230	430	3,190	1,200
6.0R	2,650	890	2,390	700	1,990	490	1,590	310	1,190	200	1,860	430	2,650	1,100
8.0R	1,990	840	1,790	650	1,490	480	1,190	270	900	190	1,390	380	1,990	1,050
10.0R	1,590	770	1,430	570	1,190	450	960	250	720	170	1,120	370	1,590	940
切削量 Cutting Amount (mm)	Ap=0.05D Pf=0.1D 													

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 29

極細鎢鋼球型銑刀-短刃長柄型-2刃(鍍膜) 切削條件表
極細鎢鋼球型銑刀-短刃型-2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

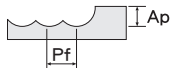
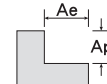
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	100m/min		90m/min		75m/min		60m/min		45m/min		70m/min		100m/min	
半徑 R	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)	S (rpm)	F (mm/min)
0.5R	31,850	850	28,660	680	23,890	440	19,110	230	14,330	150	22,290	320	31,850	850
1.0R	15,920	850	14,330	680	11,940	440	9,550	230	7,170	150	11,150	320	15,920	1,030
2.0R	7,960	850	7,170	690	5,970	500	4,780	300	3,580	200	5,570	410	7,960	1,030
3.0R	5,310	950	4,780	740	3,980	520	3,190	330	2,390	210	3,720	430	5,310	1,160
4.0R	3,980	1,160	3,580	870	2,990	620	2,390	360	1,790	230	2,790	510	3,980	1,430
5.0R	3,190	950	2,870	830	2,390	580	1,910	370	1,430	230	2,230	470	3,190	1,320
6.0R	2,650	980	2,390	770	1,990	540	1,590	340	1,190	220	1,860	470	2,650	1,210
8.0R	1,990	920	1,790	720	1,490	530	1,190	300	900	210	1,390	420	1,990	1,160
10.0R	1,590	850	1,430	630	1,190	500	960	280	720	190	1,120	410	1,590	1,030
切削量 Cutting Amount (mm)	Ap=0.05D Pf=0.1D 													

Table 30

極細鎢鋼圓鼻銑刀-短刃型-4刃(鍍膜) 切削條件表
極細鎢鋼圓鼻銑刀-短刃長柄型-4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	128m/min		108m/min		65m/min		48m/min		189m/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)
3mm	13,820	620	11,230	300	7,250	360	5,520	270	20,740	1,620
4mm	10,370	620	8,640	300	5,180	360	3,890	270	15,550	1,940
5mm	8,210	620	6,910	300	4,320	360	3,240	270	12,100	1,940
6mm	6,910	620	5,620	300	3,460	360	2,590	270	10,370	1,940
8mm	5,180	620	4,320	310	2,590	360	1,940	270	7,780	1,940
10mm	4,100	650	3,460	310	2,060	380	1,560	280	6,050	2,100
12mm	3,460	650	2,880	310	1,730	380	1,300	280	5,180	2,270
14mm	3,260	720	2,740	340	1,730	410	1,300	310	4,800	2,520
16mm	2,880	760	2,400	360	1,490	430	1,130	320	4,320	2,700
18mm	2,540	760	2,110	360	1,340	430	1,130	320	3,840	2,700
20mm	2,300	760	1,920	360	1,150	430	860	320	3,360	2,880
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.06D 				Ap=1D Ae=0.03D 				Ap=1.5D Ae=0.06D 	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

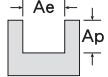
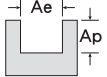
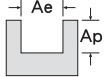
Table 31 極細鎢鋼平銑刀- 強重型3 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	94m/min		75m/min		63m/min		37m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
3mm	10,500	675	8,000	475	6,500	225	4,200	250	3,150	200	8,000	475	12,000	1,250
4mm	7,500	675	6,000	475	5,000	225	3,000	275	2,250	200	6,000	475	9,000	1,500
5mm	6,250	675	4,000	475	4,000	225	2,500	275	1,875	200	4,750	475	7,000	1,500
6mm	5,000	675	3,250	475	3,250	225	2,000	275	1,500	200	4,000	475	6,000	1,500
8mm	3,750	675	3,000	475	2,500	238	1,500	275	1,125	200	3,000	475	4,500	1,500
10mm	3,000	700	2,375	500	2,000	238	1,200	275	900	213	2,375	500	3,500	1,625
12mm	2,500	700	2,000	500	1,650	238	1,000	275	750	213	2,000	500	3,000	1,750
14mm	2,250	700	1,700	500	1,425	238	900	275	675	213	1,700	500	2,500	1,750
16mm	1,950	750	1,500	525	1,250	250	800	300	575	225	1,500	525	2,250	1,875
18mm	1,750	750	1,325	525	1,100	250	700	300	525	225	1,325	525	2,000	1,875
20mm	1,500	750	1,200	525	1,000	250	600	300	450	225	1,200	525	1,750	2,000
切削量 Cutting Amount (mm)	Ap=1.5D Ap≤0.1D						Ap=1D Ae≤0.05D				Ap=1.5D Ae≤0.1D			

Table 32 極細鎢鋼圓鼻銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	95m/min		75m/min		63m/min		38m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
1mm	28,000	170	23,940	140	20,160	90	11,200	70	8,400	50	23,940	140	35,280	380
2mm	15,120	220	12,100	170	10,080	120	6,050	90	4,540	60	12,100	170	17,640	410
3mm	10,580	220	8,060	190	6,550	125	4,200	90	3,120	60	8,060	190	12,100	410
4mm	7,560	230	6,050	190	5,040	140	3,020	90	2,270	70	6,050	190	9,070	410
5mm	6,300	250	4,790	190	4,030	140	2,520	105	1,890	80	4,790	190	7,060	455
6mm	5,040	250	4,030	190	3,280	140	2,020	105	1,510	80	4,030	190	6,050	500
8mm	3,780	250	3,020	220	2,520	150	1,510	105	1,130	80	3,020	220	4,540	500
10mm	3,020	250	2,390	220	2,020	170	1,220	105	910	80	2,390	220	3,530	530
12mm	2,520	250	2,020	220	1,680	170	1,010	105	760	80	2,020	220	3,020	560
14mm	2,520	280	1,900	240	1,600	180	1,010	110	760	80	1,900	240	2,800	620
16mm	2,180	310	1,680	250	1,400	200	880	130	660	90	1,680	250	2,520	670
18mm	2,180	310	1,480	250	1,230	200	880	130	660	90	1,480	250	2,240	670
20mm	1,680	310	1,340	250	1,120	200	670	130	500	90	1,340	250	1,960	670
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ae≤0.25D)						Ap=0.1D (D<3, Ae≤0.05D)				Ap=0.5D (D<3, Ae≤0.25D)			

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 33 極細鎢鋼圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	94m/min		75m/min		63m/min		37m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
3mm	10,580	690	8,060	480	6,550	230	4,230	280	3,220	210	8,060	480	12,100	1,260
4mm	7,560	690	6,050	480	5,040	230	3,020	280	2,270	210	6,050	480	9,070	1,510
5mm	6,300	690	4,790	480	4,030	230	2,520	280	1,890	210	4,790	480	7,060	1,510
6mm	5,040	690	4,030	480	3,280	230	2,020	280	1,510	210	4,030	480	6,050	1,510
8mm	3,780	690	3,020	480	2,520	245	1,510	280	1,130	210	3,020	480	4,540	1,510
10mm	3,020	710	2,390	500	2,020	245	1,200	290	910	220	2,390	500	3,530	1,640
12mm	2,520	710	2,020	500	1,680	245	1,010	290	760	220	2,020	500	3,020	1,760
14mm	2,520	780	1,900	560	1,600	270	1,010	320	760	240	1,900	560	2,800	1,960
16mm	2,180	840	1,680	590	1,400	280	870	340	660	250	1,680	590	2,520	2,100
18mm	1,960	840	1,480	590	1,230	280	780	340	590	250	1,480	590	2,240	2,100
20mm	1,680	840	1,340	590	1,120	280	670	340	500	250	1,340	590	1,960	2,240
切削量 Cutting Amount (mm)	Ap=1.5D Ae≤0.1D				Ap=1D Ae≤0.05D				Ap=1.5D Ae≤0.1D					

Table 34 奈米鎢鋼平銑刀- 短刃型- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	118m/min		108m/min		68m/min		48m/min		118m/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)
1mm	28,310	510	25,245	405	18,910	270	12,570	120	29,900	540
2mm	15,345	520	13,365	405	9,800	270	6,630	120	15,740	550
3mm	10,490	570	8,415	405	6,290	280	4,750	140	10,490	600
4mm	8,670	560	7,080	400	5,100	270	3,720	135	8,670	560
6mm	6,290	530	5,250	530	3,660	250	2,630	130	6,290	530
8mm	4,750	530	3,960	380	2,770	250	1,980	130	4,750	530
10mm	3,760	530	3,170	380	2,230	250	1,580	130	3,760	530
12mm	3,170	530	2,620	380	1,840	250	1,340	130	3,170	530
切削量 Cutting Amount (mm)	D≤3, Ap=0.15D D>3, Ap=0.2D D≤6, Ap=0.1D D>6, Ap=0.15D									

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 35 奈米鎢鋼平銑刀- 短刃型- 3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	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	179m/min		179m/min		134m/min		90m/min		179m/min	
外徑 Diameter	S (rpm)	FEED (mm/min)	S (rpm)	FEED (mm/min)	S (rpm)	FEED (mm/min)	S (rpm)	FEED (mm/min)	S (rpm)	FEED (mm/min)
3mm	19,080	1,260	19,080	790	14,310	480	9,540	310	19,080	1,575
4mm	14,310	1,305	14,310	820	10,710	520	7,160	330	14,310	1,620
6mm	9,540	1,440	9,540	945	7,155	550	4,770	360	9,540	1,800
8mm	7,155	1,305	7,155	895	5,355	500	3,600	330	7,155	1,620
10mm	5,715	1,170	5,715	880	4,275	480	2,880	280	5,715	1,440
12mm	4,770	1,170	4,770	860	3,600	450	2,385	280	4,770	1,440
切削量 Cutting Amount (mm)	D≤6, Ap=1.5D, Ae=0.02D D>6, Ap=1.5D, Ae=0.05D 									

溝銑加工 Slot Milling

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC<30	
切削速度 Vc	90m/min		89m/min		58m/min		107m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	9,540	625	8,595	355	6,210	256	11,430	945
4mm	7,155	652	6,435	373	4,635	270	8,595	990
6mm	4,770	747	4,275	409	3,105	297	5,715	1,080
8mm	3,600	729	3,240	396	2,340	270	4,275	945
10mm	3,600	706	2,565	378	1,845	234	3,420	855
12mm	2,385	661	2,160	364	1,530	234	2,880	855
切削量 Cutting Amount (mm)	Ap=0.3D Ap(Max)=3mm 							

Table 36 奈米鎢鋼平銑刀- 短刃型- 4刃(鍍膜) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE**

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	139m/min		139m/min		118m/min		98m/min		158m/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)
3mm	14,750	1,580	14,750	1,440	12,570	1,040	10,490	630	16,830	1,935
4mm	10,990	1,485	10,990	1,340	9,460	980	7,875	570	12,570	1,840
5mm	8,810	1,440	8,810	1,240	7,580	910	6,290	530	10,100	1,640
6mm	7,380	1,340	7,380	1,140	6,290	830	5,250	500	8,415	1,540
8mm	5,500	1,240	5,500	1,040	4,750	760	3,960	500	6,290	1,440
10mm	4,410	1,240	4,410	1,040	3,760	760	3,170	500	5,050	1,440
12mm	3,660	1,240	3,660	1,040	3,170	760	2,630	500	4,210	1,440
切削量 Cutting Amount (mm)	D≤6, Ap=1D, Ae=0.05D D>6, Ap=1D, Ae=0.02D 									

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 37 奈米鎢鋼平銑刀- 高導短刃型- 6刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63	
切削速度 Vc	178m/min		150m/min		117m/min		89m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
6mm	9,600	3,630	7,950	1,875	6,300	1,305	4,800	900
8mm	7,200	3,630	6,000	1,890	4,800	1,335	3,600	900
10mm	5,700	3,450	4,800	1,815	3,750	1,245	2,850	855
12mm	4,800	3,225	4,050	1,695	3,150	1,170	2,400	810
16mm	3,600	3,105	3,000	1,620	2,400	1,140	1,800	780
20mm	2,850	2,880	2,400	1,515	1,950	1,080	1,500	750
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.1D		Ap=1.5D Ae=0.1D		Ap=1.5D Ae=0.06D		Ap=1.5D Ae=0.04D	

Table 38 奈米鎢鋼圓鼻銑刀- 短刃型- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	161m/min		135m/min		81m/min		61m/min		237m/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)
3mm	17,280	775	14,040	370	9,060	450	6,900	337	25,920	2,025
4mm	12,960	775	10,800	370	6,480	450	4,860	337	19,440	2,430
5mm	10,260	775	8,640	370	5,400	450	4,050	337	15,120	2,430
6mm	8,640	775	7,020	370	4,320	450	3,240	337	12,960	2,430
8mm	6,480	775	5,400	393	3,240	450	2,430	337	9,720	2,430
10mm	5,130	810	4,320	393	2,580	472	1,950	348	7,560	2,630
12mm	4,320	810	3,600	393	2,160	472	1,620	348	6,480	2,835
14mm	4,080	900	3,420	427	2,160	517	1,620	382	6,000	3,150
16mm	3,600	945	3,000	450	1,860	540	1,410	405	5,400	3,375
18mm	3,180	945	2,640	450	1,680	540	1,410	405	4,800	3,375
20mm	2,880	945	2,400	450	1,440	540	1,080	405	4,200	3,600
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.06D				Ap=1D Ae=0.03D				Ap=1.5D Ae=0.06D	
										

1. 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (10~40%).
2. 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%).
3. 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%).
4. 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.

Table 39

奈米鎢鋼球型銑刀- 短刃長柄型- 2刃(鍍膜) 切削條件表
奈米鎢鋼球型銑刀- 短刃型- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

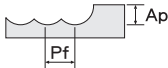
加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	230m/min		180m/min		140m/min		110m/min		230m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.5R	32,000	2,000	32,000	2,000	32,000	1,700	32,000	1,360	32,000	2,000
1.0R	32,000	3,060	28,660	3,020	22,290	1,870	17,520	1,490	32,000	3,060
1.5R	24,420	3,400	19,110	2,720	14,860	1,700	11,680	1,360	24,420	3,400
2.0R	18,310	3,100	14,330	2,510	11,150	1,620	8,760	1,280	18,310	3,100
2.5R	14,650	2,980	11,470	2,250	8,920	1,450	7,010	1,150	14,650	2,980
3.0R	12,210	2,850	9,550	1,960	7,430	1,320	5,840	1,060	12,210	2,850
4.0R	9,160	2,420	7,170	1,740	5,570	1,150	4,380	890	9,160	2,420
5.0R	7,330	2,170	5,730	1,530	4,460	980	3,500	750	7,330	2,170
6.0R	6,100	2,040	4,780	1,400	3,720	820	2,920	680	6,100	2,040
切削量 Cutting Amount (mm)	Ap=0.02D Pf=0.05D 									

Table 40

奈米鎢鋼平銑刀- 短刃長頸型- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

溝銑加工 Slot Milling

加工材質 Material	合金鋼 Alloy Steels			合金鋼 Alloy Steels			調質鋼 Hardened Steels			調質鋼 Hardened Steels			鑄鐵 Cast Iron		
工件料號 Material Code	SCM,SKT,SKD			SCM,SKT,SKD			SKT,SKD			SKT,SKD			FC,FCD		
硬度 Hardness	HRC20~30			HRC30~45			HRC45~55			HRC 55~63			HRC<30		
切削速度 Vc	59m/min			59m/min			42m/min			25m/min			67m/min		
外徑 Diameter	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)	S (rpm)	F (mm/min)	Ap (mm)
0.5mm (2)	25,200	270	0.045	25,200	135	0.038	18,900	45	0.019	13,500	27	0.009	25,200	360	0.049
0.5mm (4)	21,600	180	0.021	21,600	90	0.018	16,200	27	0.009	13,500	27	0.009	21,600	225	0.023
1.0mm (06)	18,000	540	0.07	17,100	450	0.06	10,800	135	0.03	7,200	45	0.014	19,800	630	0.07
1.0mm (08)	15,300	315	0.04	14,400	270	0.04	9,000	90	0.02	7,200	45	0.014	16,200	360	0.05
1.5mm (08)	10,800	315	0.1	9,900	270	0.08	6,300	90	0.04	4,500	45	0.021	11,700	360	0.11
2.0mm (08)	9,000	540	0.26	9,000	450	0.22	5,400	135	0.11	3,600	90	0.06	9,900	630	0.29
2.0mm (10)	7,200	315	0.24	8,100	270	0.2	4,500	90	0.1	2,700	45	0.05	8,100	360	0.26
2.0mm (12)	7,200	315	0.13	8,100	270	0.11	4,500	90	0.06	2,700	45	0.03	8,100	360	0.14
3.0mm (08)	6,300	540	0.36	6,300	450	0.3	4,500	135	0.15	2,700	90	0.08	7,200	630	0.39
3.0mm (12)	6,300	540	0.27	6,300	450	0.23	4,500	135	0.11	2,700	90	0.055	7,200	630	0.29
3.0mm (16)	6,300	315	0.2	5,400	270	0.17	3,600	90	0.08	2,250	45	0.04	6,300	360	0.22
3.0mm (20)	6,300	315	0.13	5,400	270	0.11	3,600	90	0.05	2,250	45	0.025	6,300	360	0.14
4.0mm (16)	4,500	540	0.36	4,500	450	0.3	2,700	135	0.15	1,800	90	0.075	4,500	630	0.39
4.0mm (20)	4,500	315	0.34	3,600	270	0.28	1,800	90	0.14	900	90	0.07	4,500	360	0.36
5.0mm (20)	3,600	450	0.45	3,150	450	0.38	1,800	135	0.19	1,800	90	0.09	3,600	540	0.49
5.0mm (30)	2,700	270	0.33	2,700	180	0.28	1,800	135	0.14	1,800	90	0.07	2,700	270	0.36
切削量 Cutting Amount (mm)															

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 41 奈米鎢鋼球型銑刀- 短刃長頸型- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels				合金鋼 Alloy Steels				調質鋼 Hardened Steels				調質鋼 Hardened Steels				鑄鐵 Cast Iron			
工件料號 Material Code	SCM,SKT,SKD				SCM,SKT,SKD				SKT,SKD				SKT,SKD				FC,FCD			
硬度 Hardness	HRC20~30				HRC30~45				HRC45~55				HRC55~63				HRC<30			
切削速度 Vc	79m/min				73m/min				56m/min				31m/min				79m/min			
半徑 R	S (rpm)	F (mm/min)	Ap (mm)	Ae (mm)	S (rpm)	F (mm/min)	Ap (mm)	Ae (mm)	S (rpm)	F (mm/min)	Ap (mm)	Ae (mm)	S (rpm)	F (mm/min)	Ap (mm)	Ae (mm)	S (rpm)	F (mm/min)	Ap (mm)	Ae (mm)
0.30R (03)	27,000	360	0.03	0.12	22,500	225	0.03	0.12	21,600	180	0.03	0.06	15,300	135	0.02	0.04	27,000	360	0.03	0.12
0.30R (04)	27,000	360	0.03	0.12	22,500	225	0.03	0.12	21,600	180	0.03	0.06	15,300	135	0.02	0.04	27,000	360	0.03	0.12
0.40R (04)	24,300	540	0.04	0.16	20,700	405	0.04	0.16	18,900	270	0.04	0.08	13,050	180	0.04	0.08	24,300	540	0.04	0.16
0.40R (06)	21,600	360	0.04	0.12	18,900	225	0.04	0.12	17,100	180	0.02	0.04	10,800	135	0.02	0.04	21,600	360	0.04	0.12
0.50R (06)	18,900	360	0.05	0.20	17,100	270	0.05	0.20	14,400	180	0.05	0.10	10,350	135	0.05	0.10	18,900	360	0.05	0.20
0.50R (08)	18,900	360	0.05	0.15	17,100	270	0.05	0.15	14,400	180	0.03	0.05	10,350	135	0.03	0.05	18,900	360	0.05	0.15
0.75R (09)	15,300	540	0.08	0.30	13,500	270	0.08	0.30	10,800	225	0.08	0.15	7,200	180	0.08	0.15	15,300	540	0.08	0.30
0.75R (12)	15,300	540	0.08	0.23	13,500	270	0.08	0.23	10,800	225	0.08	0.15	7,200	180	0.08	0.15	15,300	540	0.08	0.23
1.00R (12)	12,600	630	0.10	0.40	11,700	450	0.10	0.40	9,000	270	0.10	0.20	4,950	180	0.10	0.20	12,600	630	0.10	0.40
1.00R (16)	12,600	630	0.10	0.30	11,700	450	0.10	0.30	9,000	270	0.06	0.10	4,950	180	0.06	0.10	12,600	630	0.10	0.30
1.50R (12)	9,000	540	0.15	0.60	7,650	270	0.15	0.60	5,850	225	0.15	0.30	2,700	135	0.15	0.30	9,000	540	0.15	0.60
1.50R (25)	9,000	540	0.15	0.60	7,650	270	0.15	0.60	5,850	225	0.09	0.15	2,700	135	0.09	0.15	9,000	540	0.15	0.60
2.00R (25)	6,300	540	0.20	0.80	5,400	360	0.20	0.80	4,500	225	0.20	0.40	2,250	90	0.20	0.40	6,300	540	0.20	0.80
2.00R (30)	6,300	540	0.20	0.80	5,400	360	0.20	0.80	4,500	225	0.12	0.20	2,250	90	0.12	0.20	6,300	540	0.20	0.80
2.50R (30)	5,400	450	0.25	1.00	4,500	450	0.25	1.00	3,600	225	0.25	0.50	2,700	90	0.25	0.50	5,400	450	0.25	1.00
2.50R (40)	5,400	450	0.25	1.00	4,500	450	0.25	1.00	3,600	225	0.25	0.50	2,700	90	0.25	0.50	5,400	450	0.25	1.00
3.00R (30)	4,500	450	0.30	1.20	3,600	360	0.30	1.20	3,600	270	0.30	0.60	2,700	180	0.30	0.60	4,500	450	0.30	1.20
3.00R (45)	4,500	450	0.30	1.20	3,600	360	0.30	1.20	3,600	270	0.30	0.60	2,700	180	0.30	0.60	4,500	450	0.30	1.20
切削量 Cutting Amount (mm)																				

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 42 鎢鋼多功能螺旋鑽銑牙刀(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

材料種類 Material Group	加工材質 Material		布式硬度 HB	抗拉強度 Strength (N-mm)	Vc (m/min)	每轉進給量 f (mm/rev.)		每刃進給量 fz (mm)	
						≦6mm	≦12mm	≦6mm	≦12mm
K	灰鑄鐵 Grey Cast Iron	灰鑄鐵 Grey Cast Iron	≦150	≦500	55~85	0.07~0.105	0.105~0.154	0.014~0.035	0.035~0.07
		灰鑄鐵(熱處理) Grey Cast Iron (Heat Treated)	150~300	500~1000	55~85	0.07~0.105	0.105~0.154	0.014~0.035	0.035~0.07
N	銅 Copper	短屑、黃銅、青銅 Short Chips、Brass、Bronze	≦200	≦700	—	0.07~0.21	0.042~0.07	0.021~0.042	0.042~0.07
	鋁 / 鎂 Aluminium / Magnesium	鋁、鎂(非合金) Aluminium、Magnesium Non Alloy	≦100	≦350	70~280	0.07~0.175	0.175~0.21	0.021~0.042	0.042~0.07
		鋁鑄造合金 Aluminium、Cast AlloyS (矽 Si<10%)	≦180	≦600	70~280	0.07~0.175	0.175~0.21	0.021~0.042	0.042~0.07
		鋁鑄造合金 Aluminium、Cast Alloy (矽 Si≧10%)	≦180	≦600	70~280	0.07~0.175	0.175~0.21	0.021~0.042	0.042~0.07
X	塑膠 Plastic	熱塑性塑膠 Thermoplastics	—	—	40~80	0.07~0.175	0.175~0.21	0.021~0.042	0.042~0.07
		熱固性塑膠 Thermosetting Plastic	—	—	40~70	0.07~0.175	0.175~0.21	0.021~0.042	0.042~0.07
		纖維增強塑膠 Fiber Reinforce Plastic	—	—	40~55	0.07~0.105	0.105~0.154	0.014~0.035	0.035~0.07
備註 Remarks		※ f(鑽孔)=每轉進給量(mm/rev.) ※ fz(銑削)=每刃進給量(mm)							

1. 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (10~40%).
2. 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%).
3. 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%).
4. 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.

Table 43 鎢鋼直刃 / 螺旋銑牙刀(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

材質 Material Group	加工材質 Material		布式硬度 HB	直刃 Straight		螺旋 Helix	
				切削速度 Vc (m/min)	每刃進給量 fz (mm)	切削速度 Vc (m/min)	每刃進給量 fz (mm)
P	非合金鋼 Unalloyed steels	低碳(C=0.1~0.25%) Low carbon	125	40~140	0.008~0.08	65~200	0.024~0.12
		中碳(C=0.25~0.55%) Medium carbon	150	40~110	0.008~0.064	65~185	0.024~0.08
		高碳(C=0.55~0.85%) High carbon	170	40~100	0.008~0.04	65~160	0.024~0.064
	低合金鋼(含量5%) Low alloy steels	易切的 Non hardened	180	50~140	0.024~0.06	50~145	0.024~0.08
		調質的 Hardened	275	50~130	0.024~0.06	50~135	0.024~0.056
		調質的 Hardened	350	50~130	0.004~0.008	50~130	0.008~0.024
	高合金鋼(含量5%~) High alloy steels	退火的 Annealed	200	30~70	0.008~0.024	30~80	0.024~0.04
		淬硬的 Hardened	325	20~60	0.004~0.008	25~65	0.008~0.024
M	鐵素不銹鋼 Stainless steels Ferritic	易切的 Non hardened	200	40~110	0.008~0.04	50~120	0.032~0.08
		淬硬的 Hardened	330	40~90	0.004~0.008	50~95	0.008~0.04
	奧氏不銹鋼 Stainless steels Austenitic	奧氏 Austenitic	180	50~100	0.006~0.016	50~110	0.032~0.08
		優良奧氏 Super Austenitic	200	40~100	0.006~0.016	50~105	0.032~0.08
	鐵素鑄造不銹鋼 Stainless steels Cast Ferritic	易切的 Non hardened	200	40~120	0.008~0.024	50~130	0.032~0.08
		淬硬的 Hardened	330	40~80	0.004~0.008	50~90	0.024~0.04
	奧氏鑄造不銹鋼 Stainless steels Cast Austenitic	奧氏 Austenitic	200	40~110	0.008~0.024	50~120	0.032~0.08
		淬硬的 Hardened	330	40~70	0.008~0.024	50~80	0.024~0.04
K	球墨鑄鐵 Malleable Cast Iron	鐵素(短屑) Ferritic(short chips)	130	50~120	0.004~0.008	50~55	0.008~0.024
		珠光(長屑) Pearlitic(long chips)	230	40~110	0.004~0.008	50~120	0.024~0.04
	灰鑄鐵 Grey Cast Iron	低抗拉強度 Low tensile strength	180	40~110	0.006~0.016	55~130	0.02~0.08
		高抗拉強度 High tensile strength	260	30~90	0.004~0.008	30~95	0.024~0.04
	可鍛鑄鐵 Nodular SG Iron	鐵素 Ferritic	160	30~80	0.006~0.016	30~90	0.04~0.08
		珠光 Pearlitic	260	30~70	0.004~0.12	30~80	0.024~0.04
N	可鍛壓鋁合金 Aluminium Alloys Wrought	鍛造 Non aging	60	120~200	0.04~0.12	160~240	0.08~0.2
		時效處理 Aged	100	80~180	0.024~0.12	120~200	0.08~0.16
	鋁合金 Aluminium Alloys	鑄造 Cast	75	60~120	0.04~0.12	80~160	0.08~0.16
		鑄造和時效 Cast & Aged	90	70~130	0.24~0.08	95~175	0.08~0.12
	鋁合金 Aluminium Alloys	鑄鋁，含矽量13~22% Cast Si	130	120~200	0.04~0.12	160~240	0.08~0.16
		黃銅 Brass	90	120~200	0.04~0.12	160~240	0.08~0.2
S	銅及鋁合金 Copper & Aluminium Alloys	青銅、紫銅 Bronze & non leaded copper	100	80~180	0.024~0.08	120~200	0.08~0.16
		退火的(鐵基) Annealed(Iron based)	200	20~40	0.006~0.016	25~50	0.032~0.08
		時效的(鐵基) Aged(Iron based)	280	15~30	0.004~0.008	15~40	0.008~0.024
		退火的(鎳或鈷基) Annealed(Nickel or Cobalt based)	250	10~20	0.004~0.008	10~30	0.008~0.024
		時效的(鎳或鈷基) Aged(Nickel or Cobalt based)	350	12~20	0.004~0.008	10~25	0.008~0.024
		純鈦(99.5%) Pure(99.5% Ti)	400Rm	20~60	0.006~0.016	30~65	0.024~0.04
H	超硬鋼 Extra Hard Steels	α + β 合金 α + β alloys	1050Rm	15~40	0.006~0.016	15~40	0.024~0.04
		調質鋼 Hardened & Tempered	45~50HRC	10~30	0.002~0.005	10~35	0.004~0.008
			50~55HRC	10~20	0.002~0.005	10~30	0.004~0.008

※ 刀具「切入進給量」建議採取低於「螺紋切削時進給量」60%。
 ※ At tools entry, set the Feed (mm) to 60% lower than the threading Feed.

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 44 極細鎢鋼球型銑刀- 2 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

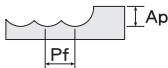
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	72m/min		54m/min		34m/min		29m/min		22m/min		54m/min		72m/min	
半徑 R	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)	S (rpm)	F (mm/min)
0.5R	36,000	4,280	32,400	3,380	21,600	2,570	14,400	1,720	10,800	1,280	32,400	3,380	45,000	7,500
1.0R	20,520	2,440	16,200	1,690	11,700	1,390	8,200	980	6,160	730	16,200	1,690	22,860	3,810
2.0R	11,520	1,370	8,640	900	6,300	750	4,600	550	3,460	410	8,640	900	11,520	1,920
3.0R	7,560	900	5,760	600	3,780	450	3,020	360	2,270	270	5,760	600	7,560	1,260
4.0R	5,760	690	4,320	450	2,880	340	2,300	270	1,730	205	4,320	450	5,760	960
5.0R	4,590	550	3,420	360	2,160	255	1,830	215	1,380	160	3,420	360	4,590	765
6.0R	3,780	450	2,880	300	1,800	210	1,520	180	1,140	130	2,880	300	3,780	630
8.0R	3,200	380	2,400	250	1,560	180	1,280	150	960	110	2,400	250	3,200	530
10.0R	2,600	310	1,920	200	1,300	150	1,040	120	780	90	1,920	200	2,600	430
切削量 Cutting Amount (mm)	Ap=0.05D Pf=0.1D 													

Table 45 極細鎢鋼圓鼻銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	95m/min		75m/min		63m/min		38m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
1mm	22,400	140	19,150	110	16,130	70	8,960	60	6,720	40	19,150	110	28,220	300
2mm	12,100	180	9,680	140	8,060	100	4,840	70	3,630	50	9,680	140	14,110	330
3mm	8,460	180	6,450	150	5,240	100	3,360	70	2,500	50	6,450	150	9,680	330
4mm	6,050	180	4,840	150	4,030	110	2,420	70	1,820	60	4,840	150	7,260	330
5mm	5,040	200	3,830	150	3,220	110	2,020	80	1,510	60	3,830	150	5,650	360
6mm	4,030	200	3,220	150	2,620	110	1,620	80	1,210	60	3,220	150	4,840	400
8mm	3,020	200	2,420	180	2,020	120	1,210	80	900	60	2,420	180	3,630	400
10mm	2,420	200	1,910	180	1,620	140	980	80	730	60	1,910	180	2,820	420
12mm	2,020	200	1,620	180	1,340	140	810	80	610	60	1,620	180	2,420	450
14mm	2,020	220	1,520	190	1,280	140	810	90	610	60	1,520	190	2,240	500
16mm	1,740	250	1,340	200	1,120	160	700	100	530	70	1,340	200	2,020	540
18mm	1,740	250	1,180	200	980	160	700	100	530	70	1,180	200	1,790	540
20mm	1,340	250	1,070	200	900	160	540	100	400	70	1,070	200	1,570	540
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ap≤0.25D) 						Ap=0.1D (D<3, Ap≤0.05D) 						Ap=0.5D (D<3, Ap≤0.25D) 	

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 46 極細鎢鋼圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

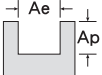
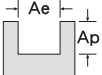
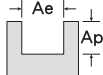
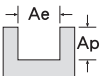
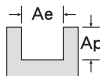
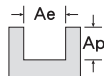
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	94m/min		75m/min		63m/min		37m/min		28m/min		75m/min		110m/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)	S (rpm)	F (mm/min)
1mm	5,040	550	6,450	380	5,240	180	3,380	220	2,580	170	6,450	380	9,680	1,010
2mm	6,050	550	4,840	380	4,030	180	2,420	220	1,820	170	4,840	380	7,260	1,210
3mm	5,040	550	3,830	380	3,220	180	2,020	220	1,510	170	3,830	380	5,650	1,210
4mm	4,030	550	3,220	380	2,620	180	1,620	220	1,210	170	3,220	380	4,840	1,210
5mm	3,020	550	2,420	380	2,020	200	1,210	220	900	170	2,420	380	3,630	1,210
6mm	2,420	570	1,910	400	1,620	200	960	230	730	180	1,910	400	2,820	1,310
8mm	2,020	570	1,620	400	1,340	200	810	230	610	180	1,620	400	2,420	1,410
10mm	2,020	620	1,520	450	1,280	220	810	260	610	190	1,520	450	2,240	1,570
12mm	1,740	670	1,340	470	1,120	220	700	270	530	200	1,340	470	2,020	1,680
14mm	1,570	670	1,180	470	980	220	620	270	470	200	1,180	470	1,790	1,680
16mm	1,340	670	1,070	470	900	220	540	270	400	200	1,070	470	1,570	1,790
18mm	1,740	250	1,180	200	980	160	700	100	530	70	1,180	200	1,790	540
20mm	1,340	250	1,070	200	900	160	540	100	400	70	1,070	200	1,570	540
切削量 Cutting Amount (mm)	Ap=1.5D Ae≤0.1D				Ap=1D Ae≤0.05D				Ap=1.5D Ae≤0.1D					

Table 47 極細鎢鋼平銑刀- 高效型- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

溝銑加工 Slot 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			
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—			
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30			
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)		
3mm	7,880	550	6,410	510	5,890	390	5,590	350	5,400	330		
4mm	5,810	550	4,800	580	4,430	390	4,160	390	4,050	370		
5mm	4,650	550	3,830	570	3,530	410	3,340	410	3,230	400		
6mm	3,860	560	3,190	480	2,960	430	2,780	430	2,700	410		
8mm	2,890	450	2,400	410	2,210	410	2,100	390	2,030	380		
10mm	2,330	440	1,910	410	1,760	360	1,690	360	1,610	340		
12mm	1,950	420	1,610	360	1,460	350	1,390	330	1,350	330		
切削量 Cutting Amount (mm)	Ap≤1D Ap(Max)=9mm				Ap≤0.5D				Ap≤0.2D			

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 48 極細鎢鋼平銑刀- 高效型- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

側銑加工 Side Milling

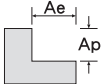
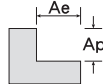
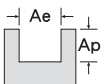
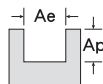
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鈦合金 Titanium Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	9,380	830	7,160	630	6,080	470	5,740	460	5,550	410
4mm	7,310	900	5,660	740	4,800	510	4,540	530	4,390	470
5mm	5,960	980	4,610	790	3,940	540	3,710	580	3,600	500
6mm	5,060	1,200	3,940	900	3,340	670	3,150	630	3,040	520
8mm	3,790	1,160	2,960	830	2,510	610	2,360	610	2,290	510
10mm	3,080	1,090	2,400	790	2,030	540	1,910	540	1,840	480
12mm	2,550	1,050	1,990	750	1,690	540	1,580	510	1,540	450
切削量 Cutting Amount (mm)	Ap≤1.5D Ae≤0.2D				Ap≤1.5D Ae≤0.1D				Ap≤1.5D Ae≤0.05D	

Table 49 極細鎢鋼圓鼻銑刀- 高效型- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

溝銑加工 Slot 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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
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)
3mm	7,880	550	6,410	510	5,890	390	5,590	350	5,400	330
4mm	5,810	550	4,800	580	4,430	390	4,160	390	4,050	370
5mm	4,650	550	3,830	570	3,530	410	3,340	410	3,230	400
6mm	3,860	560	3,190	480	2,960	430	2,780	430	2,700	410
8mm	2,890	450	2,400	410	2,210	410	2,100	390	2,030	380
10mm	2,330	440	1,910	410	1,760	360	1,690	360	1,610	340
12mm	1,950	420	1,610	360	1,460	350	1,390	330	1,350	330
切削量 Cutting Amount (mm)	Ap≤1D Ap(Max)=9mm				Ap≤0.5D				Ap≤0.2D	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 50 極細鎢鋼圓鼻銑刀- 高效型- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

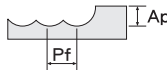
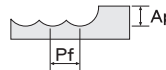
側銑加工 Side Milling

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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
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)
3mm	9,380	830	7,160	630	6,080	470	5,740	460	5,550	410
4mm	7,310	900	5,660	740	4,800	510	4,540	530	4,390	470
5mm	5,960	980	4,610	790	3,940	540	3,710	580	3,600	500
6mm	5,060	1,200	3,940	900	3,340	670	3,150	630	3,040	520
8mm	3,790	1,160	2,960	830	2,510	610	2,360	610	2,290	510
10mm	3,080	1,090	2,400	790	2,030	540	1,910	540	1,840	480
12mm	2,550	1,050	1,990	750	1,690	540	1,580	510	1,540	450
切削量 Cutting Amount (mm)	Ap≤1.5D Ae≤0.2D				Ap≤1.5D Ae≤0.1D				Ap≤1.5D Ae≤0.05D	

Table 51 極細鎢鋼球型銑刀- 高效型- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

溝銑加工 Slot Milling

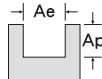
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鎳基合金 Ni-Based Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		—		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30		HRC<30	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
2.5R	5,565	910	4,305	735	3,675	508	3,465	543	3,360	469	1,715	172
3.0R	4,725	1,120	3,675	840	3,115	623	2,940	585	2,835	487	1,470	175
4.0R	3,535	1,085	2,765	770	2,345	571	2,205	567	2,135	473	1,120	158
5.0R	2,870	1,015	2,240	735	1,890	508	1,785	501	1,715	445	875	151
6.0R	2,380	980	1,855	700	1,575	504	1,470	473	1,435	424	735	147
8.0R	1,785	840	1,400	658	1,190	445	1,120	389	1,085	354	536	147
10.0R	1,435	690	1,120	529	945	413	875	361	875	322	445	140
切削量 Cutting Amount (mm)	Ap=1D Pf=0.5D						Ap=1D Pf=0.4D		Ap=1D Pf=0.2D			
												

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 52 鎢鋼鋁用銑刀-強力型-3刃(白刀) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE****側銑加工 Side Milling**

加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075		C1100	
硬度 Hardness	—		—	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	18,000	810	7,200	290
4mm	13,500	950	5,400	320
5mm	10,800	990	4,320	340
6mm	9,000	1,080	3,600	360
8mm	7,200	1,170	2,700	410
10mm	5,760	1,260	2,030	430
12mm	4,680	1,350	1,710	460
16mm	3,510	1,350	1,260	460
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.1D 			

溝銑加工 Slot Milling

加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075		C1100	
硬度 Hardness	—		—	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	17,100	590	7,110	270
4mm	13,050	620	5,310	290
5mm	10,350	630	4,230	320
6mm	8,100	720	3,510	330
8mm	7,160	750	2,610	380
10mm	5,670	850	2,070	410
12mm	4,590	900	1,710	440
16mm	3,470	880	1,260	430
切削量 Cutting Amount (mm)	Ap=0.5D 			

1. 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (10~40%).
2. 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%).
3. 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%).
4. 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.

Table 53 極細鎢鋼平銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

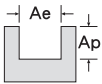
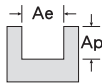
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron		鋁合金,銅合金 Aluminum/ Copper	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		FC,FCD		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		—		HRC<30		—	
切削速度 Vc	102m/min		81m/min		67m/min		40m/min		80m/min		118m/min		30m/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)	S (rpm)	F (mm/min)
1mm	11,340	130	25,650	110	21,600	70	12,000	60	25,650	110	37,800	300	9,000	40
2mm	16,200	170	12,960	130	10,800	90	6,480	70	12,960	130	18,900	320	4,860	50
3mm	11,340	170	8,640	150	7,020	100	4,500	70	8,640	150	12,960	320	3,350	50
4mm	8,100	180	6,480	150	5,400	110	3,240	70	6,480	150	9,720	320	2,430	60
5mm	6,750	200	5,130	150	4,320	110	2,700	80	5,130	150	7,560	360	2,030	60
切削量 Cutting Amount (mm)	Ap=0.3D (D<3, Ap≤0.15D) 				Ap=0.06D (D<3, Ap≤0.03D)				Ap=0.3D (D<3, Ap≤0.15D) 				Ap=0.06D (D<3, Ap≤0.03D)	

Table 54 極細鎢鋼球型銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron		鋁合金,銅合金 Aluminum/ Copper	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		FC,FCD		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		—		HRC<30		—	
切削速度 Vc	180m/min		158m/min		109m/min		79m/min		158m/min		214m/min		60m/min	
半徑 R	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)	S (rpm)	F (mm/min)
0.5R	54,000	675	48,600	570	32,400	435	21,600	270	48,600	570	67,500	1,100	16,200	202
1.0R	30,780	900	24,300	735	17,550	570	12,300	360	24,300	735	34,290	1,350	9,240	270
2.0R	17,280	1,080	12,960	840	9,450	652	6,900	435	12,960	840	17,280	1,545	5,190	324
3.0R	11,340	1,350	8,640	900	5,670	675	4,530	540	8,640	900	11,340	1,890	3,410	405
切削量 Cutting Amount (mm)	Ap=0.03D Pf=0.06D 													

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 55 極細鎢鋼不銹鋼用平銑刀-高導型-4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

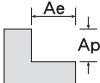
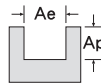
加工材質 Material	不銹鋼 Stainless Steels			
工件料號 Material Code	SUS304			
硬度 Hardness	—			
切削速度 Vc	70m/min			
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
4mm	5,570	300~1,000	5,570	100~200
5mm	4,460	500~1,000	4,460	200~300
6mm	3,720	500~1,200	3,720	200~300
8mm	2,790	500~1,100	2,790	300~400
10mm	2,230	500~1,100	2,230	300~400
12mm	1,860	600~800	1,860	250~300
16mm	1,390	400~600	1,390	250~300
20mm	1,120	300~500	1,120	100~250
切削量 Cutting Amount (mm)	Ap=0.5D Ae=0.1~0.5D  Ap=0.5D 			

Table 56 極細鎢鋼多功能單 / 雙牙鑽銑牙刀 切削條件表

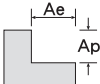
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

材質 Material Group	加工材質 Material		硬度 Hardness	MSHIA		MSHDIA	
				切削速度 Vc (m/min)	每刃進給量 fz (mm)	切削速度 Vc (m/min)	每刃進給量 fz (mm)
P	碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<20	—	—	65~200	0.008~0.01
	合金鋼 Alloy Steels	SCM,SKT,SKD	HRC20~30	—	—	65~185	0.005~0.008
	合金鋼 Alloy Steels	SCM,SKT,SKD	HRC30~45	—	—	65~160	0.004~0.005
M	不銹鋼 Stainless Steels	SUS304	HRC<30	—	—	50~100	0.004~0.008
K	鑄鐵 Cast Iron	FC,FCD	HRC<30	—	—	40~110	0.004~0.008
N	鋁合金 Aluminum Alloys	Al 5052 / 6061 / 7075	—	60~120	0.007~0.08	—	—

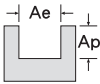
※ 刀具「切入進給量」建議採取低於「螺紋切削時進給量」60%。
 ※ At tools entry, set the Feed (mm) to 60% lower than the threading Feed.

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 57 鋁鋼鋁用平銑刀- 高效型- 3刃(白刀) 切削條件表**SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE****側銑加工 Side Milling**

加工材質 Material	鋁合金 Aluminum Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075	
硬度 Hardness	—	
切削速度 Vc	180m/min	
外徑 Diameter	S (rpm)	F (mm/min)
3mm	19,100	970
4mm	14,330	1,140
5mm	11,460	1,200
6mm	9,550	1,300
8mm	7,170	1,400
10mm	5,730	1,500
12mm	4,780	1,600
16mm	3,580	1,600
切削量 Cutting Amount (mm)	Ap=1.5D Ae=0.1~0.5D 	

溝銑加工 Slot Milling

加工材質 Material	鋁合金 Aluminum Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075	
硬度 Hardness	—	
切削速度 Vc	180m/min	
外徑 Diameter	S (rpm)	F (mm/min)
3mm	19,100	700
4mm	14,330	740
5mm	11,460	760
6mm	9,550	860
8mm	7,170	900
10mm	5,730	1,020
12mm	4,780	1,080
16mm	3,580	1,080
切削量 Cutting Amount (mm)	Ap=0.5D 	

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 58 極細鎢鋼不等距高導型銑刀- 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		調質鋼 Hardened Steels	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55	
切削速度 Vc	110m/min		90m/min		75m/min		70m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	11,670	770	9,550	580	7,960	430	7,430	380
4mm	8,750	840	7,160	680	5,970	470	5,570	440
5mm	7,000	910	5,730	730	4,770	500	4,450	460
6mm	5,830	1,120	4,770	840	3,980	620	3,710	480
8mm	4,370	1,080	3,580	770	2,980	570	2,780	470
10mm	3,500	1,010	2,860	730	2,380	500	2,220	440
12mm	2,910	980	2,380	700	1,990	500	1,850	420
16mm	2,180	840	1,790	650	1,490	440	1,390	350
20mm	1,750	680	1,430	520	1,190	410	1,110	320
25mm	1,400	610	1,140	470	955	370	890	270
切削量 Cutting Amount (mm)	$Ap \leq 1.5D$ $Ae \leq 0.2D$ 				$Ap \leq 1.5D$ $Ae \leq 0.05D$ 			

溝銑加工 Slot Milling

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55	
切削速度 Vc	95m/min		75m/min		70m/min		60m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	10,080	510	7,960	480	7,430	360	6,360	310
4mm	7,560	510	5,970	540	5,570	360	4,770	340
5mm	6,050	510	4,770	530	4,450	380	3,820	370
6mm	5,040	520	3,980	440	3,710	400	3,180	380
8mm	3,780	420	2,980	390	2,780	390	2,380	360
10mm	3,020	410	2,380	380	2,220	340	1,910	320
12mm	2,520	390	1,990	330	1,850	320	1,590	300
16mm	1,890	380	1,490	300	1,390	260	1,190	250
20mm	1,510	330	1,190	270	1,110	250	955	230
25mm	1,210	320	950	250	890	220	760	160
切削量 Cutting Amount (mm)	$Ap \leq 1D$ $Ap(MAX)=12mm$ 				$Ap \leq 0.2D$ 			

1. 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (10~40%).
2. 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%).
3. 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%).
4. 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.

Table 59 極細鎢鋼鈦合金用平銑刀- 高效型- 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		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鈦合金 Titanium Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		—		HRC<30	
切削速度 Vc	110m/min		90m/min		75m/min		70m/min		70m/min		35m/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	11,670	1,100	9,550	840	7,960	620	7,430	540	7,430	610	3,710	220
4mm	8,750	1,200	7,160	980	5,970	680	5,570	630	5,570	710	2,780	240
5mm	7,000	1,300	5,730	1,050	4,770	720	4,450	670	4,450	770	2,220	240
6mm	5,830	1,600	4,770	1,200	3,980	890	3,710	690	3,710	830	1,850	250
8mm	4,370	1,550	3,580	1,100	2,980	810	2,780	670	2,780	810	1,390	220
10mm	3,500	1,450	2,860	1,050	2,380	720	2,220	630	2,220	710	1,110	210
12mm	2,910	1,400	2,380	1,000	1,990	720	1,850	600	1,850	675	920	210
16mm	2,180	1,200	1,790	940	1,490	630	1,390	500	1,390	550	690	210
20mm	1,750	980	1,430	750	1,190	590	1,110	460	1,110	510	550	200
25mm	1,400	880	1,140	670	955	530	890	390	890	480	440	180
切削量 Cutting Amount (mm)	Ap≤1.5D Ae≤0.2D				Ap≤1.5D Ae≤0.05D				Ap≤1.5D Ae≤0.1D			

溝銑加工 Slot Milling

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鈦合金 Titanium Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		—	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		—		HRC<30	
切削速度 Vc	95m/min		75m/min		70m/min		60m/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	10,080	730	7,960	680	7,430	520	6,360	440	6,360	460	2,120	120
4mm	7,560	730	5,970	770	5,570	520	4,770	490	4,770	510	1,590	130
5mm	6,050	730	4,770	750	4,450	540	3,820	530	3,820	540	1,270	140
6mm	5,040	740	3,980	630	3,710	570	3,180	540	3,180	570	1,060	140
8mm	3,780	600	2,980	550	2,780	550	2,380	510	2,380	520	790	150
10mm	3,020	580	2,380	540	2,220	480	1,910	450	1,910	470	630	140
12mm	2,520	560	1,990	470	1,850	460	1,590	430	1,590	440	530	140
16mm	1,890	550	1,490	430	1,390	370	1,190	360	1,190	370	390	110
20mm	1,510	470	1,190	380	1,110	350	955	330	955	330	310	110
25mm	1,210	450	950	360	890	310	760	230	760	280	250	100
切削量 Cutting Amount (mm)	Ap≤1D Ap(MAX)=12mm				Ap≤0.2D				Ap≤0.5D			

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 60 鎢鋼鋁用倒角銑刀- 1刀

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

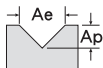
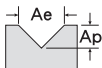
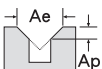
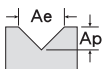
加工材質 Material	鋁合金 Aluminum Alloys					
工件料號 Material Code	AI 5052 / 6061 / 7075					
硬度 Hardness	—					
加工方式 Cutting Mode	定點加工 Spotting		倒角加工 Chamfering		雕刻加工 Engraving	
切削速度 Vc	100~200m/min		100~200m/min		100~200m/min	
外徑 Diameter	S (rpm)	f (mm/rev)	S (rpm)	f (mm/rev)	S (rpm)	f (mm/rev)
3mm	11,000~21,000	0.01	11,000~21,000	0.01~0.04	11,000~21,000	0.01~0.02
4mm	8,000~16,000	0.01	8,000~16,000	0.01~0.04	8,000~16,000	0.01~0.03
6mm	5,000~11,000	0.02	5,000~11,000	0.02~0.07	5,000~11,000	0.02~0.04
8mm	4,000~8,000	0.03	4,000~8,000	0.02~0.10	4,000~8,000	0.03~0.06
10mm	3,200~6,400	0.03	3,200~6,400	0.02~0.15	3,200~6,400	0.03~0.06
12mm	2,700~5,300	0.04	2,700~5,300	0.02~0.14	2,700~5,300	0.04~0.08
16mm	2,000~4,000	0.05	2,000~4,000	0.02~0.14	2,000~4,000	0.05~0.10
切削量 Cutting Amount (mm)			Ap=0.5~1.0mm 		Ap≤0.03D 	

Table 61 極細鎢鋼高硬用倒角銑刀- 3刀

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels					
工件料號 Material Code	SCM,SKT,SKD					
硬度 Hardness	HRC≤50					
加工方式 Cutting Mode	定點加工 Spotting		倒角加工 Chamfering		雕刻加工 Engraving	
切削速度 Vc	90~150m/min		90~150m/min		90~150m/min	
外徑 Diameter	S (rpm)	f (mm/rev)	S (rpm)	f (mm/rev)	S (rpm)	f (mm/rev)
3mm	9,550~15,920	0.01	9,550~15,920	0.03~0.06	9,550~15,920	0.02~0.04
4mm	7,170~11,940	0.02	7,170~11,940	0.03~0.06	7,170~11,940	0.02~0.04
6mm	4,780~7,960	0.02	4,780~7,960	0.05~0.10	4,780~7,960	0.03~0.08
8mm	3,580~5,970	0.03	3,580~5,970	0.10~0.20	3,580~5,970	0.03~0.08
10mm	2,870~4,780	0.05	2,870~4,780	0.15~0.30	2,870~4,780	0.05~0.13
12mm	2,390~3,980	0.07	2,390~3,980	0.20~0.35	2,390~3,980	0.10~0.15
16mm	1,790~2,990	0.08	1,790~2,990	0.20~0.35	1,790~2,990	0.10~0.15
切削量 Cutting Amount (mm)			Ap=0.5~1.0mm 		Ap≤0.03D 	

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 62 T型銑刀 / 外圓槽銑刀 / 鳩尾槽銑刀 / 等角鳩尾槽銑刀 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		不銹鋼 Stainless Steels		鋁合金 Aluminum Alloys	
工件料號 Material Code	S35C,S45C,S50C		SUS304		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<20		—		—	
切削數目 Vc	25m/min		15m/min		60m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
4mm	1,990	80	1,190	50	4,780	80
6mm	1,330	80	800	50	3,180	80
8mm	980	90	600	60	2,400	90
10mm	790	70	480	50	1,900	90
12mm	670	70	400	50	1,600	90
14mm	580	70	330	50	1,360	90
16mm	500	70	300	50	1,200	100
18mm	450	70	260	50	1,060	100
20mm	400	60	240	40	950	80
25mm	320	60	190	40	760	80
30mm	270	60	160	40	640	80
40mm	200	60	120	30	480	80
備註 Remarks						

Table 63 鎢鋼倒角兼用銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels			合金鋼 Alloy Steels			不銹鋼 Stainless Steels			鋁合金 Aluminum Alloys		
工件料號 Material Code	S35C,S45C,S50C			SCM, SKT, SKD			SUS304			Al 5052 / 6061 / 7075		
硬度 Hardness	HRC<20			HRC20~30			—			—		
切削速度 Vc	60m/min			50m/min			40m/min			50m/min		
外徑 Diameter	S (rpm)	縱向 F Vertical (mm/min)	橫向 F Horizontal (mm/min)	S (rpm)	縱向 F Vertical (mm/min)	橫向 F Horizontal (mm/min)	S (rpm)	縱向 F Vertical (mm/min)	橫向 F Horizontal (mm/min)	S (rpm)	縱向 F Vertical (mm/min)	橫向 F Horizontal (mm/min)
3mm	6,400	25	50	5,300	20	40	4,200	20	40	5,300	40	80
4mm	4,800	25	55	4,000	20	45	3,200	20	45	4,000	40	85
6mm	3,200	25	60	2,650	20	50	2,100	20	50	2,650	40	90
8mm	2,400	25	65	2,000	20	55	1,600	20	55	2,000	40	110
10mm	1,900	25	70	1,600	20	60	1,300	20	60	1,600	40	110
12mm	1,600	25	70	1,350	20	60	1,050	20	60	1,350	40	120
16mm	1,200	30	80	1,000	25	65	800	25	65	1,000	50	120
20mm	950	30	80	800	25	65	640	25	65	800	50	110
備註 Remarks	※ 先端角=120°，可將進給量增加30%。 ※ Tip Angle=120° ,might increase 30% Feed Speed.											

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 64 鎢鋼內R角銑刀- 2刃 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels			合金鋼 Alloy Steels			調質鋼 Hardened Steels		
工件料號 Material Code	S35C,S45C,S50C			SCM,SKD			SKT,SKD		
硬度 Hardness	HRC<20			HRC30~45			HRC45~55		
切削速度 Vc	30~40m/min			20~30m/min			15~25m/min		
半徑 R	S (rpm)	粗加工Roughing F (mm/min)	細加工Finishing F (mm/min)	S (rpm)	粗加工Roughing F (mm/min)	細加工Finishing F (mm/min)	S (rpm)	粗加工Roughing F (mm/min)	細加工Finishing F (mm/min)
0.50R	9,900	50	90	7,200	45	60	5,760	35	50
0.75R	8,100	50	90	5,760	45	60	4,590	35	50
1.00R	5,580	50	90	3,960	45	60	3,780	35	50
1.25R	4,860	50	90	3,510	45	60	3,240	35	50
1.50R	3,330	50	90	2,430	45	60	2,880	35	50
1.75R	3,060	50	90	2,160	45	60	2,520	35	50
2.00R	2,880	50	90	2,070	45	60	2,250	35	50
2.50R	2,520	50	90	1,800	45	60	1,890	35	50
3.00R	2,250	50	90	1,620	45	60	1,620	35	50
4.00R	1,665	50	90	1,170	45	60	1,260	35	50
5.00R	1,440	50	90	990	45	60	1,080	35	50
6.00R	1,250	50	90	810	45	60	900	35	50
切削量 Cutting Amount (mm)									
備註 Remarks	※ 切削量須區分多次切削。 Divide the cutting depth into several time paths. ※ 須使用切削油。 Use cutting fluid.								

Table 65 鎢鋼雕刻銑刀- 1刃 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron		鋁合金 Aluminum Alloys		鈦合金 Titanium Alloys		非金屬 Non-metal	
工件料號 Material Code	S35C,S45C,S50C		SUS304		FC,FCD		Al 6061		—		塑膠 Plastic	
硬度 Hardness	—		—		HRC<30		—		HRC<30		—	
切削速度 Vc	75m/min		40m/min		75m/min		75m/min		30m/min		75m/min	
角度 Angle	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)
30°	6,000	90	3,180	70	6,000	150	6,000	150	2,390	70	6,000	220
60°	6,000	120	3,180	100	6,000	200	6,000	200	2,390	100	6,000	300
切削量 Cutting Amount (mm)	Ap≤0.25 											

- 當加工聲音尖銳時，請調降主軸轉速(S) & 進給速度(F) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

Table 66 極細鎢鋼平銑刀- 高硬型- 6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	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—	
切削速度 Vc	110m/min		95m/min		75m/min		75m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
6mm	5,840	1,060	5,040	900	3,980	710	3,980	540
8mm	4,380	1,050	3,780	840	2,990	690	2,990	530
10mm	3,500	970	3,030	780	2,390	610	2,390	480
12mm	2,920	900	2,520	760	1,990	1,120	1,990	450
16mm	2,190	810	1,890	700	1,490	980	1,490	390
切削量 Cutting Amount (mm)	Ae=0.03D~0.1D 				Ae=0.02D~0.1D 		Ae=0.02D~0.05D 	

Table 67 鎢鋼複合材料用銑刀- 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	非金屬 Non-metal			
工件料號 Material Code	碳纖維 Carbon Fiber CFRP		玻璃纖維 Glass Fiber GFRP	
硬度 Hardness	—		—	
切削速度 Vc	100m/min		70m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3	10,610	260	7,430	180
4	7,960	290	5,570	200
5	6,370	380	4,450	270
6	5,310	440	3,710	310
8	3,980	520	2,780	360
10	3,180	610	2,230	420
12	2,650	680	1,860	480
切削量 Cutting Amount (mm)	Ap≤2D Ae≤0.35D 			

- 當加工聲音尖銳時，請調降主軸轉速(S)及進給速度(F) (10~40%)。When the sound is piercing, please lower the spindle speed(S) and feed rate(F) (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.

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