CMTéc 西門德克

切削刀具綜合型錄

CUTTING TOOLS CATALOG

2024 No. 27

WWW.CMTEC.COM.TW

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。

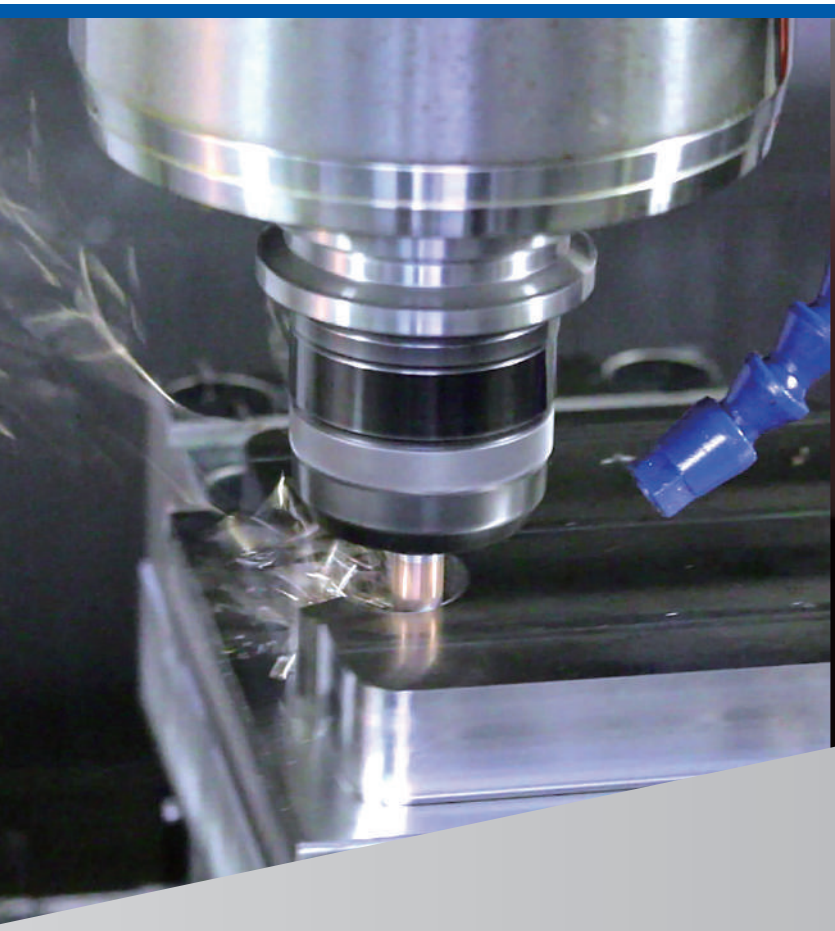
我們製造技術技藝精湛，專業生產鎢鋼銑刀、鑽頭、鉸刀、銑牙刀、鋸片、捨棄式刀片/刀桿、CVD/MCD/PCD鑽石刀具、PCBN刀具，並協助業界精密零件開發所需之特殊成型刀具，從刀具3D模擬、幾何參數設計、刀具研磨、測試、銷售、再生研磨，皆有最頂尖的專業團隊負責，提供客戶完整的解決方案。

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

西門德克

Professional · Design · Manufacturing



CMTéc a professional cutting tool manufacturer in Taiwan, was established in 1987 with Mr. Chen. Our mission is continuous develope 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 a nd 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, carbide inserts, indexable cutters, CVD/MCD/PCD diamond cutting tools, PCBN cutting tools 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.

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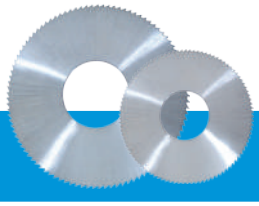

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鑽尖角度 Tip Angle	130°	偏心刀口- S型(外冷) Type S		6刃平刀 Square Type- 6F	
倒角夾角 Chamfer Angle	90	偏心刀口- S型(內冷) Type S With Coolant Hole		6刃球刀 Ball Nose- 6F	
加工材質硬度 Work Material Hardness	HRC 60	3倍長(短刃型) 3×D	3xD	4刃鉸刀 Reamer- 4F	
奈米鎢鋼 Nano Micro Grain Carbide	NMG	5倍長(標準型) 5×D	5xD	6刃鉸刀 Reamer- 6F	
極細鎢鋼 Ultra Micro Grain Carbide	UMG	7倍長(長刃型) 7×D	7xD	尖角型式 Sharp Comer Type	
鎢鋼 Micro Grain Carbide	MG	1刃平刀 Square Type- 1F		攻面寬型式 Gash Land Type	
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高鋁鈦塗層 TIALN Coating	TiAlN	2刃球刀 Ball Nose- 2F		R角型式 Corner Radius Type	R
氮碳化鈦塗層 TICN Coating	TiCN	2刃圓鼻刀 Corner Radius- 2F		切削條件表 Cutting Table	Milling Table
鑽石塗層 DIA Coating	DIA	3刃平刀 Square Type- 3F		尖齒型- CN CN Type	CN
火狐狸塗層 FIRE Coating	FIRE	3刃球刀 Ball Nose- 3F		平齒型- CF CF Type	CF
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氮化鉻塗層 CRN Coating	CrN	4刃平刀 Square Type- 4F		極力推薦 Top Recommend	◎
類鑽塗層 DLC Coating	DLC	4刃不等距 Unequal Flute- 4F		強力推薦 Highly Recommend	◎
彩鑽塗層 RD Coating	RD	4刃球刀 Ball Nose- 4F		一般推薦 Recommend	○
G1塗層 G1 Coating	G1	4刃圓鼻刀 Corner Radius- 4F		不推薦 NO Recommend	—

A	超精銑 Bright Finishing	B	精銑 Finishing	C	中銑 Semi Finishing	D	粗銑 Roughing

標記說明 ICONS GUIDE

面銑加工 Face Milling	
溝銑加工 Slot Milling	
側銑加工 Side Milling	
插銑加工 Plunge Milling	
螺旋下刀 Helical Milling	
斜向加工 Ramping	

仿形加工 Profile Milling	
鑽孔加工(盲孔) Blind Hole Drilling	
鑽孔加工(穿孔) Through hole Drilling	
倒角加工 Chamfering	
T型槽加工 T-Slot Milling	
鳩尾槽加工 Dovetail Slot Milling	

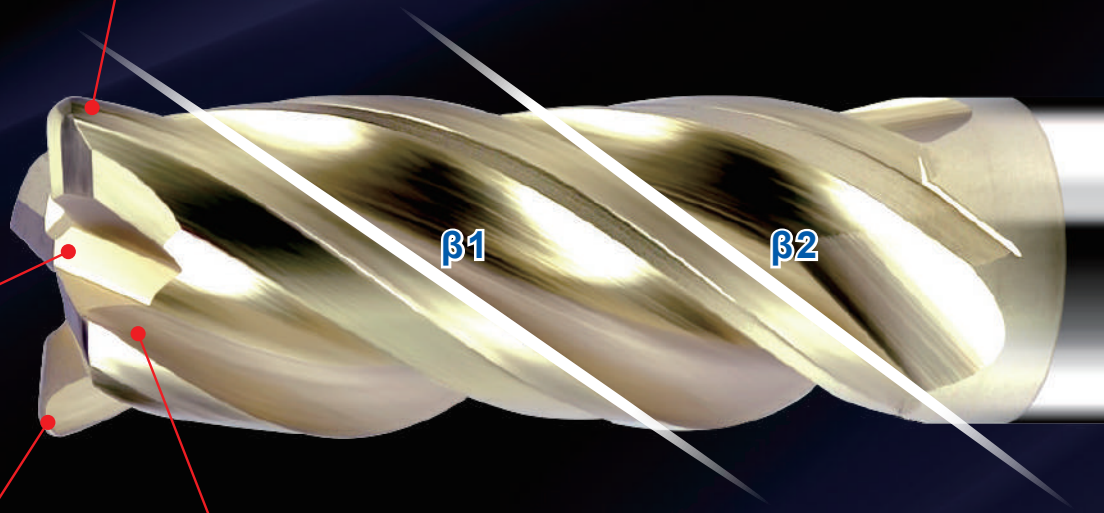
CMTéc

NEW

參閱 P.136~137

採用特殊不等距＆不等螺旋角設計，大幅降低切削時的震動，提升加工速度及穩定性。

Chattering is decreased dramatically with unequal flute spacing & nonequivalent helix angle, increase processing speed and stability.



適合粗、中、精加工。

Use for roughing cutting, semi finishing, finishing.

攻面寬與R角2種選擇。

Gash Land / Corner Radius Type.

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, release stress and improving rigidity of the tool.

THE NEW 高效型

METV

鈦合金之刀．駕馭領先未來

FOR TITANIUM ALLOYS

鈦合金、鎳基合金、3字頭不銹鋼、鋼材≦45°HRC加工應用！

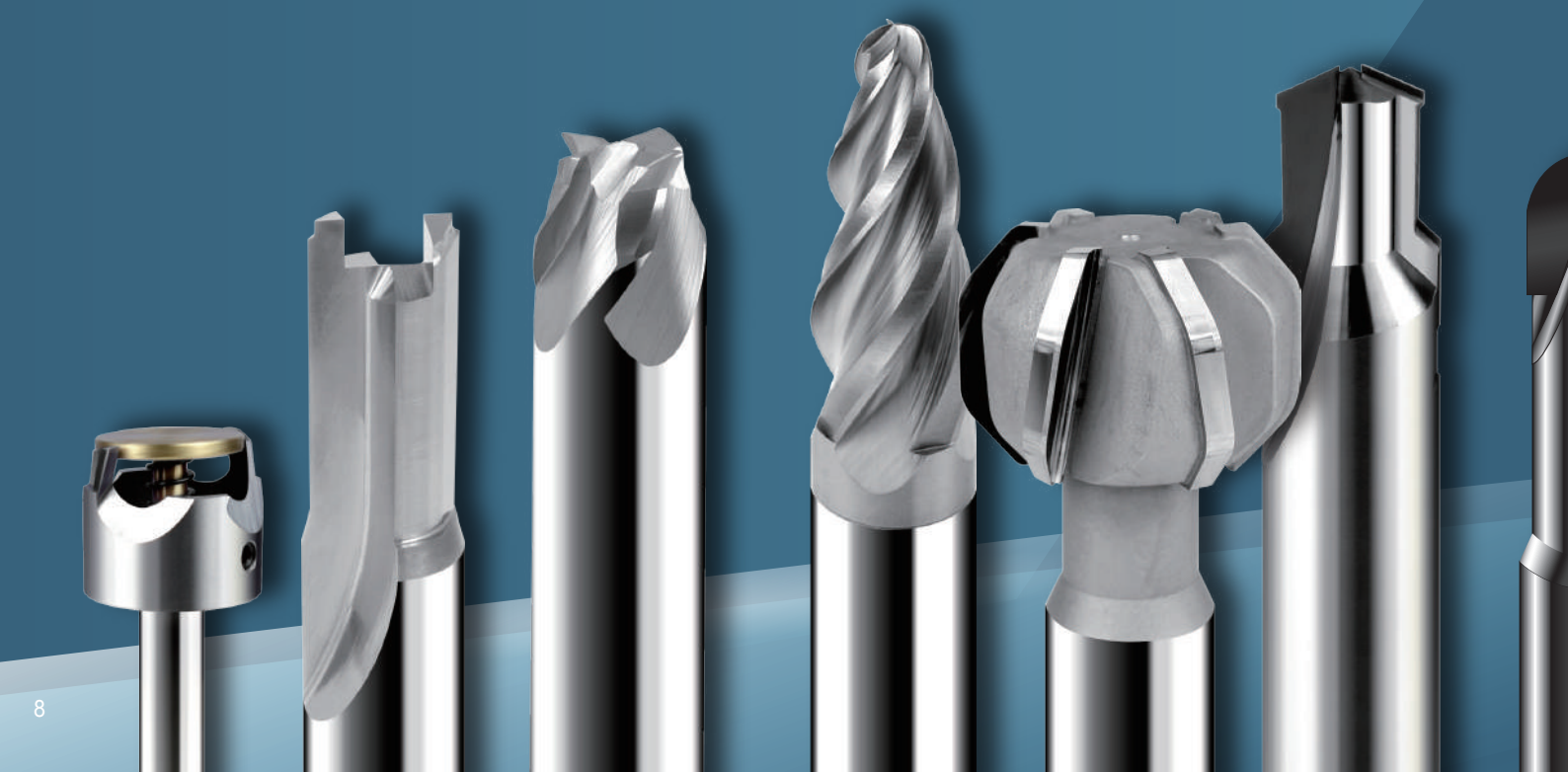
專業客製化成型刀具

CUSTOM TOOLS

景 明 堅 持 用 心 做 好 刀

CMTec PRECISION CUTTING TOOLS

鎢 鋼	刀 片	刀 桿	PCBN
CVD/MCD單晶鑽石		PCD聚晶鑽石	



1 專業　2 設計　3 製造

Professional · Design · Manufacturing

西門德克

景明以三十多年的精湛製刀技術，針對航太、汽車、機械、模具、電子和醫療等領域，依客戶不同加工材質、工序、型態訴求，提供客戶精準耐用之切削刀具。

Over 30 years of professional experiences, CMTec provides customer solutions based on the different needs of customers. The excellent quality tools are created for the industries of aerospace, automotive, machinery, mold, electronics, semiconductor, optics, health care, metal processing and so on.

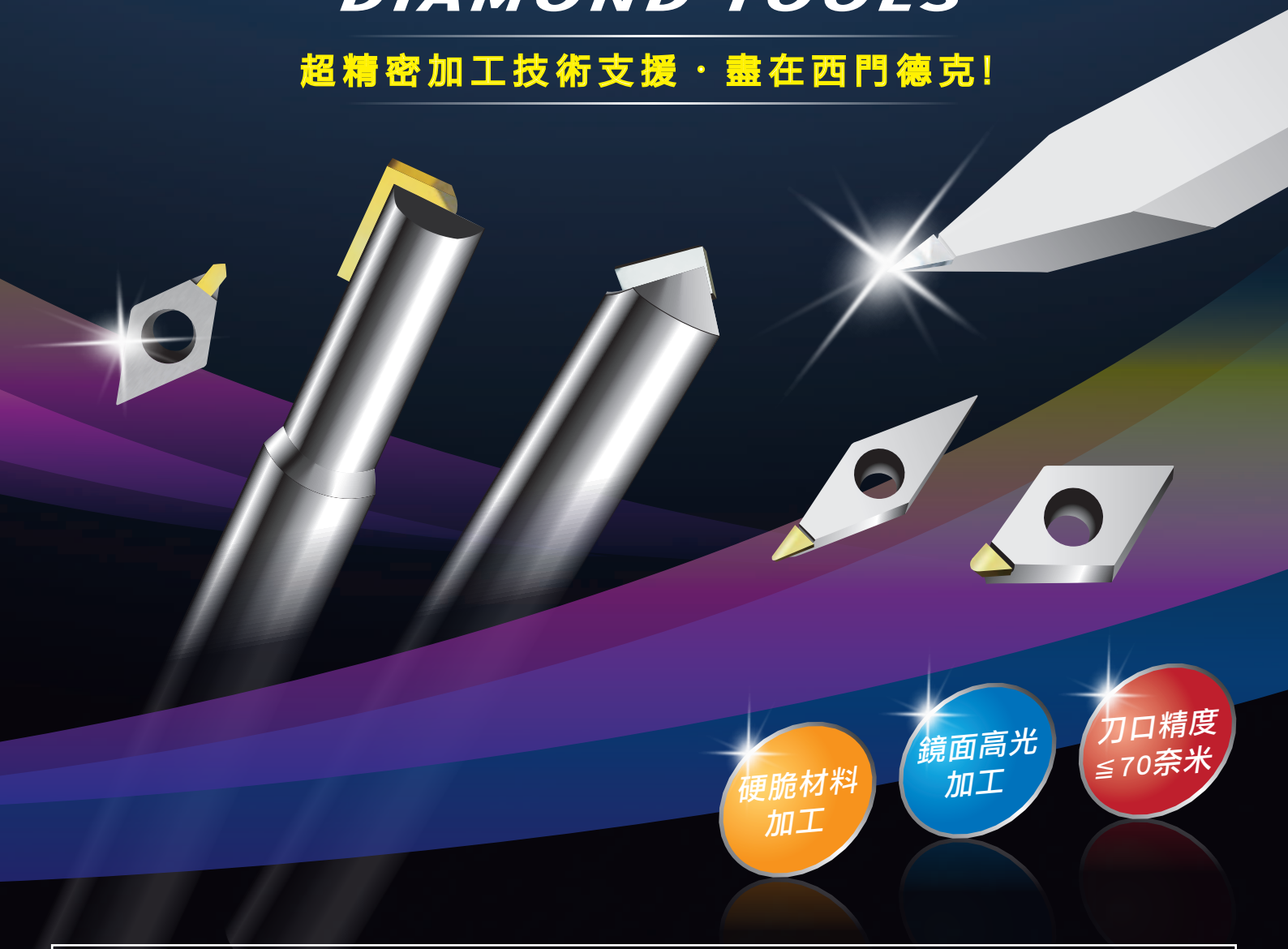
請E-Mail上傳您的刀具圖檔(DWG、PDF)與相關使用條件，以便後續作業，謝謝!

E-mail：business@cmtools.com.tw
TEL：886-6-7940726　FAX：886-6-7941217

CMTéc ×

單晶鑽石切削刀具
DIAMOND TOOLS

超精密加工技術支援・盡在西門德克!



硬脆材料加工

鏡面高光加工

刀口精度≦70奈米

UPC超精密刀具：
- 可加工出「奈米等級精度 ≦ 70nm」
- 高品質的鏡面高光面粗度
- 高科技＆光學產業加工最佳選擇

Ultra-Precision Cutting：
Nano-scale precision available waviness ≦ 70nm.
High quality mirror finishing.
The best choice for machining in high-tech industry and optical industry.

應用材質：硬脆材料-陶瓷(碳化矽、氧化鋯、氧化鋁、氮化矽)，金/銀/鋁/銅/鋅/鎂合金，石墨，碳纖維/玻璃纖維，木材，電木，壓克力，石頭，無電解鎳，鎢鋼。

Work Material：Ceramic, Gold / Silver / Aluminum / Copper / Zinc / Magnesium Alloy, Titanium Alloy, Graphite, Carbon Fiber / Glass Fiber, Wood, Bakelite, Acrylic, Stone, Electroless Nickel, Carbide.

CMTec 西門德克

PCBN

聚晶立方氮化硼車刀片

無堅不摧的高品質

熱處理高硬度鋼材(HRC45~65°)專用!

產品特色 | Features：

◎ 調質鋼HRC45~65° 車削專用車刀片。
For hardened steel (HRC45~65°) machining.

◎ 採用高品質PCBN材料，高硬度、高耐磨、高耐熱性。
We used high quality PCBN material for wear resistance and heat resistance.

◎ 特殊高剛性刀口設計，實現穩定加工，提升加工效率。
Special design makes stable and high efficiency.

◎ 100%台灣自製生產製造，尺寸規格完整、品質穩定。
100% made in Taiwan with full size and stable quality.

NEW

→ 參閱 P.435

可客製化非標&成型刀片/刀桿

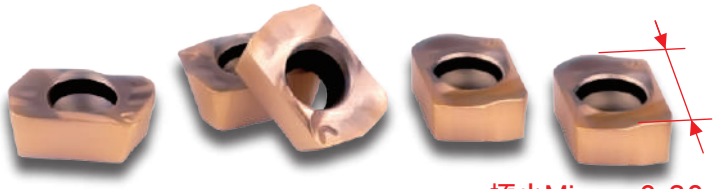
高硬度 | 高耐磨 | 高耐熱性

LPGX 小徑高進給銑刀

為效率而生 · 你值得擁有！

• 低切削阻力
• 高抗震
• 高效率!

Stable Machining with Greater Chatter Resistance!



極小\Micro=6.26mm

產品特色 | Features：

◎ 加工深度最高可達到0.5mm。
Productivity- High feed rates with axial depth of cut up to 0.5mm.

◎ 高進給銑削增加切屑排出量，提高生產力。
High Feed Milling- Increase chip removal capability and productivity.

◎ 低切削阻力和優異的抗震性能，實現高效率加工。
Low cutting resistance and outstanding anti-vibration for high efficiency milling.

◎ 提供小徑尺寸Φ10~16mm，適合各種零組件＆小型模具高進給加工使用。
Small diameter 10~16mm are offered, for all components and small mold high feed machining.

◎ 刀片內接圓R角1.2mm，提供客戶編程設定。
There are two inscribed circle diameter 1.2mm, providing customer with programming.

高效率加工測試
Performance Test

參閱 P.270

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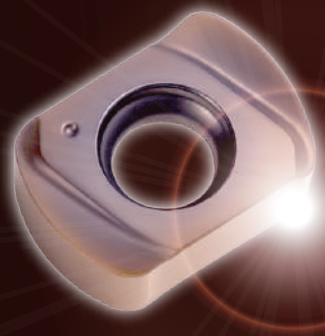
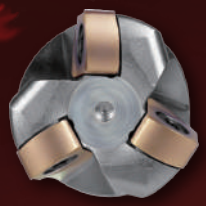


4 Corners Double-Sided

共 可 使 用 4 刃

超 快 桿



BNMX 超越快的極限

高效率　高壽命　可雙面使用

產品特色 Features

1 加工深度最高可達到1mm。
Productivity- High feed rates with axial depth of cut up to 1mm.

2 高進給銑削增加切屑排出量，提高生產力。
High Feed Milling- Increase chip removal capability and productivity.

3 低切削阻力和優異的抗震性能，實現高效率加工。
Low cutting resistance and outstanding anti-vibration for high efficiency milling.

4 搭載台灣自製低摩擦係數刀片，實現優異的排屑性能。
Taiwan self-made low friction coefficient inserts feature excellent chip disposal.

5 提供刃徑尺寸Φ16~100mm，適合各種零組件＆高硬模具高進給加工。
Diameter 16~100mm are offered, for all components and mold high feed machining.

Performance Test

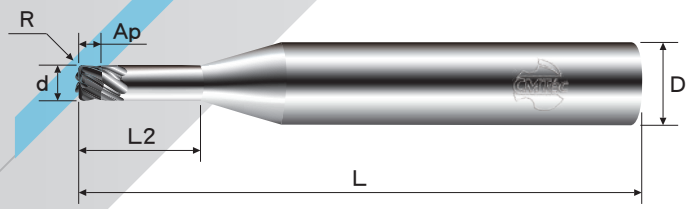
參閱 P.265~267

1 專業　2 設計　3 製造

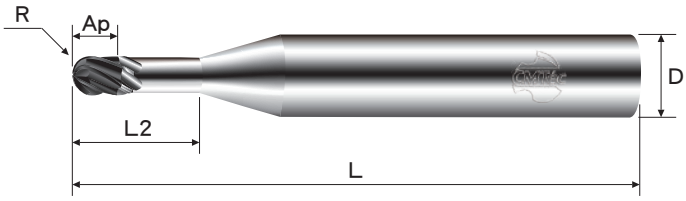
Professional・Design・Manufacturing

硬脆材料加工・最佳解決方案
Ultra-hard Material Machining

PCD微刃型螺旋銑刀 NEW
PCD Helix Flute End Mills- Multi-Flute



PCD圓鼻銑刀｜PCD Corner Radius End Mills



PCD球刀｜PCD Ball Nose End Mills

刃徑 d	公差 Tolerance
Φ	0 ~ -0.01

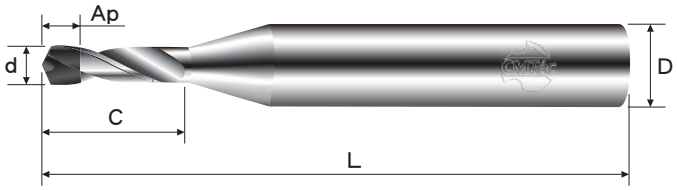
半徑 R	公差 Tolerance
R	±0.005

刀　型 Type	刃徑 d	半徑 R	PCD 層 Ap	有效長 L2	全長 L	柄徑 D	刃數 Flute
PCD 圓鼻銑刀 PCD Corner Radius	0.3 ~ 6.0	0.05 ~ 0.3R	≦ 1.8	依需求製作 Custom Order	50、60	3 ~ 6	3 ~ 57
PCD 球刀 PCD Ball Nose	0.4 ~ 6.0	0.2 ~ 3.0R	≦ 1.8	依需求製作 Custom Order	50、60	3 ~ 6	2

- 多刃設計降低切削阻力，實現高效率加工(高移除率)。
  Multi-flute decreases cutting resistance and makes high efficiency.
- 應用於鎢鋼，陶瓷(碳化矽、氧化鋯、氧化鋁、氮化矽)高精度加工。
  Applies to high precision machining of carbide and ceramics.

PCD螺旋刃鑽頭 NEW

PCD Helix Flute Drilling



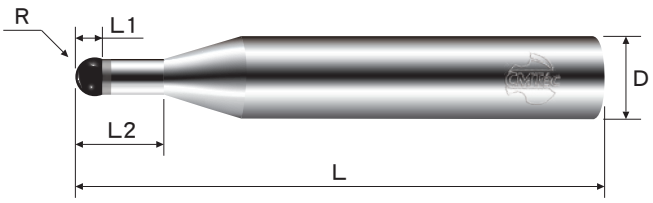
刃徑 d	公差 Tolerance
Φ	0 ~ -0.01

刀 型 Type	刃徑 d	溝長 C	全長 L	柄徑 D	刃數 Flute
PCD 鑽頭 PCD Drilling	0.3 ~ 3.0	依需求製作 Custom Order	50、60	3 ~ 6	2

▶ 應用於鎢鋼，陶瓷(碳化矽、氧化鋯、氧化鋁、氮化矽)，鋁/銅合金，石墨，碳纖維鑽孔加工。
For carbide, ceramics, aluminum, copper, graphite and carbon fiber drilling.

PCD滾光球刀 NEW

PCD Ball Rolling Cutter



Coming soon...

半徑 R	公差 Tolerance
R	±0.005

刀 型 Type	半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 Flute
PCD 滾光球刀 PCD Ball Rolling Cutter	0.15 ~ 3.0R	刃長跟半徑 R 一樣尺寸 Same as R	依需求製作 Custom Order	50、60	3 ~ 6	0

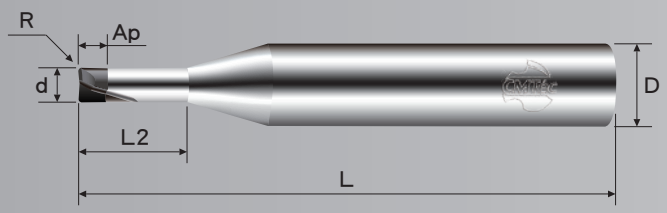
▶ 特殊刀口設計與高精度R角公差±0.005mm，實現高品質的鏡面高光加工面粗度。
Special cutting edge and high accuracy R of ±0.005mm realize high quality mirror polished machining.

▶ 應用於鎢鋼，高硬度鋼材(≦70HRC)鏡面高光加工。
Applies to carbide and hardened steel(≦70HRC) mirror polished machining.

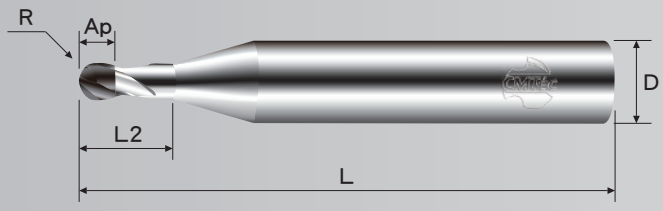
PCBN螺旋刃銑刀 NEW

PCBN Helix Flute End Mills

應用於熱處理高硬度鋼材HRC45~65°，粉末冶金(如高速鋼(調質過))加工。
For hardened steel(HRC45~65°) and powder metallurgy machining.



PCBN圓鼻銑刀 | PCBN Corner Radius End Mills



PCBN球刀 | PCBN Ball Nose End Mills

刃徑 d	公差 Tolerance
Φ	0 ~ -0.01

半徑 R	公差 Tolerance
R	±0.005

刀 型 Type	刃徑 d	半徑 R	PCBN 層 Ap	有效長 L2	全長 L	柄徑 D	刃數 Flute
PCBN 圓鼻銑刀 PCBN Corner Radius	0.3 ~ 6.0	0.05~0.5R	≦ 1.8	依需求製作 Custom Order	50、60	3 ~ 6	2
PCBN 球刀 PCBN Ball Nose	0.6 ~ 6.0	0.3 ~ 3.0R	≦ 1.8	依需求製作 Custom Order	50、60	3 ~ 6	2

S220
鎢鋼銑刀系列

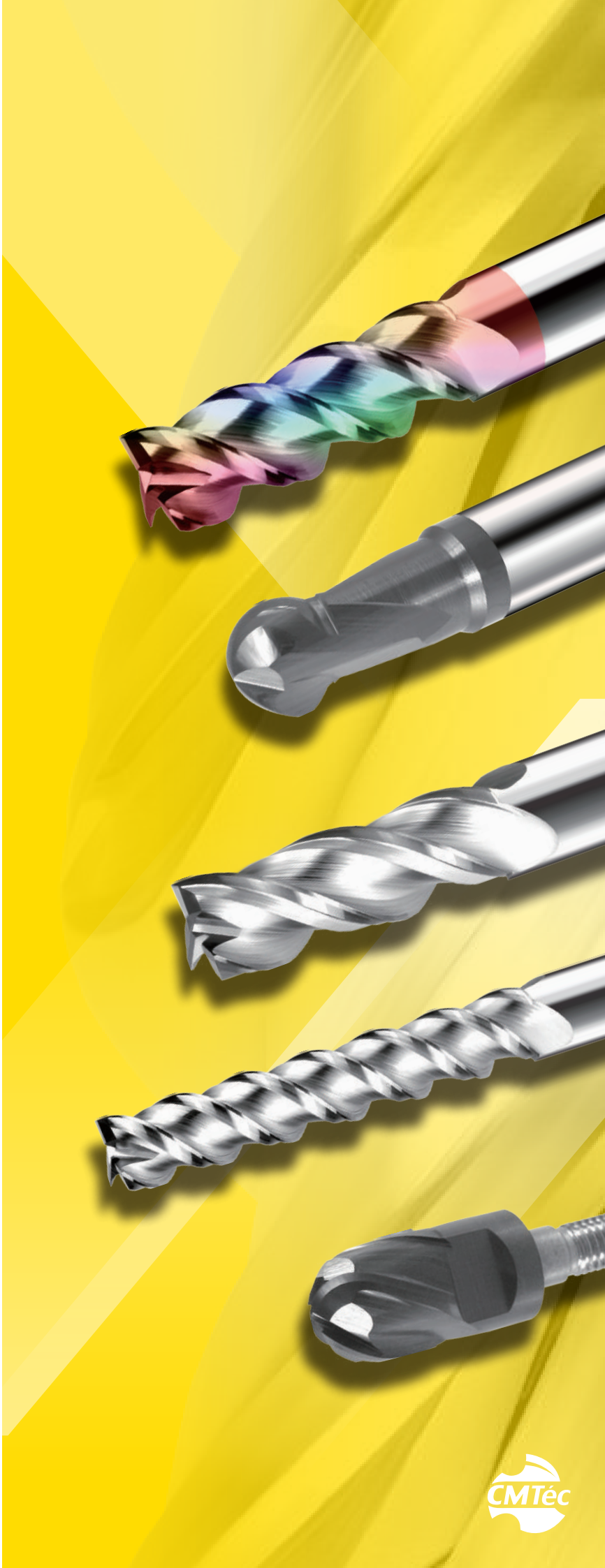
Micro Grain Carbide End Mills Series

泛用鋼材≦50HRC | 鑄鐵 | 鋁合金 / 銅合金

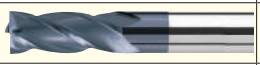
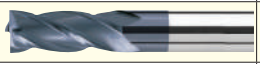
For general steel (≦50HRC), cast iron and aluminum/copper alloy machining.

零件加工專用刀具。
Cutting tools for parts and components processing.

包裝盒蓋 / 黃色
Color of S220 packaging box / Yellow



產品選擇表 Product Selection Table

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	26
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	28
鎢鋼抗震刀桿 Carbide Anti-Vibration Holder		LCL000-000L	同柄型 -Straight Shank		Ø8 ~ Ø32	29
		LCN000-000L-000E	頸型 -Neck		Ø11.7~Ø31.5	30
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	31
		CESM20000A			Ø0.2 ~ Ø4.0	31
		CES20000A	NEW SIZE		Ø1 ~ Ø25	32
	三刃 3 Flutes	CESM30000A			Ø2 ~ Ø4	33
		CES30000A			Ø2 ~ Ø16	33
	四刃 4 Flutes	CESS40000A			Ø1 ~ Ø3	34
		CESM40000A			Ø1 ~ Ø4	34
		CES40000A	NEW SIZE		Ø3 ~ Ø25	35
點數 / 英吋 平刀 Decimal / Inch Dia. Square	二刃 2 Flutes	CESM20000A	點數型 -Decimal Dia.		Ø1.1 ~ Ø3.9	36
		CES20000A	點數型 -Decimal Dia.		Ø1.1 ~ Ø10.9	37 ~ 39
		CEI20000A	英吋型 -Inch Dia.		Ø1.58~Ø12.7	40
(特)長刃平刀 (Extra) Long Flute Square	二刃 2 Flutes	CELFM20000A			Ø2 ~ Ø4	41
		CELF20000A			Ø3 ~ Ø25	41
		CEFF20000A	特長刃型 -Extra		Ø10 ~ Ø20	41
(特)長刃平刀 (Extra) Long Flute Square	四刃 4 Flutes	CELFM40000A			Ø1 ~ Ø4	42
		CELF40000A			Ø3 ~ Ø25	42
		CEFF40000A	特長刃型 -Extra		Ø10 ~ Ø20	42
長柄平刀 Long Shank Flute	二刃 2 Flutes	CELS20000A			Ø3 ~ Ø12	43
	四刃 4 Flutes	CELS40000A	NEW SIZE		Ø3 ~ Ø20	43

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
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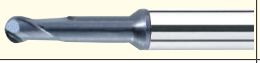
加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品選擇表 Product Selection Table

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.						
長頸平刀 Long Neck Square	二刃 2 Flutes	CEN20000000A			Ø1 ~ Ø4	44
	四刃 4 Flutes	CEN40000000A			Ø1 ~ Ø4	45
斜度平刀 Taper Square	二刃 2 Flutes	CETF2000000A			Ø1 ~ Ø10	46 ~ 48
平刀 Square	三刃 3 Flutes	CEH30000A	高導型 -High Helix		Ø3 ~ Ø20	49
	四刃 4 Flutes	CEHM40000A	高導型 -High Helix		Ø1 ~ Ø2	50
	四刃 4 Flutes	CEH40000A	高導型 -High Helix		Ø1 ~ Ø20	50
長刃平刀 Long Flute Square	四刃 4 Flutes	CEHF40000A	高導型 -High Helix		Ø3 ~ Ø20	51
平刀(粗精型) Semi-finishing	三刃 3 Flutes	CER30000A	高導型 -High Helix		Ø6 ~ Ø20	52
	四刃 4 Flutes	CER40000A	高導型 -High Helix		Ø6 ~ Ø20	52
粗銑平刀 Roughing Square	三刃 3 Flutes	CERR30000A			Ø6 ~ Ø20	53
	四刃 4 Flutes	CERR40000A			Ø6 ~ Ø20	53
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.						
球刀 Ball	二刃 2 Flutes	CEBS20000A	微小徑型 -Micro Dia.		0.1R ~ 1.5R	54
		CEBM20000A	微小徑型 -Micro Dia.		0.1R ~ 0.45R	54
		CEBM20000A	NEW SIZE		0.5R ~ 2.0R	55
		CEB20000A	NEW SIZE		0.5R ~ 10R	55
	三刃 3 Flutes	CEB30000A			1R ~ 10R	56
	四刃 4 Flutes	CEBM40000A			1R ~ 2R	57
		CEB40000A			3R ~ 8R	57
(特)長柄球刀 (Extra)Long Shank Ball	二刃 2 Flutes	CEBML20000A			0.5R ~ 2.0R	58
		CEBL20000A			1R ~ 10R	58
		CEBMLL20000A	特長柄型 -Extra		1R ~ 2R	59
		CEBLL20000A	特長柄型 -Extra		1R ~ 10R	59
長柄球刀 Long Shank Ball	四刃 4 Flutes	CEBML40000A			1R ~ 2R	60
		CEBL40000A			3R ~ 8R	60
長頸球刀 Long Neck Ball	二刃 2 Flutes	CEBN20000000A			0.5R ~ 2.0R	61
斜頸球刀 Taper Neck Ball	二刃 2 Flutes	CENL20000A			1R ~ 6R	62
	四刃 4 Flutes	CENL40000A			1R ~ 6R	62

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												A	B	C	D
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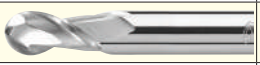
加工型態 Type of Finishing → A=超精銑 Bright Finishing B=精銑 Finishing C=中銑 Semi Finishing D=粗銑 Roughing

產品選擇表 Product Selection Table

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	63
球殼刀 Semi Sphere Ball	二刃 2 Flutes	CEO20000000A	球頭240° -Semi Sphere 240°		1R ~ 6R	64
		CEO20000000A	球頭270° -Semi Sphere 270° NEW		1R ~ 6R	65
	四刃 4 Flutes	CEO40000000A	球頭240° -Semi Sphere 240°		2.5 ~ 6.0R	66
圓鼻刀 Corner Radius	二刃 2 Flutes	CECRM2000000A	NEW SIZE		Ø1 ~ Ø4	67
		CECR2000000A			Ø4 ~ Ø12	67
	四刃 4 Flutes	CECR(M)4000000A	NEW SIZE		Ø1 ~ Ø12	68
長柄圓鼻刀 Long Shank Corner Radius	四刃 4 Flutes	CECL(M)4000000A	NEW SIZE		Ø3 ~ Ø12	69
斜頸圓鼻刀 Taper Neck Corner Radius	二刃 2 Flutes	CECNL2000000000A			Ø2 ~ Ø6	70
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	71
		CEXM20000	高導型 -High Helix		Ø1 ~ Ø2	71
		CEX20000	高導型 -High Helix		Ø3 ~ Ø20	71
	三刃 3 Flutes	CEXS30000	高導型 -High Helix		Ø3	72
		CEXM30000	高導型 -High Helix		Ø1 ~ Ø4	72
		CEX30000	高導型 -High Helix		Ø1 ~ Ø20	72
	三刃 3 Flutes	CEXX30000	高導型 -High Helix		Ø3 ~ Ø20	73
長刃平刀 Long Flute Square	三刃 3 Flutes	CEXHF(M)30000R	強力型 -Power Cutting NEW SIZE		Ø3 ~ Ø20	74
球刀 Ball	二刃 2 Flutes	CEXBM20000	高導型 -High Helix		1R ~ 2R	75
		CEXB20000	高導型 -High Helix NEW SIZE		1R ~ 8R	75
長柄球刀 Long Shank Ball	二刃 2 Flutes	CEXBL20000	高導型 -High Helix		1R ~ 8R	75
平刀(波浪型) Square(Sinus Edge-Wave)	三刃 3 Flutes	CEXRS30000	高導型 -High Helix		Ø6 ~ Ø20	76
平刀 Square	三刃 3 Flutes	CEXSH(M)30000R	強力型 -Power Cutting NEW SIZE		Ø2 ~ Ø20	77
圓鼻刀 Corner Radius	三刃 3 Flutes	CEXCRSH(M)30000	強力型 -Power Cutting		Ø2 ~ Ø20	78
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	79
		CEXV30000-C0000	高效倒角型 -High Performance-Chamfering		Ø3 ~ Ø16	80

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												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)	—	○	◎	◎
—	—	—	—	—	—	—	◎	◎	—	—	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

產品選擇表 Product Selection Table

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 and Aluminum Machining.						
平刀(波浪型) Square (Sinus Edge-Wave)	二刃 2 Flutes	CERS20000A			Ø6 ~ Ø12	81
	三刃 3 Flutes	CERS30000A			Ø6 ~ Ø20	81
	四刃 4 Flutes	CERS40000A			Ø6 ~ Ø20	81
平刀(強力型) Square (Power Cutting)	二刃 2 Flutes	CESH(M)20000F			Ø2 ~ Ø16	82
	四刃 4 Flutes	CESH(M)40000F			Ø2 ~ Ø16	82
	二刃 2 Flutes	CEHS(M)20000F	高導型 -High Helix		Ø2 ~ Ø16	83
	四刃 4 Flutes	CEHS(M)40000F	高導型 -High Helix		Ø2 ~ Ø16	83
平刀 Square	二刃 2 Flutes	CESCM20000-00A	螺旋角=25° -Helix Angle=25°		Ø0.5 ~ Ø 2.5	84
		CESC20000-00A			Ø3.0 ~ Ø12.0	84
		CESCM20000-00A	螺旋角=45° -Helix Angle=45°		Ø0.5 ~ Ø 2.5	84
		CESC20000-00A			Ø3.0 ~ Ø12.0	84
長刃平刀 Long Flute Square		CELFC20000-00A	螺旋角=25° -Helix Angle=25°		Ø3.0 ~ Ø12.0	85
		CELFC20000-00A	螺旋角=45° -Helix Angle=45°		Ø3.0 ~ Ø12.0	85
球刀 Ball	二刃 2 Flutes	CEBCM20000A			0.5R ~ 0.75R	86
		CEBC20000A			1R ~ 6R	86
長頸球刀 Long Neck Ball	二刃 2 Flutes	CEBNCM20000A			0.5R ~ 1.0R	87
		CEBNC20000A			1.5R ~ 6.0R	87
應用於石墨加工 For Graphite Machining.						
平刀 Square	二刃 2 Flutes	CESG(M)20000A			Ø1 ~ Ø12	88
	四刃 4 Flutes	CESG(M)40000A			Ø2 ~ Ø12	89
球刀 Ball	二刃 2 Flutes	CEBG(M)20000A			0.5R ~ 6.0R	90

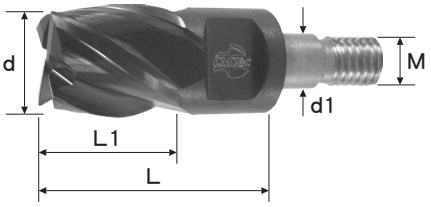
碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												A	B	C	D
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)	—	◎	◎	○
—	—	—	—	—	—	—	—	—	◎	—	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

鎖牙式- S220 鎢鋼平銑刀頭- 標準型- 4刃

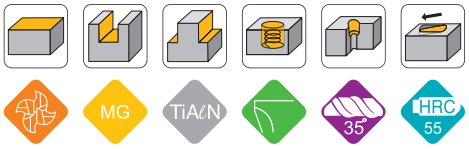
THREAD- S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 4F

· CHS40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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切 削 實 例
CUT EXAMPLES

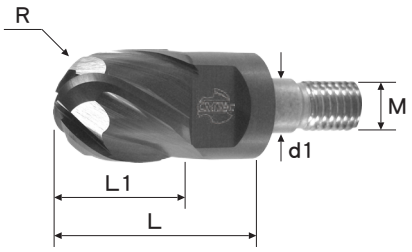
刃徑 d	刃長 L1	全長 L	螺紋M Thread	d1	刃數 F	扳手 編號 Wrench	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
8.0	8	17.0	M4×0.7	4.5	4	TC06	CHS40800	CHS40800A
10.0	10	20.0	M5×0.8	5.5	4	TC07	CHS41000	CHS41000A
12.0	12	23.2	M6×1.0	6.5	4	TC08	CHS41200	CHS41200A
16.0	16	30.0	M8×1.25	8.5	4	TC11	CHS41600	CHS41600A
20.0	20	37.2	M10×1.5	10.5	4	TC15	CHS42000	CHS42000A
25.0	25	44.7	M12×1.75	12.5	4	TC19	CHS42500	CHS42500A
32.0	32	55.2	M16×2.0	17.0	4	TC24	CHS43200	CHS43200A

➡ 搭配刀桿 Holder P.029, 030
➡ 切削條件表 Cutting Condition P.606
➡ 技術資料 Technical Data P.622

鎖牙式- S220 鎢鋼球型銑刀頭- 標準型- 4刃

THREAD- S220 MICRO GRAIN CARBIDE END MILLS- Ball Nose- 4F

· CHB40000A



半徑 R	公差 Tolerance
R	±0.02

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

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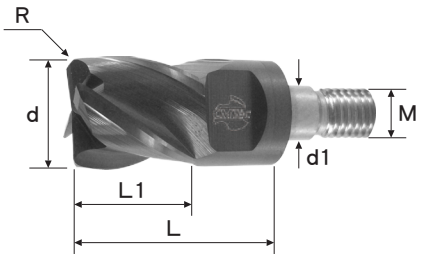
半徑 R	刃長 L1	全長 L	螺紋M Thread	d1	刃數 F	扳手 編號 Wrench	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
4.0R	8	17.0	M4×0.7	4.5	4	TC06	CHB40400	CHB40400A
5.0R	10	20.0	M5×0.8	5.5	4	TC07	CHB40500	CHB40500A
6.0R	12	23.2	M6×1.0	6.5	4	TC08	CHB40600	CHB40600A
8.0R	16	30.0	M8×1.25	8.5	4	TC11	CHB40800	CHB40800A
10.0R	20	37.2	M10×1.5	10.5	4	TC15	CHB41000	CHB41000A
12.5R	25	44.7	M12×1.75	12.5	4	TC19	CHB41250	CHB41250A

➡ 搭配刀桿 Holder P.029, 030
➡ 切削條件表 Cutting Condition P.607
➡ 技術資料 Technical Data P.622

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

· CHCR4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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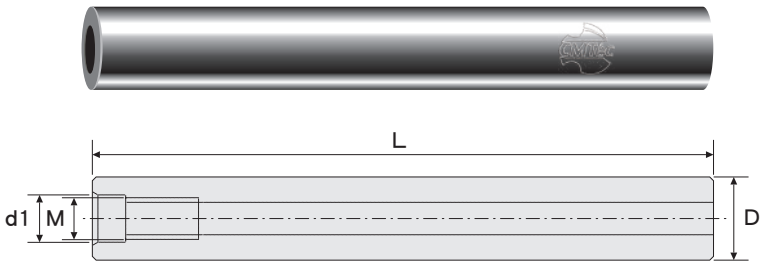
刃徑 d	R角 R	刃長 L1	全長 L	螺紋M Thread	d1	刃數 F	扳手 編號 Wrench	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
8.0	0.5R	8	17.0	M4×0.7	4.5	4	TC06	CHCR4080005	CHCR4080005A
8.0	1.0R	8	17.0	M4×0.7	4.5	4	TC06	CHCR4080010	CHCR4080010A
8.0	2.0R	8	17.0	M4×0.7	4.5	4	TC06	CHCR4080020	CHCR4080020A
10.0	0.5R	10	20.0	M5×0.8	5.5	4	TC07	CHCR4100005	CHCR4100005A
10.0	1.0R	10	20.0	M5×0.8	5.5	4	TC07	CHCR4100010	CHCR4100010A
10.0	2.0R	10	20.0	M5×0.8	5.5	4	TC07	CHCR4100020	CHCR4100020A
12.0	1.0R	12	23.2	M6×1.0	6.5	4	TC08	CHCR4120010	CHCR4120010A
12.0	2.0R	12	23.2	M6×1.0	6.5	4	TC08	CHCR4120020	CHCR4120020A
12.0	3.0R	12	23.2	M6×1.0	6.5	4	TC08	CHCR4120030	CHCR4120030A
16.0	1.0R	16	30.0	M8×1.25	8.5	4	TC11	CHCR4160010	CHCR4160010A
16.0	2.0R	16	30.0	M8×1.25	8.5	4	TC11	CHCR4160020	CHCR4160020A
16.0	3.0R	16	30.0	M8×1.25	8.5	4	TC11	CHCR4160030	CHCR4160030A
20.0	2.0R	20	37.2	M10×1.5	10.5	4	TC15	CHCR4200020	CHCR4200020A
20.0	3.0R	20	37.2	M10×1.5	10.5	4	TC15	CHCR4200030	CHCR4200030A
20.0	4.0R	20	37.2	M10×1.5	10.5	4	TC15	CHCR4200040	CHCR4200040A

搭配刀桿 Holder P.029, 030 切削條件表 Cutting Condition P.606 技術資料 Technical Data P.622

鎢鋼抗震刀桿

CARBIDE ANTI- VIBRATION HOLDER

· LCL000-000L



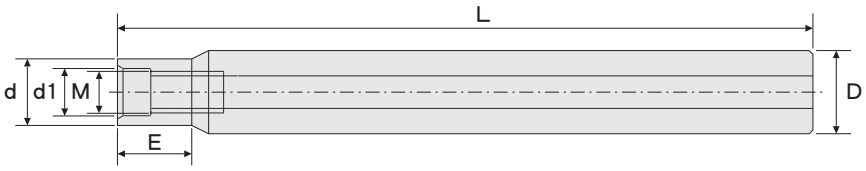
MG

螺紋M Thread	柄徑 D	全長 L	d1	訂購編號 Order No.
M4 × 0.7	8	60	4.5	LCL008-060L
M4 × 0.7	8	100	4.5	LCL008-100L
M4 × 0.7	8	120	4.5	LCL008-120L
M5 × 0.8	10	75	5.5	LCL010-075L
M5 × 0.8	10	100	5.5	LCL010-100L
M5 × 0.8	10	150	5.5	LCL010-150L
M6 × 1.0	12	75	6.5	LCL012-075L
M6 × 1.0	12	100	6.5	LCL012-100L
M6 × 1.0	12	150	6.5	LCL012-150L
M6 × 1.0	12	200	6.5	LCL012-200L
M8 × 1.25	16	100	8.5	LCL016-100L
M8 × 1.25	16	150	8.5	LCL016-150L
M8 × 1.25	16	200	8.5	LCL016-200L
M8 × 1.25	16	250	8.5	LCL016-250L
M10 × 1.5	20	100	10.5	LCL020-100L
M10 × 1.5	20	150	10.5	LCL020-150L
M10 × 1.5	20	200	10.5	LCL020-200L
M10 × 1.5	20	250	10.5	LCL020-250L
M10 × 1.5	20	300	10.5	LCL020-300L
M12 × 1.75	25	100	12.5	LCL025-100L
M12 × 1.75	25	150	12.5	LCL025-150L
M12 × 1.75	25	200	12.5	LCL025-200L
M12 × 1.75	25	250	12.5	LCL025-250L
M12 × 1.75	25	300	12.5	LCL025-300L
M16 × 2.0	32	100	17.0	LCL032-100L
M16 × 2.0	32	150	17.0	LCL032-150L
M16 × 2.0	32	200	17.0	LCL032-200L
M16 × 2.0	32	250	17.0	LCL032-250L
M16 × 2.0	32	300	17.0	LCL032-300L

鎢鋼抗震刀桿- 頸型

CARBIDE ANTI- VIBRATION HOLDER- NECK

· LCN000-000L-000E



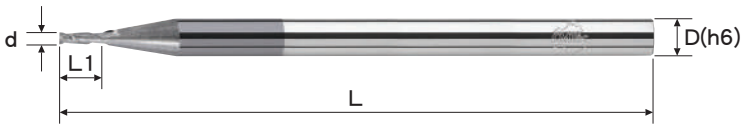
MG

螺紋M Thread	刃徑 d	d1	有效長 E	全長 L	柄徑 D	訂購編號 Order No.
M6 × 1.0	11.7	6.5	30	75	12	LCN011-075L-030E
M6 × 1.0	11.7	6.5	40	100	12	LCN011-100L-040E
M6 × 1.0	11.7	6.5	50	150	12	LCN011-150L-050E
M8 × 1.25	15.7	8.5	40	100	16	LCN015-100L-040E
M8 × 1.25	15.7	8.5	50	150	16	LCN015-150L-050E
M10 × 1.5	19.5	10.5	40	100	20	LCN019-100L-040E
M10 × 1.5	19.5	10.5	50	150	20	LCN019-150L-050E
M10 × 1.5	19.5	10.5	60	200	20	LCN019-200L-060E
M12 × 1.75	24.5	12.5	40	100	25	LCN024-100L-040E
M12 × 1.75	24.5	12.5	50	150	25	LCN024-150L-050E
M12 × 1.75	24.5	12.5	60	200	25	LCN024-200L-060E
M12 × 1.75	24.5	12.5	80	250	25	LCN024-250L-080E
M16 × 2.0	31.5	17.0	40	100	32	LCN031-100L-040E
M16 × 2.0	31.5	17.0	50	150	32	LCN031-150L-050E
M16 × 2.0	31.5	17.0	60	200	32	LCN031-200L-060E
M16 × 2.0	31.5	17.0	80	250	32	LCN031-250L-080E

S220 鎢鋼平銑刀- 微柄/小柄型- 2刃

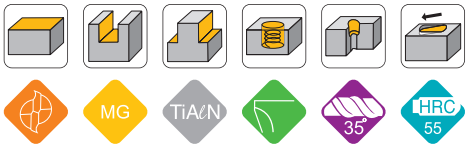
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Micro Diameter- 2F

- CESS20000A
- CESM20000A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.02

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



01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.2	0.4	50	3	2	CESS20020	CESS20020A
0.25	0.5	50	3	2	CESS20025	CESS20025A
0.3	0.6	50	3	2	CESS20030	CESS20030A
0.35	0.7	50	3	2	CESS20035	CESS20035A
0.4	0.8	50	3	2	CESS20040	CESS20040A
0.5	1.0	50	3	2	CESS20050	CESS20050A
0.6	1.5	50	3	2	CESS20060	CESS20060A
0.7	2.0	50	3	2	CESS20070	CESS20070A
0.8	2.0	50	3	2	CESS20080	CESS20080A
0.9	2.0	50	3	2	CESS20090	CESS20090A
1.0	3.0	50	3	2	CESS20100	CESS20100A
1.5	4.0	50	3	2	CESS20150	CESS20150A
2.0	5.0	50	3	2	CESS20200	CESS20200A
2.5	6.0	50	3	2	CESS20250	CESS20250A
3.0	8.0	50	3	2	CESS20300	CESS20300A
0.2	0.4	50	4	2	CESM20020	CESM20020A
0.25	0.5	50	4	2	CESM20025	CESM20025A
0.3	0.6	50	4	2	CESM20030	CESM20030A
0.35	0.7	50	4	2	CESM20035	CESM20035A
0.4	0.8	50	4	2	CESM20040	CESM20040A
0.5	1.0	50	4	2	CESM20050	CESM20050A
0.6	1.5	50	4	2	CESM20060	CESM20060A
0.7	2.0	50	4	2	CESM20070	CESM20070A
0.8	2.0	50	4	2	CESM20080	CESM20080A
0.9	2.0	50	4	2	CESM20090	CESM20090A
1.0	3.0	50	4	2	CESM20100	CESM20100A
1.5	4.0	50	4	2	CESM20150	CESM20150A
2.0	5.0	50	4	2	CESM20200	CESM20200A
2.5	6.0	50	4	2	CESM20250	CESM20250A
3.0	8.0	50	4	2	CESM20300	CESM20300A
3.5	9.0	50	4	2	CESM20350	CESM20350A
4.0	10.0	50	4	2	CESM20400	CESM20400A

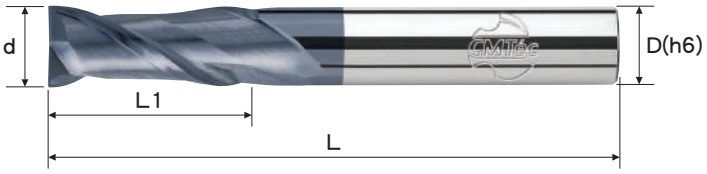
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 標準型- 2刃

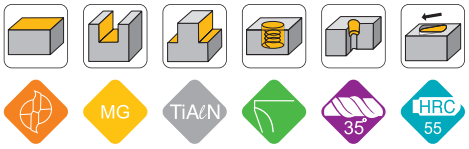
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F

· CES20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



01

NEW SIZE

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	3	50	6	2	CES20100	CES20100A
1.5	4	50	6	2	CES20150	CES20150A
2.0	5	50	6	2	CES20200	CES20200A
2.5	6	50	6	2	CES20250	CES20250A
3.0	8	50	6	2	CES20300	CES20300A
3.5	9	50	6	2	CES20350	CES20350A
4.0	10	50	6	2	CES20400	CES20400A
4.0	12	50	6	2	CES20400120C	CES20400120CA
4.5	11	50	6	2	CES20450	CES20450A
5.0	13	50	6	2	CES20500	CES20500A
5.5	14	50	6	2	CES20550	CES20550A
6.0	15	50	6	2	CES20600	CES20600A
6.0	18	50	6	2	CES20600180C	CES20600180CA
6.5	16	60	8	2	CES20650	CES20650A
7.0	18	60	8	2	CES20700	CES20700A
7.5	18	60	8	2	CES20750	CES20750A
8.0	20	60	8	2	CES20800	CES20800A
8.0	24	60	8	2	CES20800240C	CES20800240CA
8.5	20	75	10	2	CES20850	CES20850A
9.0	22	75	10	2	CES20900	CES20900A
9.5	22	75	10	2	CES20950	CES20950A
10.0	25	75	10	2	CES21000	CES21000A
10.0	30	75	10	2	CES21000300C	CES21000300CA
10.5	25	75	12	2	CES21050	CES21050A
11.0	25	75	12	2	CES21100	CES21100A
11.5	25	75	12	2	CES21150	CES21150A
12.0	30	75	12	2	CES21200	CES21200A
12.0	36	75	12	2	CES21200360C	CES21200360CA
13.0	30	75	14	2	CES2130014	CES2130014A
14.0	30	75	14	2	CES2140014	CES2140014A
15.0	35	100	16	2	CES21500	CES21500A
16.0	35	100	16	2	CES21600	CES21600A
16.0	45	100	16	2	CES21600450C	CES21600450CA
18.0	40	100	18	2	CES2180018	CES2180018A
18.0	40	100	20	2	CES21800	CES21800A
20.0	45	100	20	2	CES22000	CES22000A
25.0	45	100	25	2	CES22500	CES22500A

※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

→ 切削條件表 Cutting Condition P.534
→ 技術資料 Technical Data P.622

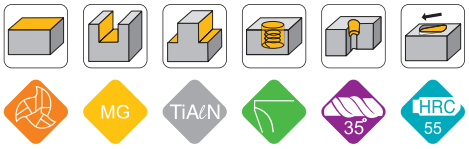
S220 鎢鋼平銑刀- 小柄型/標準型- 3刃

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

· CESM3□□□□A
· CES3□□□□A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



02

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	3	CESM30200	CESM30200A
2.5	6	50	4	3	CESM30250	CESM30250A
3.0	8	50	4	3	CESM30300	CESM30300A
3.5	9	50	4	3	CESM30350	CESM30350A
4.0	10	50	4	3	CESM30400	CESM30400A
2.0	5	50	6	3	CES30200	CES30200A
2.5	6	50	6	3	CES30250	CES30250A
3.0	8	50	6	3	CES30300	CES30300A
3.5	9	50	6	3	CES30350	CES30350A
4.0	10	50	6	3	CES30400	CES30400A
4.5	11	50	6	3	CES30450	CES30450A
5.0	13	50	6	3	CES30500	CES30500A
5.5	14	50	6	3	CES30550	CES30550A
6.0	15	50	6	3	CES30600	CES30600A
6.5	16	60	8	3	CES30650	CES30650A
7.0	18	60	8	3	CES30700	CES30700A
7.5	18	60	8	3	CES30750	CES30750A
8.0	20	60	8	3	CES30800	CES30800A
8.5	20	75	10	3	CES30850	CES30850A
9.0	22	75	10	3	CES30900	CES30900A
9.5	22	75	10	3	CES30950	CES30950A
10.0	25	75	10	3	CES31000	CES31000A
10.5	25	75	12	3	CES31050	CES31050A
11.0	25	75	12	3	CES31100	CES31100A
11.5	25	75	12	3	CES31150	CES31150A
12.0	30	75	12	3	CES31200	CES31200A
13.0	30	75	14	3	CES3130014	CES3130014A
14.0	30	75	14	3	CES3140014	CES3140014A
15.0	35	100	16	3	CES31500	CES31500A
16.0	35	100	16	3	CES31600	CES31600A

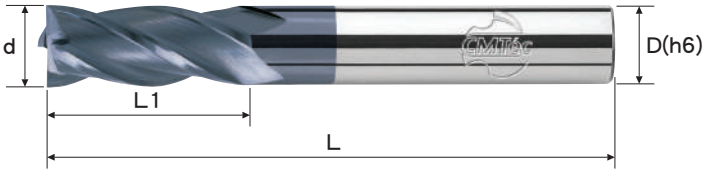
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 微柄/小柄型- 4刃

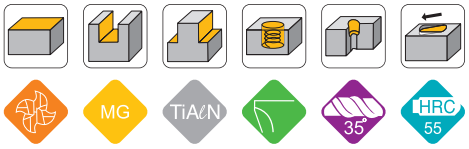
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 4F

- CESS4□□□□A
- CESM4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



02

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	3	50	3	4	CESS40100	CESS40100A
1.5	4	50	3	4	CESS40150	CESS40150A
2.0	5	50	3	4	CESS40200	CESS40200A
2.5	6	50	3	4	CESS40250	CESS40250A
3.0	8	50	3	4	CESS40300	CESS40300A
1.0	3	50	4	4	CESM40100	CESM40100A
1.5	4	50	4	4	CESM40150	CESM40150A
2.0	5	50	4	4	CESM40200	CESM40200A
2.5	6	50	4	4	CESM40250	CESM40250A
3.0	8	50	4	4	CESM40300	CESM40300A
3.5	9	50	4	4	CESM40350	CESM40350A
4.0	10	50	4	4	CESM40400	CESM40400A

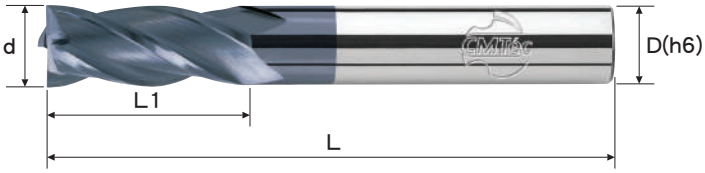
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 標準型- 4刃

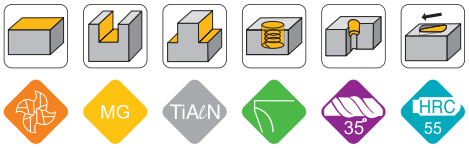
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 4F

· CES40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



02

NEW SIZE

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	4	CES40300	CES40300A
3.0	9	50	6	4	CES40300090C	CES40300090CA
3.5	9	50	6	4	CES40350	CES40350A
4.0	10	50	6	4	CES40400	CES40400A
4.0	12	50	6	4	CES40400120C	CES40400120CA
4.5	11	50	6	4	CES40450	CES40450A
5.0	13	50	6	4	CES40500	CES40500A
5.5	14	50	6	4	CES40550	CES40550A
6.0	15	50	6	4	CES40600	CES40600A
6.0	18	50	6	4	CES40600180C	CES40600180CA
6.5	16	60	8	4	CES40650	CES40650A
7.0	18	60	8	4	CES40700	CES40700A
7.5	18	60	8	4	CES40750	CES40750A
8.0	20	60	8	4	CES40800	CES40800A
8.0	24	60	8	4	CES40800240C	CES40800240CA
8.0	20	75	8	4	CES40800075L	CES40800075LA
8.5	20	75	10	4	CES40850	CES40850A
9.0	22	75	10	4	CES40900	CES40900A
9.5	22	75	10	4	CES40950	CES40950A
10.0	25	75	10	4	CES41000	CES41000A
10.0	30	75	10	4	CES41000300C	CES41000300CA
10.5	25	75	12	4	CES41050	CES41050A
11.0	25	75	12	4	CES41100	CES41100A
11.5	25	75	12	4	CES41150	CES41150A
12.0	30	75	12	4	CES41200	CES41200A
12.0	36	75	12	4	CES41200360C	CES41200360CA
13.0	30	75	14	4	CES4130014	CES4130014A
14.0	30	75	14	4	CES4140014	CES4140014A
15.0	35	100	16	4	CES41500	CES41500A
16.0	35	100	16	4	CES41600	CES41600A
16.0	45	100	16	4	CES41600450C	CES41600450CA
18.0	40	100	18	4	CES4180018	CES4180018A
18.0	40	100	20	4	CES41800	CES41800A
20.0	45	100	20	4	CES42000	CES42000A
25.0	45	100	25	4	CES42500	CES42500A

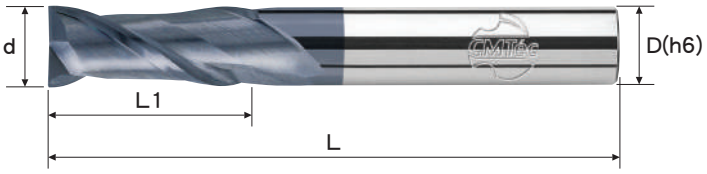
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 小柄點數型- 2刃

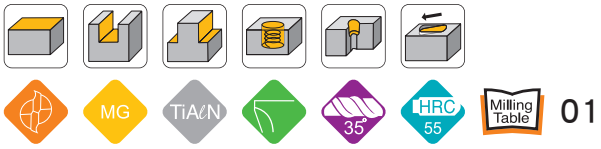
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F- Decimal Diameter

· CESM20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.03

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



01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.1	3	50	4	2	CESM20110	CESM20110A
1.2	3	50	4	2	CESM20120	CESM20120A
1.3	3	50	4	2	CESM20130	CESM20130A
1.4	3	50	4	2	CESM20140	CESM20140A
1.6	4	50	4	2	CESM20160	CESM20160A
1.7	4	50	4	2	CESM20170	CESM20170A
1.8	4	50	4	2	CESM20180	CESM20180A
1.9	4	50	4	2	CESM20190	CESM20190A
2.1	5	50	4	2	CESM20210	CESM20210A
2.2	5	50	4	2	CESM20220	CESM20220A
2.3	5	50	4	2	CESM20230	CESM20230A
2.4	5	50	4	2	CESM20240	CESM20240A
2.6	6	50	4	2	CESM20260	CESM20260A
2.7	6	50	4	2	CESM20270	CESM20270A
2.8	6	50	4	2	CESM20280	CESM20280A
2.9	6	50	4	2	CESM20290	CESM20290A
3.1	8	50	4	2	CESM20310	CESM20310A
3.2	8	50	4	2	CESM20320	CESM20320A
3.3	8	50	4	2	CESM20330	CESM20330A
3.4	8	50	4	2	CESM20340	CESM20340A
3.6	9	50	4	2	CESM20360	CESM20360A
3.7	9	50	4	2	CESM20370	CESM20370A
3.8	9	50	4	2	CESM20380	CESM20380A
3.9	9	50	4	2	CESM20390	CESM20390A

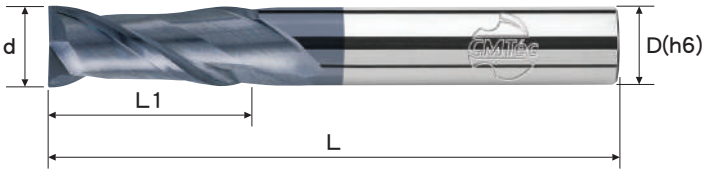
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 點數型- 2刃

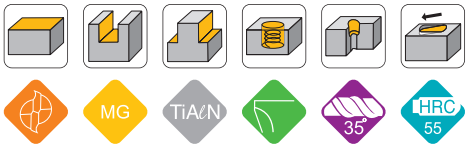
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F- Decimal Diameter

· CES20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.03

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



01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.1	3	50	6	2	CES20110	CES20110A
1.2	3	50	6	2	CES20120	CES20120A
1.3	3	50	6	2	CES20130	CES20130A
1.4	3	50	6	2	CES20140	CES20140A
1.6	4	50	6	2	CES20160	CES20160A
1.7	4	50	6	2	CES20170	CES20170A
1.8	4	50	6	2	CES20180	CES20180A
1.9	4	50	6	2	CES20190	CES20190A
2.1	5	50	6	2	CES20210	CES20210A
2.2	5	50	6	2	CES20220	CES20220A
2.3	5	50	6	2	CES20230	CES20230A
2.4	5	50	6	2	CES20240	CES20240A
2.6	6	50	6	2	CES20260	CES20260A
2.7	6	50	6	2	CES20270	CES20270A
2.8	6	50	6	2	CES20280	CES20280A
2.9	6	50	6	2	CES20290	CES20290A
3.1	8	50	6	2	CES20310	CES20310A
3.2	8	50	6	2	CES20320	CES20320A
3.3	8	50	6	2	CES20330	CES20330A
3.4	8	50	6	2	CES20340	CES20340A
3.6	9	50	6	2	CES20360	CES20360A
3.7	9	50	6	2	CES20370	CES20370A
3.8	9	50	6	2	CES20380	CES20380A
3.9	9	50	6	2	CES20390	CES20390A

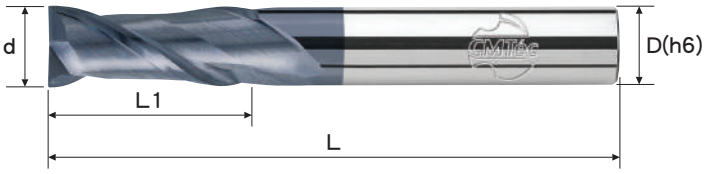
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 點數型- 2刃

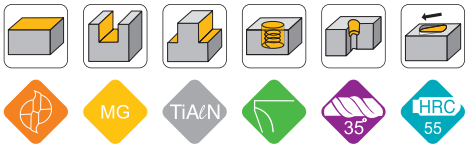
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F- Decimal Diameter

· CES20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.03

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



01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
4.1	10	50	6	2	CES20410	CES20410A
4.2	10	50	6	2	CES20420	CES20420A
4.3	10	50	6	2	CES20430	CES20430A
4.4	11	50	6	2	CES20440	CES20440A
4.6	11	50	6	2	CES20460	CES20460A
4.7	11	50	6	2	CES20470	CES20470A
4.8	11	50	6	2	CES20480	CES20480A
4.9	11	50	6	2	CES20490	CES20490A
5.1	13	50	6	2	CES20510	CES20510A
5.2	13	50	6	2	CES20520	CES20520A
5.3	13	50	6	2	CES20530	CES20530A
5.4	13	50	6	2	CES20540	CES20540A
5.6	14	50	6	2	CES20560	CES20560A
5.7	14	50	6	2	CES20570	CES20570A
5.8	14	50	6	2	CES20580	CES20580A
5.9	14	50	6	2	CES20590	CES20590A
6.1	15	60	8	2	CES20610	CES20610A
6.2	15	60	8	2	CES20620	CES20620A
6.3	15	60	8	2	CES20630	CES20630A
6.4	15	60	8	2	CES20640	CES20640A
6.6	16	60	8	2	CES20660	CES20660A
6.7	16	60	8	2	CES20670	CES20670A
6.8	16	60	8	2	CES20680	CES20680A
6.9	16	60	8	2	CES20690	CES20690A
7.1	18	60	8	2	CES20710	CES20710A
7.2	18	60	8	2	CES20720	CES20720A
7.3	18	60	8	2	CES20730	CES20730A
7.4	18	60	8	2	CES20740	CES20740A

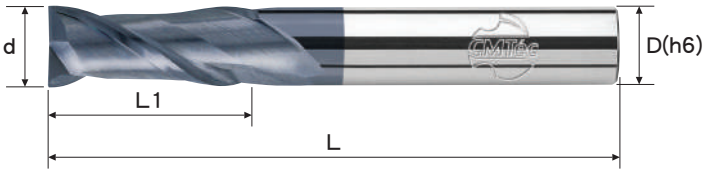
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 點數型- 2刃

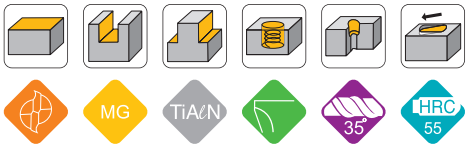
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F- Decimal Diameter

· CES20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.03

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



01

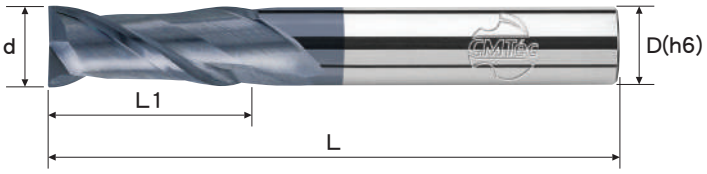
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
7.6	18	60	8	2	CES20760	CES20760A
7.7	18	60	8	2	CES20770	CES20770A
7.8	18	60	8	2	CES20780	CES20780A
7.9	18	60	8	2	CES20790	CES20790A
8.1	20	75	10	2	CES20810	CES20810A
8.2	20	75	10	2	CES20820	CES20820A
8.3	20	75	10	2	CES20830	CES20830A
8.4	20	75	10	2	CES20840	CES20840A
8.6	20	75	10	2	CES20860	CES20860A
8.7	20	75	10	2	CES20870	CES20870A
8.8	20	75	10	2	CES20880	CES20880A
8.9	20	75	10	2	CES20890	CES20890A
9.1	22	75	10	2	CES20910	CES20910A
9.2	22	75	10	2	CES20920	CES20920A
9.3	22	75	10	2	CES20930	CES20930A
9.4	22	75	10	2	CES20940	CES20940A
9.6	22	75	10	2	CES20960	CES20960A
9.7	22	75	10	2	CES20970	CES20970A
9.8	22	75	10	2	CES20980	CES20980A
9.9	22	75	10	2	CES20990	CES20990A
10.1	25	75	12	2	CES21010	CES21010A
10.2	25	75	12	2	CES21020	CES21020A
10.3	25	75	12	2	CES21030	CES21030A
10.4	25	75	12	2	CES21040	CES21040A
10.6	25	75	12	2	CES21060	CES21060A
10.7	25	75	12	2	CES21070	CES21070A
10.8	25	75	12	2	CES21080	CES21080A
10.9	25	75	12	2	CES21090	CES21090A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 英吋型- 2刃

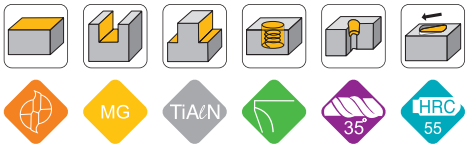
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- 2F- Inch Diameter

· CEI20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



01

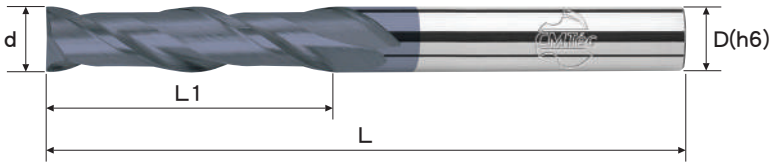
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1/16(1.58)	5	50	4	2	CEI20116	CEI20116A
5/64(1.98)	5	50	4	2	CEI20564	CEI20564A
3/32(2.38)	6	50	4	2	CEI20332	CEI20332A
1/8 (3.18)	10	50	4	2	CEI20108	CEI20108A
5/32(3.97)	10	50	6	2	CEI20532	CEI20532A
3/16(4.76)	13	50	6	2	CEI20316	CEI20316A
1/4 (6.35)	18	60	8	2	CEI20104	CEI20104A
5/16(7.94)	20	60	8	2	CEI20516	CEI20516A
3/8 (9.53)	21	75	10	2	CEI20308	CEI20308A
1/2 (12.7)	25	75	12	2	CEI20102	CEI20102A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 長刃小柄(標準)/特長刃型- 2刃

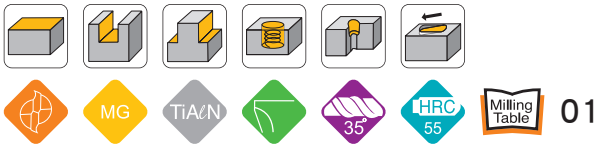
S220 MICRO GRAIN CARBIDE END MILLS- Square Type & (Extra) Long Flute- 2F

- CELFM2□□□□A
- CELF2□□□□A
- CEFF2□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



01

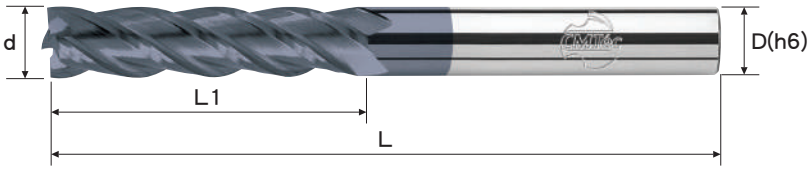
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	10	50	4	4	CELFM20200	CELFM20200A
3.0	15	60	4	4	CELFM20300	CELFM20300A
4.0	20	60	4	4	CELFM20400	CELFM20400A
3.0	15	60	6	4	CELF20300	CELF20300A
4.0	20	60	6	4	CELF20400	CELF20400A
5.0	25	75	6	4	CELF20500	CELF20500A
6.0	30	75	6	4	CELF20600	CELF20600A
8.0	35	100	8	4	CELF20800	CELF20800A
10.0	45	100	10	4	CELF21000	CELF21000A
12.0	45	100	12	4	CELF21200	CELF21200A
14.0	70	150	14	4	CELF2140014	CELF2140014A
14.0	70	150	16	4	CELF21400	CELF21400A
16.0	70	150	16	4	CELF21600	CELF21600A
18.0	75	150	20	4	CELF21800	CELF21800A
20.0	75	150	20	4	CELF22000	CELF22000A
25.0	75	150	25	4	CELF22500	CELF22500A
10.0	55	100	10	4	CEFF21000	CEFF21000A
12.0	55	100	12	4	CEFF21200	CEFF21200A
16.0	80	150	16	4	CEFF21600	CEFF21600A
20.0	90	150	20	4	CEFF22000	CEFF22000A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 長刃小柄(標準)/特長刃型- 4刃

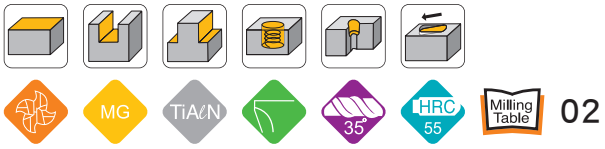
S220 MICRO GRAIN CARBIDE END MILLS- Square Type & (Extra) Long Flute- 4F

- CELFM40000A
- CELF40000A
- CEFF40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



02

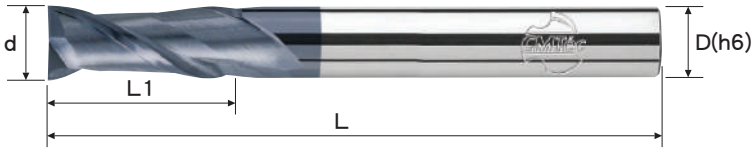
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	5	50	4	4	CELFM40100	CELFM40100A
2.0	10	50	4	4	CELFM40200	CELFM40200A
3.0	15	60	4	4	CELFM40300	CELFM40300A
4.0	20	60	4	4	CELFM40400	CELFM40400A
3.0	15	60	6	4	CELF40300	CELF40300A
4.0	20	60	6	4	CELF40400	CELF40400A
5.0	25	75	6	4	CELF40500	CELF40500A
6.0	30	75	6	4	CELF40600	CELF40600A
8.0	35	100	8	4	CELF40800	CELF40800A
10.0	45	100	10	4	CELF41000	CELF41000A
12.0	45	100	12	4	CELF41200	CELF41200A
14.0	70	150	14	4	CELF4140014	CELF4140014A
14.0	70	150	16	4	CELF41400	CELF41400A
16.0	70	150	16	4	CELF41600	CELF41600A
18.0	75	150	20	4	CELF41800	CELF41800A
20.0	75	150	20	4	CELF42000	CELF42000A
25.0	75	150	25	4	CELF42500	CELF42500A
10.0	55	100	10	4	CEFF41000	CEFF41000A
12.0	55	100	12	4	CEFF41200	CEFF41200A
16.0	80	150	16	4	CEFF41600	CEFF41600A
20.0	90	150	20	4	CEFF42000	CEFF42000A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 長柄型- 2刃

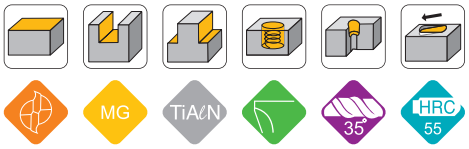
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Long Shank- 2F

· CELS20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



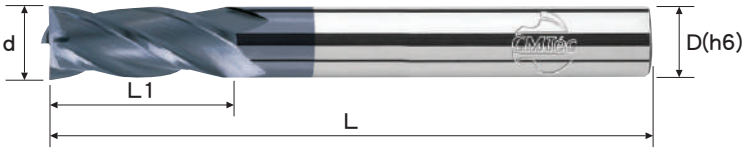
01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	8	75	6	2	CELS20300	CELS20300A
4.0	10	75	6	2	CELS20400	CELS20400A
5.0	13	75	6	2	CELS20500	CELS20500A
6.0	15	75	6	2	CELS20600	CELS20600A
8.0	20	100	8	2	CELS20800	CELS20800A
10.0	25	100	10	2	CELS21000	CELS21000A
12.0	30	100	12	2	CELS21200	CELS21200A

S220 鎢鋼平銑刀- 長柄型- 4刃

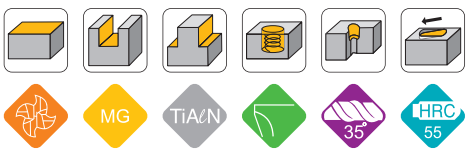
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- Long Shank- 4F

· CELS40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



02

NEW SIZE

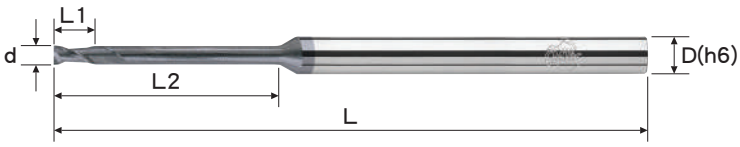
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	8	75	6	4	CELS40300	CELS40300A
4.0	10	75	6	4	CELS40400	CELS40400A
5.0	13	75	6	4	CELS40500	CELS40500A
6.0	15	75	6	4	CELS40600	CELS40600A
6.0	15	100	6	4	CELS40600100L	CELS40600100LA
8.0	20	100	8	4	CELS40800	CELS40800A
10.0	25	100	10	4	CELS41000	CELS41000A
12.0	30	100	12	4	CELS41200	CELS41200A
16.0	40	150	16	4	CELS41600	CELS41600A
20.0	40	150	20	4	CELS42000	CELS42000A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 長頸型- 2刃

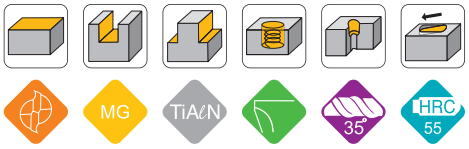
S220 MICRO GRAIN CARBIDE END MILLS- Square Type & Long Neck- 2F

· CEN2○○○○○○○A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.02

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



01

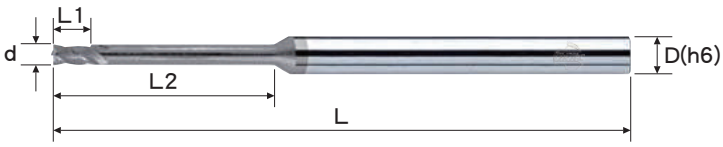
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	1.5	7.5	50	4	2	CEN20100075	CEN20100075A
1.0	1.5	11.5	50	4	2	CEN20100115	CEN20100115A
1.2	2.0	8.0	50	4	2	CEN20120080	CEN20120080A
1.2	2.0	12.0	50	4	2	CEN20120120	CEN20120120A
1.5	2.5	10.5	50	4	2	CEN20150105	CEN20150105A
1.5	2.5	18.5	50	4	2	CEN20150185	CEN20150185A
1.8	3.0	11.0	50	4	2	CEN20180110	CEN20180110A
1.8	3.0	19.0	50	4	2	CEN20180190	CEN20180190A
2.0	3.0	11.0	50	4	2	CEN20200110	CEN20200110A
2.0	3.0	19.0	50	4	2	CEN20200190	CEN20200190A
2.0	3.0	23.0	60	4	2	CEN20200230	CEN20200230A
2.5	3.5	15.5	50	4	2	CEN20250155	CEN20250155A
2.5	3.5	23.5	60	4	2	CEN20250235	CEN20250235A
3.0	4.5	16.5	60	6	2	CEN20300165	CEN20300165A
3.0	4.5	24.5	75	6	2	CEN20300245	CEN20300245A
4.0	6.0	26.0	75	6	2	CEN20400260	CEN20400260A
4.0	6.0	36.0	75	6	2	CEN20400360	CEN20400360A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 長頸型- 4刃

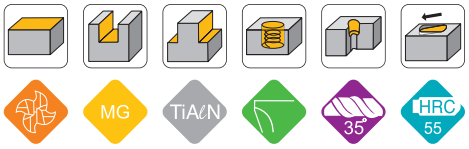
S220 MICRO GRAIN CARBIDE END MILLS- Square Type & Long Neck- 4F

· CEN4□□□□□□□A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.02

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



02

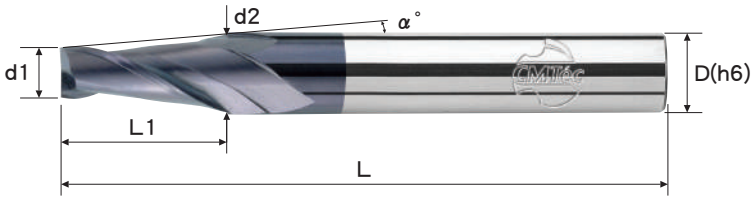
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	1.5	7.5	50	4	4	CEN40100075	CEN40100075A
1.0	1.5	11.5	50	4	4	CEN40100115	CEN40100115A
1.2	2.0	8.0	50	4	4	CEN40120080	CEN40120080A
1.2	2.0	12.0	50	4	4	CEN40120120	CEN40120120A
1.5	2.5	10.5	50	4	4	CEN40150105	CEN40150105A
1.5	2.5	18.5	50	4	4	CEN40150185	CEN40150185A
1.8	3.0	11.0	50	4	4	CEN40180110	CEN40180110A
1.8	3.0	19.0	50	4	4	CEN40180190	CEN40180190A
2.0	3.0	11.0	50	4	4	CEN40200110	CEN40200110A
2.0	3.0	19.0	50	4	4	CEN40200190	CEN40200190A
2.0	3.0	23.0	60	4	4	CEN40200230	CEN40200230A
2.5	3.5	15.5	50	4	4	CEN40250155	CEN40250155A
2.5	3.5	23.5	60	4	4	CEN40250235	CEN40250235A
3.0	4.5	16.5	60	6	4	CEN40300165	CEN40300165A
3.0	4.5	24.5	75	6	4	CEN40300245	CEN40300245A
4.0	6.0	26.0	75	6	4	CEN40400260	CEN40400260A
4.0	6.0	36.0	75	6	4	CEN40400360	CEN40400360A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼斜度銑刀- 標準型- 2刃

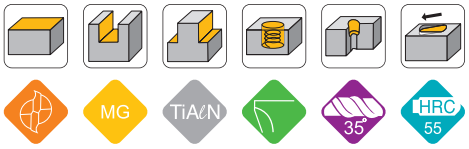
S220 MICRO GRAIN CARBIDE END MILLS- Taper- 2F

· CETF2○○○○○○○A



先端徑 d1	公差 Tolerance
Φ	0 ~ -0.05

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



01

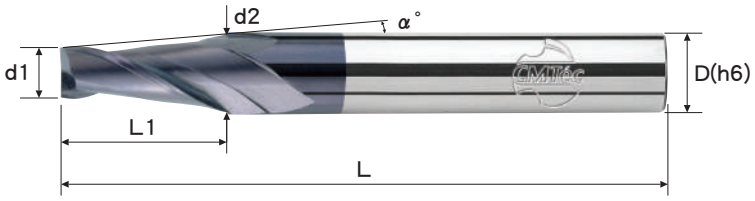
先端徑 d1	刃斜角 α°	刃長 L1	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.5°	4	1.07	50	4	2	CETF2010005	CETF2010005A
1.0	1°	4	1.14	50	4	2	CETF2010010	CETF2010010A
1.0	1.5°	4	1.21	50	4	2	CETF2010015	CETF2010015A
1.0	2°	4	1.28	50	4	2	CETF2010020	CETF2010020A
1.0	2.5°	4	1.35	50	4	2	CETF2010025	CETF2010025A
1.0	3°	4	1.42	50	4	2	CETF2010030	CETF2010030A
1.0	5°	4	1.70	50	4	2	CETF2010050	CETF2010050A
1.0	7°	4	1.98	50	4	2	CETF2010070	CETF2010070A
1.0	10°	4	2.41	50	4	2	CETF20100100	CETF20100100A
1.0	15°	4	3.14	50	4	2	CETF20100150	CETF20100150A
1.5	0.5°	5	1.59	50	4	2	CETF2015005	CETF2015005A
1.5	1°	5	1.68	50	4	2	CETF2015010	CETF2015010A
1.5	1.5°	5	1.76	50	4	2	CETF2015015	CETF2015015A
1.5	2°	5	1.85	50	4	2	CETF2015020	CETF2015020A
1.5	2.5°	5	1.93	50	4	2	CETF2015025	CETF2015025A
1.5	3°	5	2.02	50	4	2	CETF2015030	CETF2015030A
1.5	5°	5	2.37	50	4	2	CETF2015050	CETF2015050A
2.0	0.5°	6	2.10	50	4	2	CETF2020005	CETF2020005A
2.0	1°	6	2.21	50	4	2	CETF2020010	CETF2020010A
2.0	1.5°	6	2.31	50	4	2	CETF2020015	CETF2020015A
2.0	2°	6	2.41	50	4	2	CETF2020020	CETF2020020A
2.0	2.5°	6	2.52	50	4	2	CETF2020025	CETF2020025A
2.0	3°	6	2.62	50	4	2	CETF2020030	CETF2020030A
2.0	5°	6	3.05	50	4	2	CETF2020050	CETF2020050A
2.0	7°	6	3.47	50	4	2	CETF2020070	CETF2020070A
2.0	10°	6	4.11	50	6	2	CETF20200100	CETF20200100A
2.0	15°	6	5.22	50	6	2	CETF20200150	CETF20200150A
2.5	0.5°	8	2.64	50	4	2	CETF2025005	CETF2025005A
2.5	1°	8	2.78	50	4	2	CETF2025010	CETF2025010A
2.5	1.5°	8	2.91	50	4	2	CETF2025015	CETF2025015A
2.5	2°	8	3.05	50	4	2	CETF2025020	CETF2025020A
2.5	2.5°	8	3.20	50	4	2	CETF2025025	CETF2025025A
2.5	3°	8	3.33	50	4	2	CETF2025030	CETF2025030A
2.5	5°	8	3.90	50	4	2	CETF2025050	CETF2025050A
2.5	10°	8	5.32	50	6	2	CETF20250100	CETF20250100A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼斜度銑刀- 標準型- 2刃

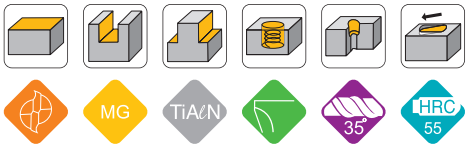
S220 MICRO GRAIN CARBIDE END MILLS- Taper- 2F

· CETF2□□□□□□□A



先端徑 d1	公差 Tolerance
Φ	0 ~ -0.05

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



01

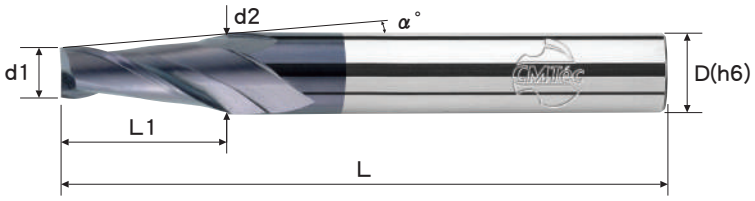
先端徑 d1	刃斜角 α°	刃長 L1	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.5	10°	8	5.32	50	6	2	CETF20250100	CETF20250100A
3.0	0.5°	10	3.17	50	6	2	CETF2030005	CETF2030005A
3.0	1°	10	3.35	50	6	2	CETF2030010	CETF2030010A
3.0	1.5°	10	3.52	50	6	2	CETF2030015	CETF2030015A
3.0	2°	10	3.69	50	6	2	CETF2030020	CETF2030020A
3.0	2.5°	10	3.87	50	6	2	CETF2030025	CETF2030025A
3.0	3°	10	4.05	50	6	2	CETF2030030	CETF2030030A
3.0	5°	10	4.75	50	6	2	CETF2030050	CETF2030050A
3.0	7°	12	6.00	50	6	2	CETF2030070	CETF2030070A
3.0	10°	12	7.22	60	8	2	CETF20300100	CETF20300100A
3.0	15°	12	9.43	75	10	2	CETF20300150	CETF20300150A
4.0	0.5°	15	4.26	50	6	2	CETF2040005	CETF2040005A
4.0	1°	15	4.52	50	6	2	CETF2040010	CETF2040010A
4.0	1.5°	15	4.79	50	6	2	CETF2040015	CETF2040015A
4.0	2°	15	5.04	50	6	2	CETF2040020	CETF2040020A
4.0	2.5°	15	5.31	50	6	2	CETF2040025	CETF2040025A
4.0	3°	15	5.57	50	6	2	CETF2040030	CETF2040030A
4.0	5°	15	6.62	60	8	2	CETF2040050	CETF2040050A
4.0	7°	16	8.00	60	8	2	CETF2040070	CETF2040070A
4.0	10°	17	10.00	75	10	2	CETF20400100	CETF20400100A
4.0	15°	14.9	12.00	75	12	2	CETF20400150	CETF20400150A
5.0	0.5°	20	5.34	60	6	2	CETF2050005	CETF2050005A
5.0	1°	20	5.70	60	6	2	CETF2050010	CETF2050010A
5.0	1.5°	19.6	6.00	60	6	2	CETF2050015	CETF2050015A
5.0	2°	20	6.39	60	8	2	CETF2050020	CETF2050020A
5.0	2.5°	20	6.74	60	8	2	CETF2050025	CETF2050025A
5.0	3°	20	7.10	60	8	2	CETF2050030	CETF2050030A
5.0	5°	20	8.50	75	10	2	CETF2050050	CETF2050050A
5.0	7°	20	10.00	75	10	2	CETF2050070	CETF2050070A
5.0	10°	20	12.00	75	12	2	CETF20500100	CETF20500100A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼斜度銑刀- 標準型- 2刃

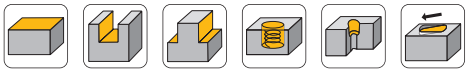
S220 MICRO GRAIN CARBIDE END MILLS- Taper- 2F

· CETF2□□□□□□□A



先端徑 d1	公差 Tolerance
Φ	0 ~ -0.05

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



01

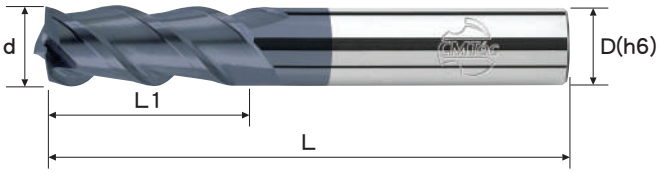
先端徑 d1	刃斜角 α°	刃長 L1	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
6.0	0.5°	20	6.35	60	8	2	CETF2060005	CETF2060005A
6.0	1°	20	6.70	60	8	2	CETF2060010	CETF2060010A
6.0	1.5°	20	7.05	60	8	2	CETF2060015	CETF2060015A
6.0	2°	20	7.40	60	8	2	CETF2060020	CETF2060020A
6.0	2.5°	20	7.75	60	8	2	CETF2060025	CETF2060025A
6.0	3°	20	8.10	75	10	2	CETF2060030	CETF2060030A
6.0	5°	20	9.50	75	10	2	CETF2060050	CETF2060050A
6.0	7°	24	12.00	75	12	2	CETF2060070	CETF2060070A
6.0	10°	22	14.00	75	14	2	CETF20600100	CETF20600100A
8.0	0.5°	25	8.44	75	10	2	CETF2080005	CETF2080005A
8.0	1°	25	8.87	75	10	2	CETF2080010	CETF2080010A
8.0	1.5°	25	9.31	75	10	2	CETF2080015	CETF2080015A
8.0	2°	25	9.75	75	10	2	CETF2080020	CETF2080020A
8.0	3°	25	10.62	75	12	2	CETF2080030	CETF2080030A
8.0	5°	25	12.37	75	14	2	CETF2080050	CETF2080050A
8.0	7°	32	16.00	100	16	2	CETF2080070	CETF2080070A
8.0	10°	28	18.00	100	18	2	CETF20800100	CETF20800100A
10.0	0.5°	35	10.61	75	12	2	CETF2100005	CETF2100005A
10.0	1°	35	11.22	75	12	2	CETF2100010	CETF2100010A
10.0	1.5°	35	11.83	75	12	2	CETF2100015	CETF2100015A
10.0	2°	35	12.44	75	14	2	CETF2100020	CETF2100020A
10.0	3°	35	13.67	75	14	2	CETF2100030	CETF2100030A
10.0	5°	34.2	16.00	100	16	2	CETF2100050	CETF2100050A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 高導標準型- 3刃

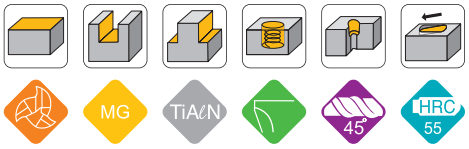
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix- 3F

· CEH30000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



09

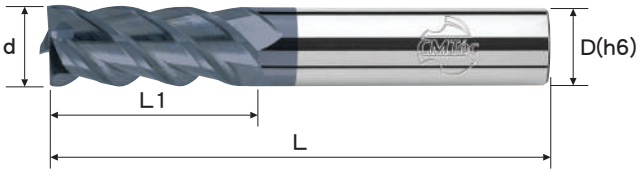
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	3	CEH30300	CEH30300A
4.0	10	50	6	3	CEH30400	CEH30400A
5.0	13	50	6	3	CEH30500	CEH30500A
6.0	15	50	6	3	CEH30600	CEH30600A
8.0	20	60	8	3	CEH30800	CEH30800A
10.0	25	75	10	3	CEH31000	CEH31000A
12.0	30	75	12	3	CEH31200	CEH31200A
16.0	35	100	16	3	CEH31600	CEH31600A
20.0	40	100	20	3	CEH32000	CEH32000A

切削條件表 Cutting Condition P.539
技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 高導小柄/高導標準型- 4刃

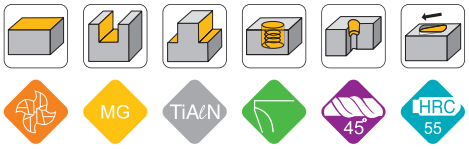
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix- 4F

· CEHM4□□□□A
· CEH4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



02

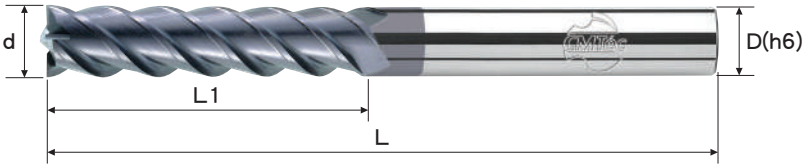
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	4	CEHM40100	CEHM40100A
2.0	5	50	4	4	CEHM40200	CEHM40200A
1.0	3	50	6	4	CEH40100	CEH40100A
2.0	5	50	6	4	CEH40200	CEH40200A
3.0	8	50	6	4	CEH40300	CEH40300A
4.0	10	50	6	4	CEH40400	CEH40400A
5.0	13	50	6	4	CEH40500	CEH40500A
6.0	15	50	6	4	CEH40600	CEH40600A
8.0	20	60	8	4	CEH40800	CEH40800A
10.0	25	75	10	4	CEH41000	CEH41000A
12.0	30	75	12	4	CEH41200	CEH41200A
16.0	35	100	16	4	CEH41600	CEH41600A
20.0	40	100	20	4	CEH42000	CEH42000A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 高導長刃型- 4刃

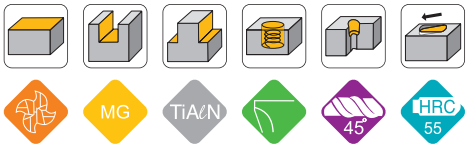
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- High Helix & Long Flute- 4F

· CEHF40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



02

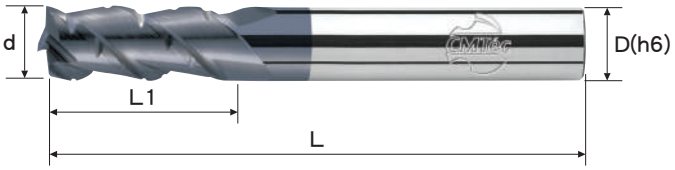
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	15	60	6	4	CEHF40300	CEHF40300A
4.0	20	60	6	4	CEHF40400	CEHF40400A
5.0	25	75	6	4	CEHF40500	CEHF40500A
6.0	30	75	6	4	CEHF40600	CEHF40600A
8.0	45	100	8	4	CEHF40800	CEHF40800A
10.0	55	100	10	4	CEHF41000	CEHF41000A
12.0	55	100	12	4	CEHF41200	CEHF41200A
14.0	75	150	14	4	CEHF41400	CEHF41400A
16.0	75	150	16	4	CEHF41600	CEHF41600A
18.0	90	150	18	4	CEHF41800	CEHF41800A
20.0	90	150	20	4	CEHF42000	CEHF42000A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 高導粗精型- 3刃

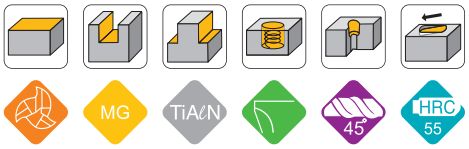
S220 MICRO GRAIN CARBIDE END MILLS- High Helix- Semi- Finishing- 3F

· CER30000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



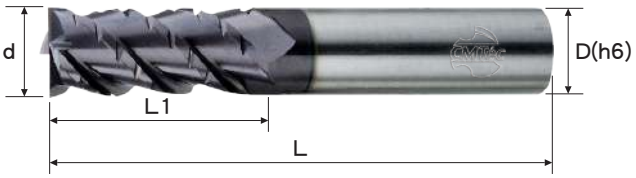
01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	3	CER30600	CER30600A
8.0	20	60	8	3	CER30800	CER30800A
10.0	25	75	10	3	CER31000	CER31000A
12.0	30	75	12	3	CER31200	CER31200A
16.0	40	100	16	3	CER31600	CER31600A
20.0	45	100	20	3	CER32000	CER32000A

S220 鎢鋼平銑刀- 高導粗精型- 4刃

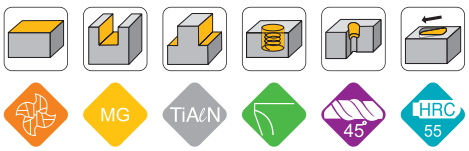
S220 MICRO GRAIN CARBIDE END MILLS- High Helix- Semi- Finishing- 4F

· CER40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



02

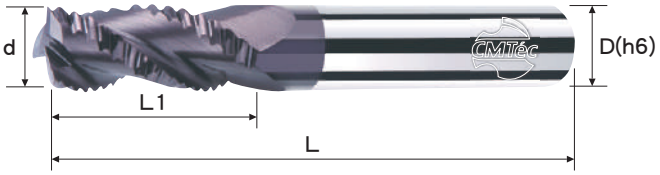
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	4	CER40600	CER40600A
8.0	20	60	8	4	CER40800	CER40800A
10.0	25	75	10	4	CER41000	CER41000A
12.0	30	75	12	4	CER41200	CER41200A
16.0	40	100	16	4	CER41600	CER41600A
20.0	45	100	20	4	CER42000	CER42000A

➡ 切削條件表 Cutting Condition P.534 ➡ 技術資料 Technical Data P.622

S220 鎢鋼粗銑平銑刀- 標準型- 3刃

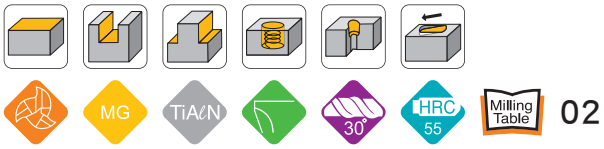
S220 MICRO GRAIN CARBIDE END MILLS- Roughing- 3F

· CERR30000A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.05

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



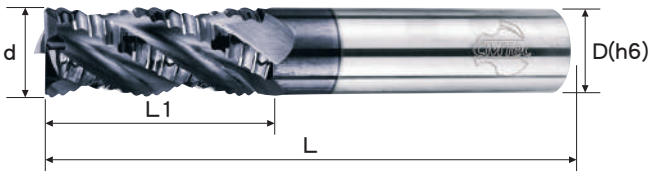
02

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	3	CERR30600A
8.0	20	60	8	3	CERR30800A
10.0	25	75	10	3	CERR31000A
12.0	30	75	12	3	CERR31200A
16.0	40	100	16	3	CERR31600A
20.0	45	100	20	3	CERR32000A

S220 鎢鋼粗銑平銑刀- 標準型- 4刃

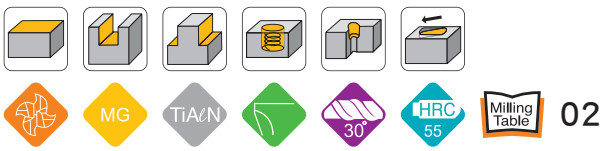
S220 MICRO GRAIN CARBIDE END MILLS- Roughing- 4F

· CERR40000A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.05

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



02

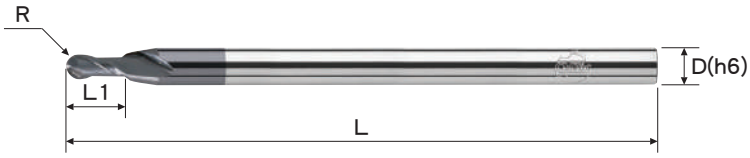
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	4	CERR40600A
8.0	20	60	8	4	CERR40800A
10.0	25	75	10	4	CERR41000A
12.0	30	75	12	4	CERR41200A
16.0	40	100	16	4	CERR41600A
20.0	45	100	20	4	CERR42000A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 微柄/小柄型- 2刃

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

- CEBS2□□□□A
- CEBM2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

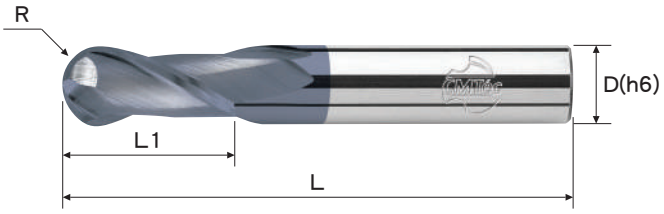
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.1R	0.4	50	3	2	CEBS20010	CEBS20010A
0.15R	0.6	50	3	2	CEBS20015	CEBS20015A
0.2R	0.8	50	3	2	CEBS20020	CEBS20020A
0.25R	1.0	50	3	2	CEBS20025	CEBS20025A
0.3R	1.2	50	3	2	CEBS20030	CEBS20030A
0.35R	1.4	50	3	2	CEBS20035	CEBS20035A
0.4R	1.6	50	3	2	CEBS20040	CEBS20040A
0.45R	1.8	50	3	2	CEBS20045	CEBS20045A
0.5R	2.0	50	3	2	CEBS20050	CEBS20050A
0.6R	2.4	50	3	2	CEBS20060	CEBS20060A
0.7R	2.8	50	3	2	CEBS20070	CEBS20070A
0.75R	3.0	50	3	2	CEBS20075	CEBS20075A
0.8R	3.2	50	3	2	CEBS20080	CEBS20080A
0.9R	3.6	50	3	2	CEBS20090	CEBS20090A
1.0R	4.0	50	3	2	CEBS20100	CEBS20100A
1.5R	6.0	50	3	2	CEBS20150	CEBS20150A
0.1R	0.4	50	4	2	CEBM20010	CEBM20010A
0.15R	0.6	50	4	2	CEBM20015	CEBM20015A
0.2R	0.8	50	4	2	CEBM20020	CEBM20020A
0.25R	1.0	50	4	2	CEBM20025	CEBM20025A
0.3R	1.2	50	4	2	CEBM20030	CEBM20030A
0.35R	1.4	50	4	2	CEBM20035	CEBM20035A
0.4R	1.6	50	4	2	CEBM20040	CEBM20040A
0.45R	1.8	50	4	2	CEBM20045	CEBM20045A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 小柄/標準型- 2刃

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

· CEBM2□□□□A
· CEB2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

NEW SIZE

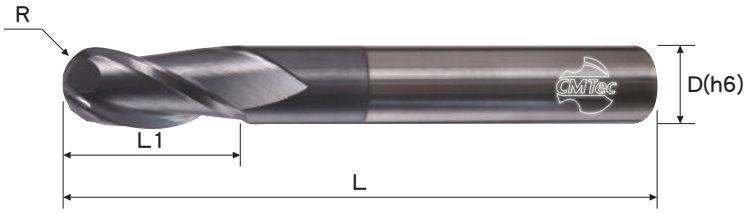
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	2	50	4	2	CEBM20050	CEBM20050A
0.6R	2.4	50	4	2	CEBM20060	CEBM20060A
0.7R	2.8	50	4	2	CEBM20070	CEBM20070A
0.75R	3	50	4	2	CEBM20075	CEBM20075A
1.0R	4	50	4	2	CEBM20100	CEBM20100A
1.25R	5	50	4	2	CEBM20125	CEBM20125A
1.5R	6	50	4	2	CEBM20150	CEBM20150A
1.75R	7	50	4	2	CEBM20175	CEBM20175A
2.0R	8	50	4	2	CEBM20200	CEBM20200A
0.5R	2	50	6	2	CEB20050	CEB20050A
0.6R	2.4	50	6	2	CEB20060	CEB20060A
0.7R	2.8	50	6	2	CEB20070	CEB20070A
0.75R	3	50	6	2	CEB20075	CEB20075A
1.0R	4	50	6	2	CEB20100	CEB20100A
1.25R	5	50	6	2	CEB20125	CEB20125A
1.5R	6	50	6	2	CEB20150	CEB20150A
2.0R	8	50	6	2	CEB20200	CEB20200A
2.5R	10	50	6	2	CEB20250	CEB20250A
3.0R	12	50	6	2	CEB20300	CEB20300A
3.5R	14	60	8	2	CEB20350	CEB20350A
4.0R	16	60	8	2	CEB20400	CEB20400A
4.0R	16	75	8	2	CEB20400075L	CEB20400075LA
5.0R	20	75	10	2	CEB20500	CEB20500A
6.0R	24	75	12	2	CEB20600	CEB20600A
8.0R	32	100	16	2	CEB20800	CEB20800A
10.0R	40	100	20	2	CEB21000	CEB21000A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 標準型- 3刃

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

· CEB30000A



半徑 R	公差 Tolerance
R	±0.02

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

06

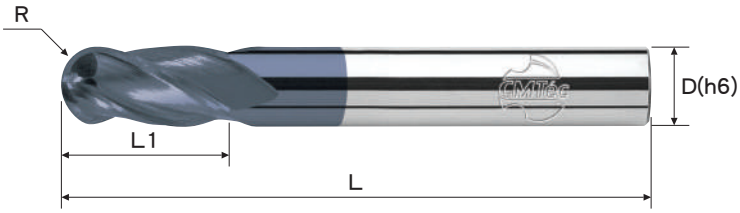
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	6	3	CEB30100	CEB30100A
1.5R	6	50	6	3	CEB30150	CEB30150A
2.0R	8	50	6	3	CEB30200	CEB30200A
2.5R	10	50	6	3	CEB30250	CEB30250A
3.0R	12	50	6	3	CEB30300	CEB30300A
3.5R	14	60	8	3	CEB30350	CEB30350A
4.0R	16	60	8	3	CEB30400	CEB30400A
5.0R	20	75	10	3	CEB30500	CEB30500A
6.0R	24	75	12	3	CEB30600	CEB30600A
8.0R	32	100	16	3	CEB30800	CEB30800A
10.0R	40	100	20	3	CEB31000	CEB31000A

切削條件表 Cutting Condition P.537
技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 小柄/標準型- 4刃

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

· CEBM4□□□□A
· CEB4□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

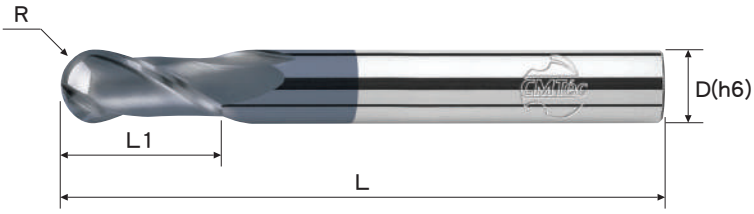
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	4	4	CEBM40100	CEBM40100A
1.25R	5	50	4	4	CEBM40125	CEBM40125A
1.5R	6	50	4	4	CEBM40150	CEBM40150A
1.75R	7	50	4	4	CEBM40175	CEBM40175A
2.0R	8	50	4	4	CEBM40200	CEBM40200A
3.0R	12	50	6	4	CEB40300	CEB40300A
4.0R	16	60	8	4	CEB40400	CEB40400A
5.0R	20	75	10	4	CEB40500	CEB40500A
6.0R	24	75	12	4	CEB40600	CEB40600A
8.0R	32	100	16	4	CEB40800	CEB40800A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 小長柄/長柄型- 2刃

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

· CEBML2□□□□A
· CEBL2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

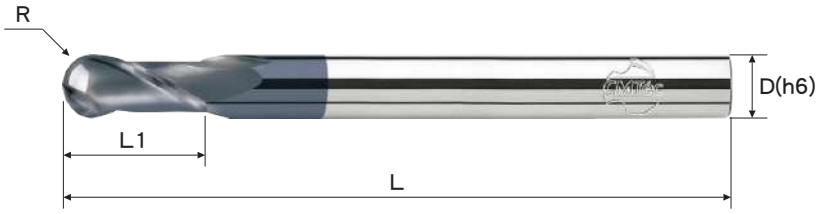
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	2	75	4	2	CEBML20050	CEBML20050A
0.75R	3	75	4	2	CEBML20075	CEBML20075A
1.0R	4	75	4	2	CEBML20100	CEBML20100A
1.25R	5	75	4	2	CEBML20125	CEBML20125A
1.5R	6	75	4	2	CEBML20150	CEBML20150A
1.75R	7	75	4	2	CEBML20175	CEBML20175A
2.0R	8	75	4	2	CEBML20200	CEBML20200A
1.0R	4	75	6	2	CEBL20100	CEBL20100A
1.5R	6	75	6	2	CEBL20150	CEBL20150A
2.0R	8	75	6	2	CEBL20200	CEBL20200A
2.5R	10	75	6	2	CEBL20250	CEBL20250A
3.0R	12	75	6	2	CEBL20300	CEBL20300A
4.0R	16	100	8	2	CEBL20400	CEBL20400A
5.0R	20	100	10	2	CEBL20500	CEBL20500A
6.0R	24	100	12	2	CEBL20600	CEBL20600A
8.0R	32	150	16	2	CEBL20800	CEBL20800A
10.0R	40	150	20	2	CEBL21000	CEBL21000A

→ 切削條件表 Cutting Condition P.537
→ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 小特長柄/特長柄型- 2刃

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

· CEBMLL20000A
· CEBLL20000A



半徑 R	公差 Tolerance
R	±0.02

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

05

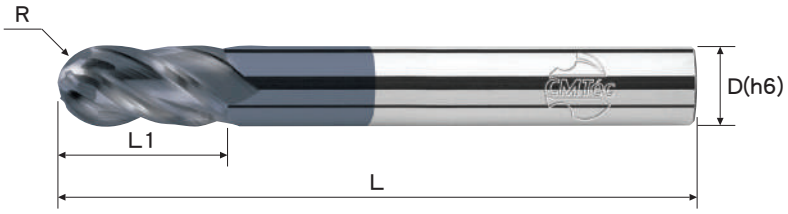
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	4	100	4	2	CEBMLL20100	CEBMLL20100A
1.5R	6	100	4	2	CEBMLL20150	CEBMLL20150A
2.0R	8	100	4	2	CEBMLL20200	CEBMLL20200A
1.0R	4	100	6	2	CEBLL20100	CEBLL20100A
1.5R	6	100	6	2	CEBLL20150	CEBLL20150A
2.0R	8	100	6	2	CEBLL20200	CEBLL20200A
2.5R	10	100	6	2	CEBLL20250	CEBLL20250A
3.0R	12	100	6	2	CEBLL20300	CEBLL20300A
4.0R	16	150	8	2	CEBLL20400	CEBLL20400A
5.0R	20	150	10	2	CEBLL20500	CEBLL20500A
6.0R	24	150	12	2	CEBLL20600	CEBLL20600A
8.0R	32	200	16	2	CEBLL20800	CEBLL20800A
10.0R	40	200	20	2	CEBLL21000	CEBLL21000A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 小長柄/長柄型- 4刃

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

· CEBML4□□□□A
· CEBL4□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

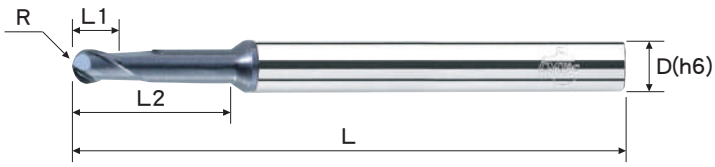
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	4	75	4	4	CEBML40100	CEBML40100A
1.25R	5	75	4	4	CEBML40125	CEBML40125A
1.5R	6	75	4	4	CEBML40150	CEBML40150A
1.75R	7	75	4	4	CEBML40175	CEBML40175A
2.0R	8	75	4	4	CEBML40200	CEBML40200A
3.0R	12	75	6	4	CEBL40300	CEBL40300A
4.0R	16	100	8	4	CEBL40400	CEBL40400A
5.0R	20	100	10	4	CEBL40500	CEBL40500A
6.0R	24	100	12	4	CEBL40600	CEBL40600A
8.0R	32	150	16	4	CEBL40800	CEBL40800A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 長頸型- 2刃

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

· CEBN2□□□□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

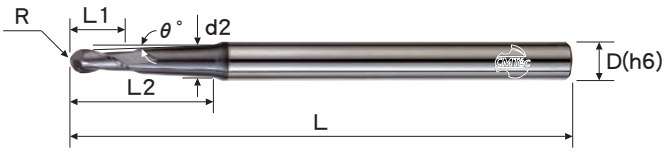
半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	1.5	7.5	50	4	2	CEBN20050075	CEBN20050075A
0.5R	1.5	11.5	50	4	2	CEBN20050115	CEBN20050115A
0.75R	2.5	10.5	50	4	2	CEBN20075105	CEBN20075105A
0.75R	2.5	18.5	50	4	2	CEBN20075185	CEBN20075185A
1.0R	3.0	11.0	50	4	2	CEBN20100110	CEBN20100110A
1.0R	3.0	19.0	50	4	2	CEBN20100190	CEBN20100190A
1.0R	3.0	23.0	60	4	2	CEBN20100230	CEBN20100230A
1.25R	3.5	15.5	50	4	2	CEBN20125155	CEBN20125155A
1.25R	3.5	23.5	60	4	2	CEBN20125235	CEBN20125235A
1.5R	4.5	16.5	60	6	2	CEBN20150165	CEBN20150165A
1.5R	4.5	24.5	75	6	2	CEBN20150245	CEBN20150245A
2.0R	6.0	26.0	75	6	2	CEBN20200260	CEBN20200260A
2.0R	6.0	36.0	75	6	2	CEBN20200360	CEBN20200360A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 斜頸型- 2刃

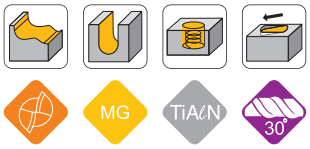
S220 MICRO GRAIN CARBIDE END MILLS- Taper Neck Ball Nose- 2F

· CENL2 0000A



半徑 R	公差 Tolerance
R	±0.02

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

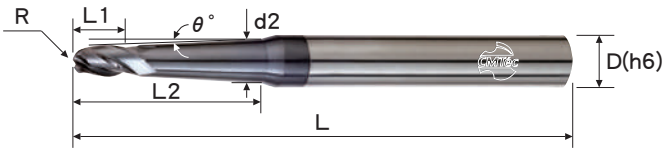


半徑 R	半夾角 θ°	刃長 L1	斜頸長 L2	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	3°	4	42	5.98	100	8	2	CENL20100	CENL20100A
1.5R	3°	6	47	7.30	100	8	2	CENL20150	CENL20150A
2.0R	3°	8	38	7.14	100	8	2	CENL20200	CENL20200A
2.5R	3°	10	28	6.89	100	8	2	CENL20250	CENL20250A
3.0R	3°	12	38	8.73	100	10	2	CENL20300	CENL20300A
4.0R	3°	16	38	10.31	150	12	2	CENL20400	CENL20400A
5.0R	3°	20	57	13.88	150	16	2	CENL20500	CENL20500A
6.0R	3°	24	38	13.47	150	16	2	CENL20600	CENL20600A

S220 鎢鋼球型銑刀- 斜頸型- 4刃

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

· CENL4 0000A



半徑 R	公差 Tolerance
R	±0.02

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

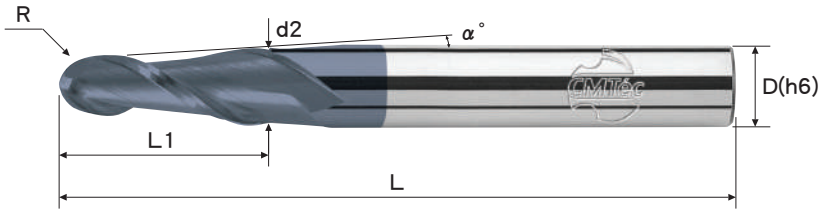
半徑 R	半夾角 θ°	刃長 L1	斜頸長 L2	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	3°	4	42	5.98	100	8	4	CENL40100	CENL40100A
1.5R	3°	6	47	7.30	100	8	4	CENL40150	CENL40150A
2.0R	3°	8	38	7.14	100	8	4	CENL40200	CENL40200A
2.5R	3°	10	28	6.89	100	8	4	CENL40250	CENL40250A
3.0R	3°	12	38	8.73	100	10	4	CENL40300	CENL40300A
4.0R	3°	16	38	10.31	150	12	4	CENL40400	CENL40400A
5.0R	3°	20	57	13.88	150	16	4	CENL40500	CENL40500A
6.0R	3°	24	38	13.47	150	16	4	CENL40600	CENL40600A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼斜度球型銑刀- 標準型- 2刃

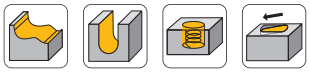
S220 MICRO GRAIN CARBIDE END MILLS- Taper Ball Nose- 2F

· CETB2000000A



半徑 R	公差 Tolerance
R	±0.02

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



05

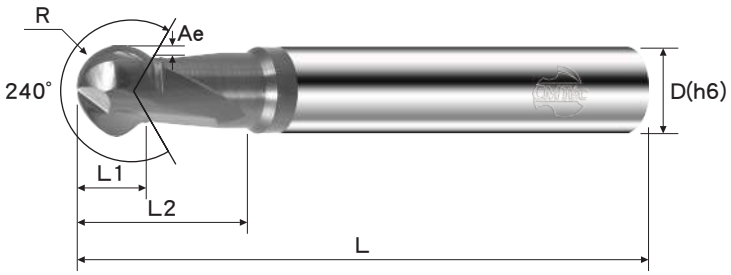
半徑 R	刃斜角 α°	刃長 L1	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	1°	8	2.24	50	4	2	CETB2010010	CETB2010010A
1.0R	3°	8	2.74	50	4	2	CETB2010030	CETB2010030A
1.0R	5°	8	3.23	50	4	2	CETB2010050	CETB2010050A
1.25R	1°	10	2.81	50	4	2	CETB2012510	CETB2012510A
1.25R	3°	10	3.42	50	4	2	CETB2012530	CETB2012530A
1.25R	5°	10	4.04	50	6	2	CETB2012550	CETB2012550A
1.5R	1°	12	3.37	50	4	2	CETB2015010	CETB2015010A
1.5R	3°	12	4.10	50	6	2	CETB2015030	CETB2015030A
1.5R	5°	12	4.85	50	6	2	CETB2015050	CETB2015050A
2.0R	1°	16	4.49	60	6	2	CETB2020010	CETB2020010A
2.0R	3°	16	5.47	60	6	2	CETB2020030	CETB2020030A
2.0R	5°	16	6.46	60	8	2	CETB2020050	CETB2020050A
3.0R	1°	24	6.73	75	8	2	CETB2030010	CETB2030010A
3.0R	3°	24	8.20	75	10	2	CETB2030030	CETB2030030A
3.0R	5°	24	9.67	75	10	2	CETB2030050	CETB2030050A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球殼型銑刀(240°)- 小柄/標準型- 2刃

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

· CEOM2□□□□□□□A
· CEO2□□□□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

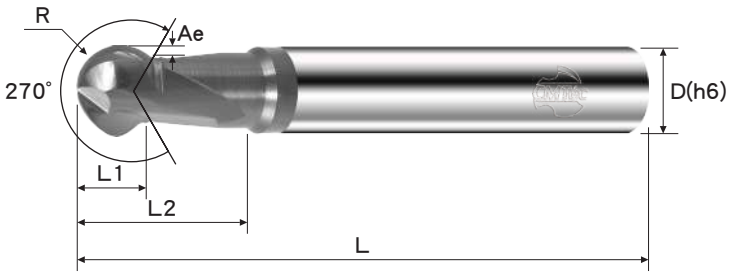
半徑 R	刃長 L1	有效長 L2	切刃寬 Ae	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	1.50	4	0.13	60	4	2	CEOM20100040	CEOM20100040A
1.5R	2.25	6	0.20	60	4	2	CEOM20150060	CEOM20150060A
2.0R	3.00	8	0.26	60	4	2	CEOM20200080	CEOM20200080A
2.5R	3.75	10	0.33	60	6	2	CEO20250100	CEO20250100A
3.0R	4.50	12	0.40	60	6	2	CEO20300120	CEO20300120A
4.0R	6.00	16	0.53	60	8	2	CEO20400160	CEO20400160A
5.0R	7.50	20	0.66	75	10	2	CEO20500200	CEO20500200A
6.0R	9.00	24	0.80	75	12	2	CEO20600240	CEO20600240A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球殼型銑刀(270˚)- 小柄/標準型- 2刃

S220 MICRO GRAIN CARBIDE END MILLS- Semi Sphere Ball Nose(270°)- 2F

· CEO2000000000A



半徑 R	公差 Tolerance
R	±0.02

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

05

NEW

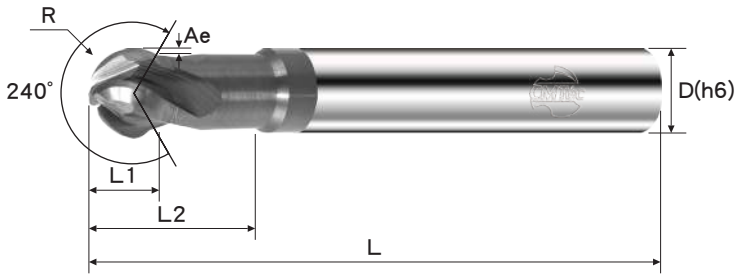
半徑 R	刃長 L1	有效長 L2	切刃寬 Ae	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	1.70	4	0.29	60	4	2	CEOM20100R0040	CEOM20100R0040A
1.5R	2.56	6	0.44	60	4	2	CEOM20150R0060	CEOM20150R0060A
2.0R	3.41	8	0.58	60	4	2	CEOM20200R0080	CEOM20200R0080A
2.5R	4.26	10	0.73	60	6	2	CEO20250R0100	CEO20250R0100A
3.0R	5.12	12	0.88	60	6	2	CEO20300R0120	CEO20300R0120A
4.0R	6.82	16	1.17	60	8	2	CEO20400R0160	CEO20400R0160A
5.0R	8.53	20	1.46	75	10	2	CEO20500R0200	CEO20500R0200A
6.0R	10.24	24	1.75	75	12	2	CEO20600R0240	CEO20600R0240A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼球殼型銑刀(240°)- 標準型- 4刃

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

· CEO4□□□□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

05

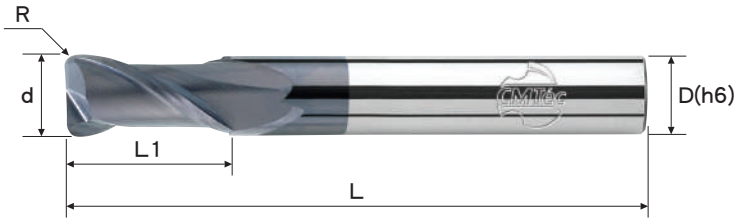
半徑 R	刃長 L1	有效長 L2	切刃寬 Ae	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.5R	3.75	10	0.33	60	6	4	CEO40250100	CEO40250100A
3.0R	4.50	12	0.40	60	6	4	CEO40300120	CEO40300120A
4.0R	6.00	16	0.53	60	8	4	CEO40400160	CEO40400160A
5.0R	7.50	20	0.66	75	10	4	CEO40500200	CEO40500200A
6.0R	9.00	24	0.80	75	12	4	CEO40600240	CEO40600240A

➡ 切削條件表 Cutting Condition P.537
➡ 技術資料 Technical Data P.622

S220 鎢鋼圓鼻銑刀- 小柄/標準型- 2刃

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

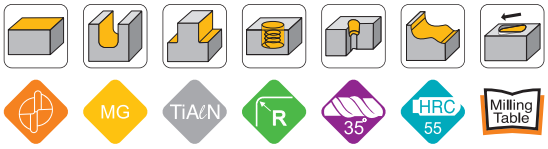
- CECRM2000000A
- CECR2000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



08

NEW SIZE

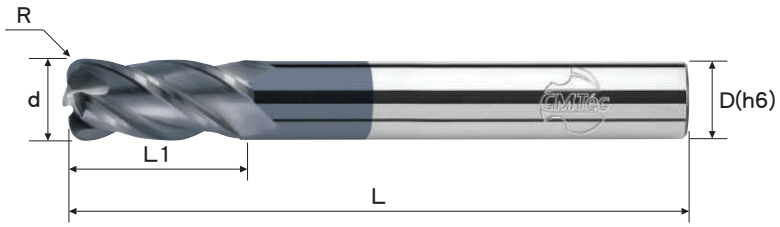
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	2	CECRM2010002	CECRM2010002A
1.0	0.3R	2	50	4	2	CECRM2010003	CECRM2010003A
1.5	0.2R	3	50	4	2	CECRM2015002	CECRM2015002A
1.5	0.3R	3	50	4	2	CECRM2015003	CECRM2015003A
2.0	0.2R	4	50	4	2	CECRM2020002	CECRM2020002A
2.0	0.3R	4	50	4	2	CECRM2020003	CECRM2020003A
2.5	0.2R	5	50	4	2	CECRM2025002	CECRM2025002A
2.5	0.3R	5	50	4	2	CECRM2025003	CECRM2025003A
2.5	0.5R	5	50	4	2	CECRM2025005	CECRM2025005A
3.0	0.2R	6	50	4	2	CECRM2030002	CECRM2030002A
3.0	0.3R	6	50	4	2	CECRM2030003	CECRM2030003A
3.0	0.5R	6	50	4	2	CECRM2030005	CECRM2030005A
3.0	1.0R	6	50	4	2	CECRM2030010	CECRM2030010A
4.0	0.3R	8	50	4	2	CECRM2040003	CECRM2040003A
4.0	0.5R	8	50	4	2	CECRM2040005	CECRM2040005A
4.0	1.0R	8	50	4	2	CECRM2040010	CECRM2040010A
4.0	0.3R	8	50	6	2	CECR2040003	CECR2040003A
4.0	0.5R	8	50	6	2	CECR2040005	CECR2040005A
4.0	1.0R	8	50	6	2	CECR2040010	CECR2040010A
5.0	0.5R	10	50	6	2	CECR2050005	CECR2050005A
5.0	1.0R	10	50	6	2	CECR2050010	CECR2050010A
6.0	0.5R	12	50	6	2	CECR2060005	CECR2060005A
6.0	1.0R	12	50	6	2	CECR2060010	CECR2060010A
8.0	0.5R	16	60	8	2	CECR2080005	CECR2080005A
8.0	1.0R	16	60	8	2	CECR2080010	CECR2080010A
8.0	1.5R	16	60	8	2	CECR2080015	CECR2080015A
10.0	0.5R	20	75	10	2	CECR2100005	CECR2100005A
10.0	1.0R	20	75	10	2	CECR2100010	CECR2100010A
10.0	1.5R	20	75	10	2	CECR2100015	CECR2100015A
10.0	2.0R	20	75	10	2	CECR2100020	CECR2100020A
12.0	0.5R	24	75	12	2	CECR2120005	CECR2120005A
12.0	1.0R	24	75	12	2	CECR2120010	CECR2120010A
12.0	1.5R	24	75	12	2	CECR2120015	CECR2120015A
12.0	2.0R	24	75	12	2	CECR2120020	CECR2120020A

➡ 切削條件表 Cutting Condition P.538
➡ 技術資料 Technical Data P.622

S220 鎢鋼圓鼻銑刀- 小柄/標準型- 4刃

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

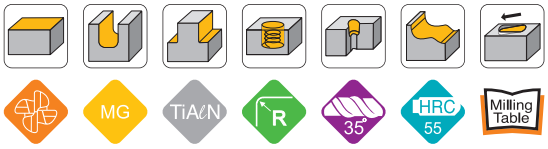
- CECRM4000000A
- CECR4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



08

NEW SIZE

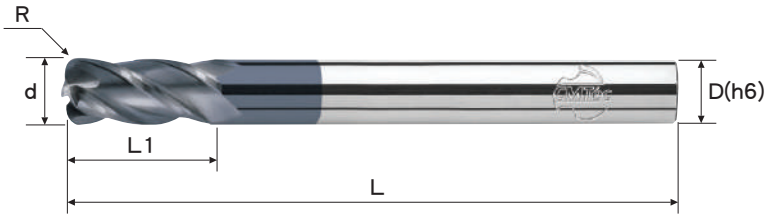
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	4	CECRM4010002	CECRM4010002A
1.0	0.3R	2	50	4	4	CECRM4010003	CECRM4010003A
1.5	0.2R	3	50	4	4	CECRM4015002	CECRM4015002A
1.5	0.3R	3	50	4	4	CECRM4015003	CECRM4015003A
2.0	0.2R	4	50	4	4	CECRM4020002	CECRM4020002A
2.0	0.3R	4	50	4	4	CECRM4020003	CECRM4020003A
2.5	0.2R	5	50	4	4	CECRM4025002	CECRM4025002A
2.5	0.3R	5	50	4	4	CECRM4025003	CECRM4025003A
2.5	0.5R	5	50	4	4	CECRM4025005	CECRM4025005A
3.0	0.2R	6	50	4	4	CECRM4025002	CECRM4025002A
3.0	0.3R	6	50	4	4	CECRM4030003	CECRM4030003A
3.0	0.5R	6	50	4	4	CECRM4030005	CECRM4030005A
3.0	1.0R	6	50	4	4	CECRM4030010	CECRM4030010A
4.0	0.2R	8	50	4	4	CECRM4040002	CECRM4040002A
4.0	0.3R	8	50	4	4	CECRM4040003	CECRM4040003A
4.0	0.5R	8	50	4	4	CECRM4040005	CECRM4040005A
4.0	1.0R	8	50	4	4	CECRM4040010	CECRM4040010A
3.0	0.5R	6	50	6	4	CECR4030005	CECR4030005A
3.0	1.0R	6	50	6	4	CECR4030010	CECR4030010A
4.0	0.5R	8	50	6	4	CECR4040005	CECR4040005A
4.0	1.0R	8	50	6	4	CECR4040010	CECR4040010A
5.0	0.5R	10	50	6	4	CECR4050005	CECR4050005A
5.0	1.0R	10	50	6	4	CECR4050010	CECR4050010A
6.0	0.5R	12	50	6	4	CECR4060005	CECR4060005A
6.0	1.0R	12	50	6	4	CECR4060010	CECR4060010A
8.0	0.5R	16	60	8	4	CECR4080005	CECR4080005A
8.0	1.0R	16	60	8	4	CECR4080010	CECR4080010A
8.0	1.5R	16	60	8	4	CECR4080015	CECR4080015A
8.0	0.5R	16	75	8	4	CECR4080005075L	CECR4080005075LA
8.0	1.0R	16	75	8	4	CECR4080010075L	CECR4080010075LA
8.0	1.5R	16	75	8	4	CECR4080015075L	CECR4080015075LA
10.0	0.5R	20	75	10	4	CECR4100005	CECR4100005A
10.0	1.0R	20	75	10	4	CECR4100010	CECR4100010A
10.0	1.5R	20	75	10	4	CECR4100015	CECR4100015A
10.0	2.0R	20	75	10	4	CECR4100020	CECR4100020A
12.0	0.5R	24	75	12	4	CECR4120005	CECR4120005A
12.0	1.0R	24	75	12	4	CECR4120010	CECR4120010A
12.0	1.5R	24	75	12	4	CECR4120015	CECR4120015A
12.0	2.0R	24	75	12	4	CECR4120020	CECR4120020A
12.0	3.0R	24	75	12	4	CECR4120030	CECR4120030A

切削條件表 Cutting Condition P.538
技術資料 Technical Data P.622

S220 鎢鋼圓鼻銑刀- 長柄型- 4刃

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

· CECL4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

08

NEW SIZE

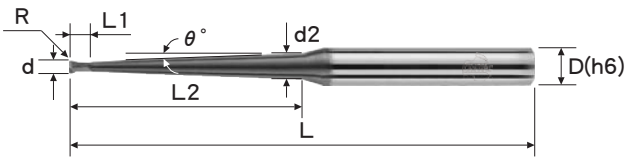
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	0.5R	6	75	4	4	CECLM4030005	CECLM4030005A
3.0	1.0R	6	75	4	4	CECLM4030010	CECLM4030010A
4.0	0.5R	8	75	4	4	CECLM4040005	CECLM4040005A
4.0	1.0R	8	75	4	4	CECLM4040010	CECLM4040010A
3.0	0.5R	6	75	6	4	CECL4030005	CECL4030005A
3.0	1.0R	6	75	6	4	CECL4030010	CECL4030010A
4.0	0.5R	8	75	6	4	CECL4040005	CECL4040005A
4.0	1.0R	8	75	6	4	CECL4040010	CECL4040010A
5.0	0.5R	10	75	6	4	CECL4050005	CECL4050005A
5.0	1.0R	10	75	6	4	CECL4050010	CECL4050010A
6.0	0.5R	12	75	6	4	CECL4060005	CECL4060005A
6.0	1.0R	12	75	6	4	CECL4060010	CECL4060010A
8.0	0.2R	16	100	8	4	CECL4080002	CECL4080002A
8.0	0.5R	16	100	8	4	CECL4080005	CECL4080005A
8.0	1.0R	16	100	8	4	CECL4080010	CECL4080010A
8.0	1.5R	16	100	8	4	CECL4080015	CECL4080015A
10.0	0.5R	20	100	10	4	CECL4100005	CECL4100005A
10.0	1.0R	20	100	10	4	CECL4100010	CECL4100010A
10.0	1.5R	20	100	10	4	CECL4100015	CECL4100015A
10.0	2.0R	20	100	10	4	CECL4100020	CECL4100020A
12.0	0.5R	24	100	12	4	CECL4120005	CECL4120005A
12.0	1.0R	24	100	12	4	CECL4120010	CECL4120010A
12.0	1.5R	24	100	12	4	CECL4120015	CECL4120015A
12.0	2.0R	24	100	12	4	CECL4120020	CECL4120020A

➡ 切削條件表 Cutting Condition P.538
➡ 技術資料 Technical Data P.622

S220 鎢鋼圓鼻銑刀- 斜頸型- 2刃

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

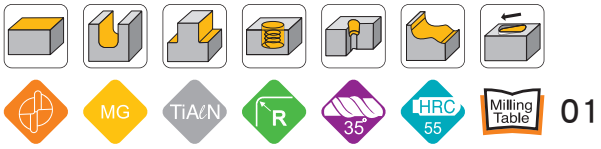
· CECNL2□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



01

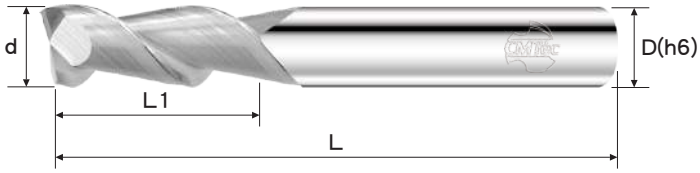
刃徑 d	R角 R	半夾角 θ °	刃長 L1	斜頸長 L2	粗端徑 d2	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	0.2R	1.5°	3.0	25	3.15	75	6	2	CECNL2020002250	CECNL2020002250A
2.0	0.2R	1.5°	3.0	40	3.91	75	6	2	CECNL2020002400	CECNL2020002400A
2.0	0.5R	1.5°	3.0	25	3.15	75	6	2	CECNL2020005250	CECNL2020005250A
2.0	0.5R	1.5°	3.0	40	3.91	75	6	2	CECNL2020005400	CECNL2020005400A
2.0	0.5R	1.5°	3.0	50	4.46	100	6	2	CECNL2020005500	CECNL2020005500A
2.5	0.2R	1.5°	3.5	25	3.63	75	6	2	CECNL2025002250	CECNL2025002250A
2.5	0.2R	1.5°	3.5	40	4.41	75	6	2	CECNL2025002400	CECNL2025002400A
2.5	0.5R	1.5°	3.5	25	3.63	75	6	2	CECNL2025005250	CECNL2025005250A
2.5	0.5R	1.5°	3.5	40	4.41	75	6	2	CECNL2025005400	CECNL2025005400A
2.5	0.5R	1.5°	3.5	50	5.12	100	6	2	CECNL2025005500	CECNL2025005500A
3.0	0.5R	1.5°	4.5	25	4.07	75	6	2	CECNL2030005250	CECNL2030005250A
3.0	1.0R	1.5°	4.5	25	4.07	75	6	2	CECNL2030010250	CECNL2030010250A
3.0	1.0R	1.5°	4.5	40	4.86	75	6	2	CECNL2030010400	CECNL2030010400A
3.0	1.0R	1.5°	4.5	50	5.38	100	6	2	CECNL2030010500	CECNL2030010500A
4.0	0.5R	1.5°	6.0	25	5.00	100	8	2	CECNL2040005250	CECNL2040005250A
4.0	0.5R	1.5°	6.0	50	6.30	100	8	2	CECNL2040005500	CECNL2040005500A
4.0	1.0R	1.5°	6.0	25	5.00	100	8	2	CECNL2040010250	CECNL2040010250A
4.0	1.0R	1.5°	6.0	50	6.30	100	8	2	CECNL2040010500	CECNL2040010500A
5.0	1.0R	1.5°	7.0	35	6.47	100	10	2	CECNL2050010350	CECNL2050010350A
5.0	1.0R	1.5°	7.0	50	7.25	100	10	2	CECNL2050010500	CECNL2050010500A
6.0	1.0R	1.5°	8.0	35	7.41	100	10	2	CECNL2060010350	CECNL2060010350A
6.0	1.0R	1.5°	8.0	50	8.20	100	10	2	CECNL2060010500	CECNL2060010500A

切削條件表 Cutting Condition P.534
技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 高導微柄/小柄/標準型- 2刃

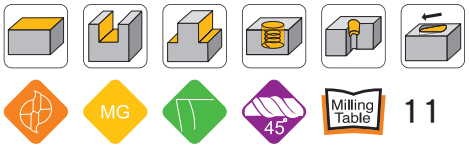
S220 MICRO GRAIN CARBIDE END MILLS- High Helix For Aluminum- 2F

- CEXS20000
- CEXM20000
- CEX20000



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



11

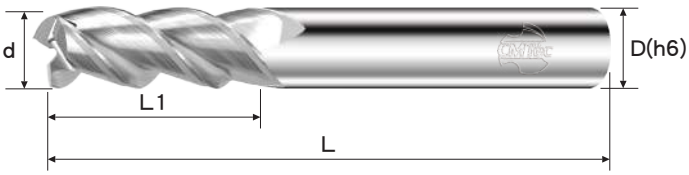
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
1.0	3	50	3	2	CEXS20100
1.5	4.5	50	3	2	CEXS20150
2.0	6	50	3	2	CEXS20200
3.0	9	50	3	2	CEXS20300
1.0	3	50	4	2	CEXM20100
1.5	4.5	50	4	2	CEXM20150
2.0	6	50	4	2	CEXM20200
3.0	9	50	6	2	CEX20300
4.0	12	50	6	2	CEX20400
5.0	15	50	6	2	CEX20500
6.0	18	50	6	2	CEX20600
8.0	20	60	8	2	CEX20800
10.0	30	75	10	2	CEX21000
12.0	30	75	12	2	CEX21200
16.0	40	100	16	2	CEX21600
20.0	45	100	20	2	CEX22000

➡ 切削條件表 Cutting Condition P.540
➡ 技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 高導微柄/小柄/標準型- 3刃

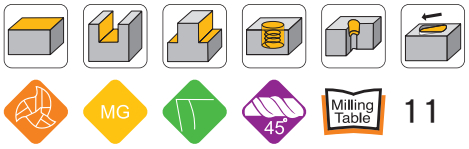
S220 MICRO GRAIN CARBIDE END MILLS- High Helix For Aluminum- 3F

- CEXS30000
- CEXM30000
- CEX30000



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



11

切 削 實 例
CUT EXAMPLES

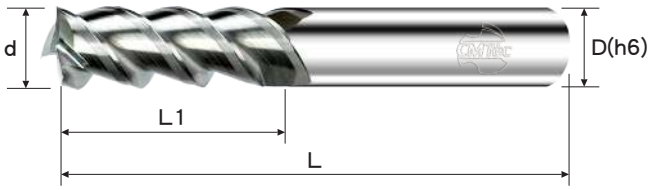
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
3.0	9	50	3	3	CEXS30300
1.0	3	50	4	3	CEXM30100
1.5	4.5	50	4	3	CEXM30150
2.0	6	50	4	3	CEXM30200
3.0	9	50	4	3	CEXM30300
4.0	12	50	4	3	CEXM30400
1.0	3	50	6	3	CEX30100
1.5	4.5	50	6	3	CEX30150
2.0	6	50	6	3	CEX30200
3.0	9	50	6	3	CEX30300
4.0	12	50	6	3	CEX30400
5.0	15	50	6	3	CEX30500
6.0	18	50	6	3	CEX30600
8.0	20	60	8	3	CEX30800
10.0	30	75	10	3	CEX31000
12.0	30	75	12	3	CEX31200
16.0	40	100	16	3	CEX31600
20.0	45	100	20	3	CEX32000

→ 切削條件表 Cutting Condition P.540
→ 技術資料 Technical Data P.622

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

· CEXX30000



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

11

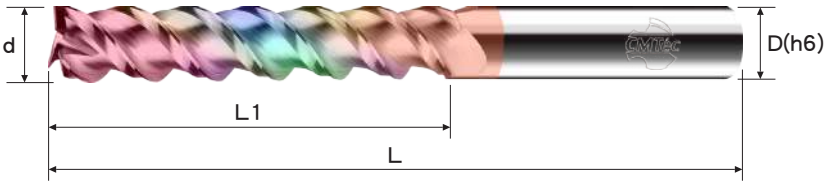
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
3.0	9	50	6	3	CEXX30300
4.0	12	50	6	3	CEXX30400
5.0	15	50	6	3	CEXX30500
6.0	18	60	6	3	CEXX30600
8.0	20	60	8	3	CEXX30800
10.0	30	75	10	3	CEXX31000
12.0	30	75	12	3	CEXX31200
16.0	40	100	16	3	CEXX31600
20.0	45	100	20	3	CEXX32000

➡ 切削條件表 Cutting Condition P.540
➡ 技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 強力長刃型- 3刃

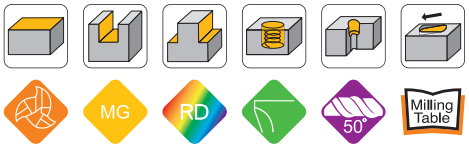
MICRO GRAIN CARBIDE END MILLS- Square Type & Long Flute - Power Cutting- Aluminum- 3F

· CEXHF3 0000R



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



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NEW SIZE

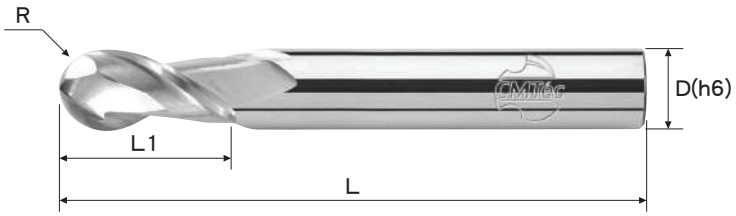
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	15	60	4	3	CEXHFM30300	CEXHFM30300R
4.0	20	60	4	3	CEXHFM30400	CEXHFM30400R
3.0	15	60	6	3	CEXHF30300	CEXHF30300R
4.0	20	60	6	3	CEXHF30400	CEXHF30400R
5.0	25	60	6	3	CEXHF30500	CEXHF30500R
6.0	30	75	6	3	CEXHF30600	CEXHF30600R
8.0	45	100	8	3	CEXHF30800	CEXHF30800R
10.0	55	100	10	3	CEXHF31000	CEXHF31000R
12.0	55	100	12	3	CEXHF31200	CEXHF31200R
14.0	75	150	14	3	CEXHF31400	CEXHF31400R
16.0	75	150	16	3	CEXHF31600	CEXHF31600R
18.0	90	150	18	3	CEXHF31800	CEXHF31800R
20.0	90	150	20	3	CEXHF32000	CEXHF32000R

切削條件表 Cutting Condition P.572
技術資料 Technical Data P.622

S220 鎢鋼鋁用球型銑刀- 小柄/標準型- 2刃

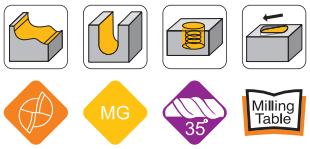
S220 MICRO GRAIN CARBIDE END MILLS- Ball Nose For Aluminum- 2F

· CEXBM2□□□□
· CEXB2□□□□



半徑 R	公差 Tolerance
R	±0.02

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



12

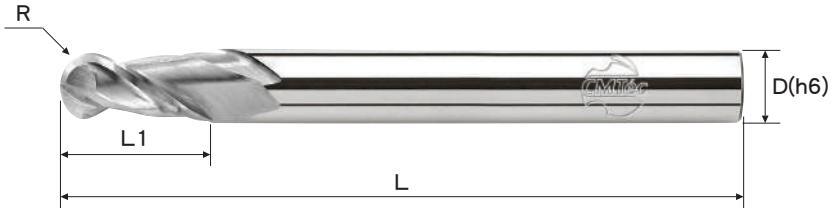
NEW SIZE

半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
1.0R	4	50	4	2	CEXBM20100
2.0R	8	50	4	2	CEXBM20200
1.0R	4	50	6	2	CEXB20100
1.5R	6	50	6	2	CEXB20150
2.0R	8	50	6	2	CEXB20200
2.5R	10	50	6	2	CEXB20250
3.0R	12	50	6	2	CEXB20300
4.0R	16	60	8	2	CEXB20400
5.0R	20	75	10	2	CEXB20500
6.0R	24	75	12	2	CEXB20600
8.0R	32	100	16	2	CEXB20800

S220 鎢鋼鋁用球型銑刀- 長柄型- 2刃

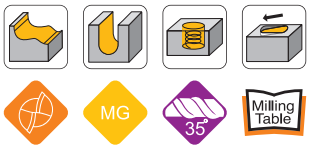
S220 MICRO GRAIN CARBIDE END MILLS- Ball Nose & Long Shank For Aluminum- 2F

· CEXBL2□□□□



半徑 R	公差 Tolerance
R	±0.02

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



12

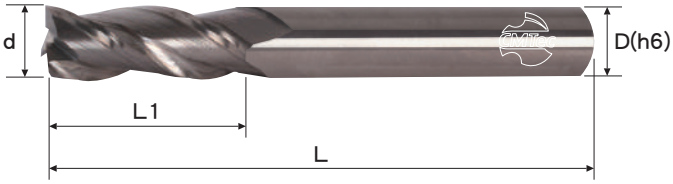
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
1.0R	4	75	6	2	CEXBL20100
2.0R	8	75	6	2	CEXBL20200
2.5R	10	75	6	2	CEXBL20250
3.0R	12	75	6	2	CEXBL20300
4.0R	16	100	8	2	CEXBL20400
5.0R	20	100	10	2	CEXBL20500
6.0R	24	100	12	2	CEXBL20600
8.0R	32	150	16	2	CEXBL20800

➡ 切削條件表 Cutting Condition P.540
➡ 技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 波浪型- 3刃

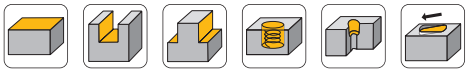
S220 MICRO GRAIN CARBIDE END MILLS- Sinus Edge(Wave) Type For Aluminum- 3F

· CEXRS30000



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



13

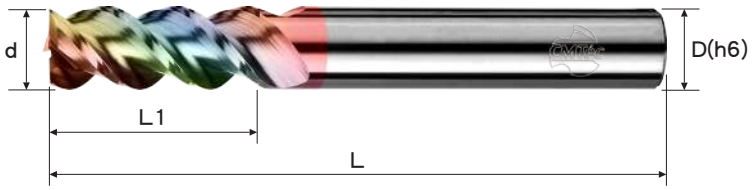
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
6.0	15	50	6	3	CEXRS30600
8.0	20	60	8	3	CEXRS30800
10.0	25	75	10	3	CEXRS31000
12.0	30	75	12	3	CEXRS31200
16.0	40	100	16	3	CEXRS31600
20.0	45	100	20	3	CEXRS32000

➡ 切削條件表 Cutting Condition P.541
➡ 技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 強力型- 3刃

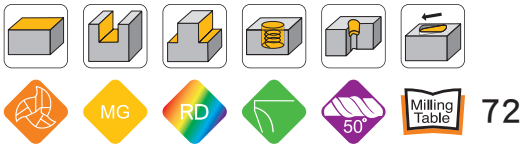
MICRO GRAIN CARBIDE END MILLS- Square Type- Power Cutting- Aluminum- 3F

· CEXSH30000R



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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NEW SIZE

切削實例 CUT EXAMPLES

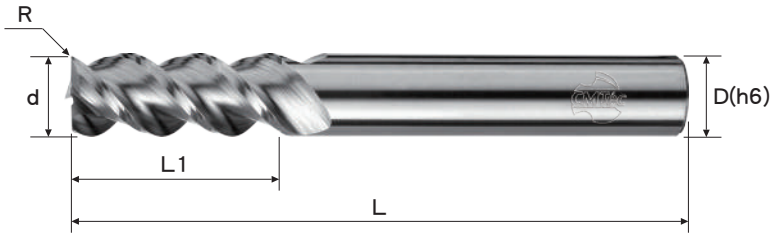
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	6	50	4	3	CEXSHM30200	CEXSHM30200R
3.0	9	50	4	3	CEXSHM30300	CEXSHM30300R
4.0	12	50	4	3	CEXSHM30400	CEXSHM30400R
2.0	6	50	6	3	CEXSH30200	CEXSH30200R
3.0	9	50	6	3	CEXSH30300	CEXSH30300R
4.0	12	50	6	3	CEXSH30400	CEXSH30400R
5.0	15	50	6	3	CEXSH30500	CEXSH30500R
6.0	18	50	6	3	CEXSH30600	CEXSH30600R
8.0	24	60	8	3	CEXSH30800	CEXSH30800R
8.0	35	75	8	3	CEXSH30800350C	CEXSH30800350CR
10.0	30	75	10	3	CEXSH31000	CEXSH31000R
12.0	35	75	12	3	CEXSH31200	CEXSH31200R
16.0	40	100	16	3	CEXSH31600	CEXSH31600R
20.0	45	100	20	3	CEXSH32000	CEXSH32000R

➡ 切削條件表 Cutting Condition P.572
➡ 技術資料 Technical Data P.622

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

- CEXCRSHM3000000
- CEXCRSH3000000



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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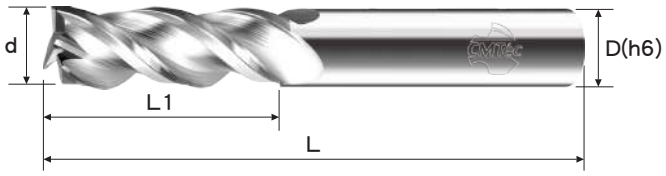
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
2.0	0.2R	6	50	4	3	CEXCRSHM3020002
2.0	0.3R	6	50	4	3	CEXCRSHM3020003
3.0	0.5R	9	50	4	3	CEXCRSHM3030005
3.0	1.0R	9	50	4	3	CEXCRSHM3030010
4.0	0.5R	12	50	4	3	CEXCRSHM3040005
4.0	1.0R	12	50	4	3	CEXCRSHM3040010
2.0	0.2R	6	50	6	3	CEXCRSH3020002
2.0	0.3R	6	50	6	3	CEXCRSH3020003
3.0	0.5R	9	50	6	3	CEXCRSH3030005
3.0	1.0R	9	50	6	3	CEXCRSH3030010
4.0	0.5R	12	50	6	3	CEXCRSH3040005
4.0	1.0R	12	50	6	3	CEXCRSH3040010
5.0	0.5R	15	50	6	3	CEXCRSH3050005
5.0	1.0R	15	50	6	3	CEXCRSH3050010
6.0	0.5R	18	50	6	3	CEXCRSH3060005
6.0	1.0R	18	50	6	3	CEXCRSH3060010
8.0	0.5R	24	60	8	3	CEXCRSH3080005
8.0	1.0R	24	60	8	3	CEXCRSH3080010
10.0	0.5R	30	75	10	3	CEXCRSH3100005
10.0	1.0R	30	75	10	3	CEXCRSH3100010
10.0	1.5R	30	75	10	3	CEXCRSH3100015
10.0	2.0R	30	75	10	3	CEXCRSH3100020
12.0	0.5R	35	75	12	3	CEXCRSH3120005
12.0	1.0R	35	75	12	3	CEXCRSH3120010
12.0	1.5R	35	75	12	3	CEXCRSH3120015
12.0	2.0R	35	75	12	3	CEXCRSH3120020
12.0	3.0R	35	75	12	3	CEXCRSH3120030
16.0	0.5R	40	100	16	3	CEXCRSH3160005
16.0	1.0R	40	100	16	3	CEXCRSH3160010
16.0	1.5R	40	100	16	3	CEXCRSH3160015
16.0	2.0R	40	100	16	3	CEXCRSH3160020
16.0	3.0R	40	100	16	3	CEXCRSH3160030
20.0	0.5R	45	100	20	3	CEXCRSH3200005
20.0	1.0R	45	100	20	3	CEXCRSH3200010
20.0	1.5R	45	100	20	3	CEXCRSH3200015
20.0	2.0R	45	100	20	3	CEXCRSH3200020
20.0	3.0R	45	100	20	3	CEXCRSH3200030

➡ 切削條件表 Cutting Condition P.572
➡ 技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 高效型- 3刃

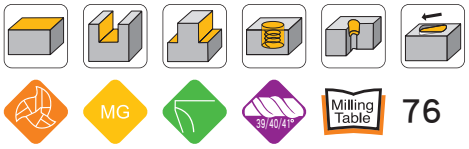
S220 MICRO GRAIN CARBIDE END MILLS- High Performance For Aluminum- 3F

· CEXV3



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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切 削 實 例
CUT EXAMPLES

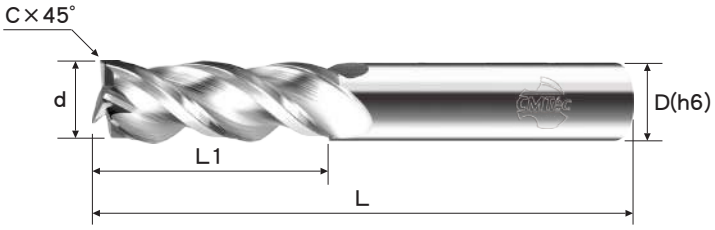
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
3.0	9	50	6	3	CEXV30300
4.0	12	50	6	3	CEXV30400
5.0	15	50	6	3	CEXV30500
6.0	18	50	6	3	CEXV30600
8.0	24	60	8	3	CEXV30800
10.0	30	75	10	3	CEXV31000
12.0	35	75	12	3	CEXV31200
16.0	40	100	16	3	CEXV31600

➡ 切削條件表 Cutting Condition P.575
➡ 技術資料 Technical Data P.622

S220 鎢鋼鋁用平銑刀- 高效倒角型- 3刃

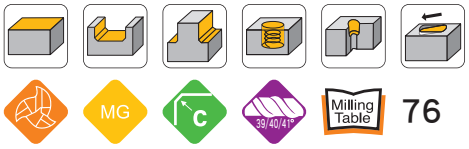
S220 MICRO GRAIN CARBIDE END MILLS- High Performance & Chamfering For Aluminum- 3F

· CEXV30000-C0000



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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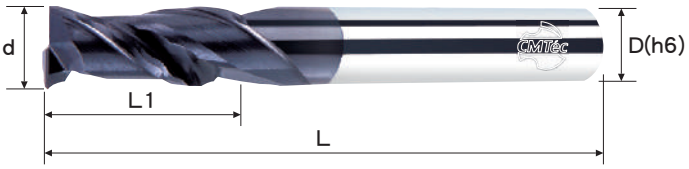
刃徑 d	倒C角 C(Max)	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
3.0	0.1	9	50	6	3	CEXV30300-C0010
4.0	0.2	12	50	6	3	CEXV30400-C0020
5.0	0.2	15	50	6	3	CEXV30500-C0020
6.0	0.2	18	50	6	3	CEXV30600-C0020
8.0	0.3	24	60	8	3	CEXV30800-C0030
10.0	0.3	30	75	10	3	CEXV31000-C0030
12.0	0.4	35	75	12	3	CEXV31200-C0040
16.0	0.4	40	100	16	3	CEXV31600-C0040

➡ 切削條件表 Cutting Condition P.575 ➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 波浪型- 2/3/4刃

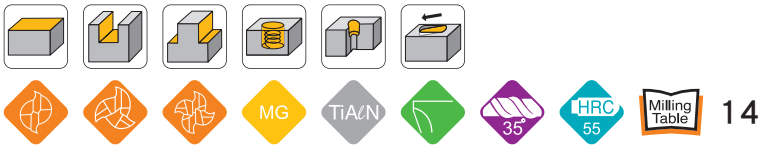
S220 MICRO GRAIN CARBIDE END MILLS- Sinus Edge (Wave) Type- 2/3/4F

· CERS20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



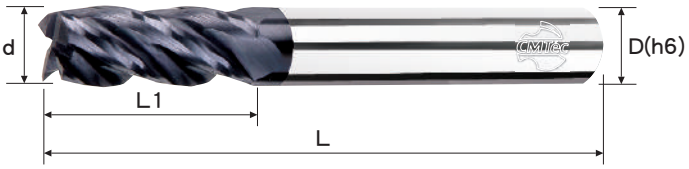
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	2	CERS20600A
8.0	20	60	8	2	CERS20800A
10.0	25	75	10	2	CERS21000A
12.0	30	75	12	2	CERS21200A

· CERS30000A

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

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	3	CERS30600A
8.0	20	60	8	3	CERS30800A
10.0	25	75	10	3	CERS31000A
12.0	30	75	12	3	CERS31200A
16.0	40	100	16	3	CERS31600A
20.0	45	100	20	3	CERS32000A

· CERS40000A



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

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	4	CERS40600A
8.0	20	60	8	4	CERS40800A
10.0	25	75	10	4	CERS41000A
12.0	30	75	12	4	CERS41200A
16.0	40	100	16	4	CERS41600A
20.0	45	100	20	4	CERS42000A

➡ 切削條件表 Cutting Condition P.541
➡ 技術資料 Technical Data P.622

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

- CESHM20000F
- CESH20000F

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

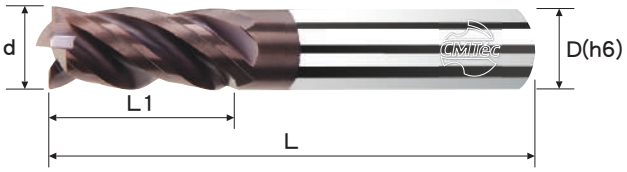
MG FIRE 35° HRC 55 Milling Table 15

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	2	CESHM20200	CESHM20200F
3.0	8	50	4	2	CESHM20300	CESHM20300F
4.0	10	50	4	2	CESHM20400	CESHM20400F
3.0	8	50	6	2	CESH20300	CESH20300F
4.0	10	50	6	2	CESH20400	CESH20400F
5.0	13	50	6	2	CESH20500	CESH20500F
6.0	15	50	6	2	CESH20600	CESH20600F
8.0	20	60	8	2	CESH20800	CESH20800F
10.0	25	75	10	2	CESH21000	CESH21000F
12.0	30	75	12	2	CESH21200	CESH21200F
16.0	35	100	16	2	CESH21600	CESH21600F

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

- CESHM40000F
- CESH40000F



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

MG FIRE 35° HRC 55 Milling Table 16

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	4	CESHM40200	CESHM40200F
3.0	8	50	4	4	CESHM40300	CESHM40300F
4.0	10	50	4	4	CESHM40400	CESHM40400F
3.0	8	50	6	4	CESH40300	CESH40300F
4.0	10	50	6	4	CESH40400	CESH40400F
5.0	13	50	6	4	CESH40500	CESH40500F
6.0	15	50	6	4	CESH40600	CESH40600F
8.0	20	60	8	4	CESH40800	CESH40800F
10.0	25	75	10	4	CESH41000	CESH41000F
12.0	30	75	12	4	CESH41200	CESH41200F
16.0	35	100	16	4	CESH41600	CESH41600F

→ 切削條件表 Cutting Condition P.542
→ 技術資料 Technical Data P.622

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

- CEHSM2 0000F
- CEHS2 0000F

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

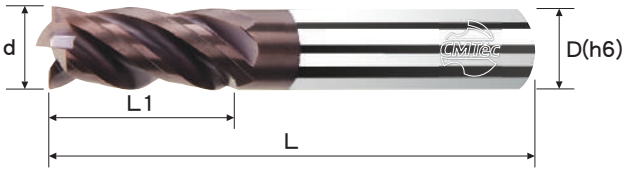
MG FIRE 45° HRC 55 Milling Table 17

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	2	CEHSM20200	CEHSM20200F
3.0	8	50	4	2	CEHSM20300	CEHSM20300F
4.0	10	50	4	2	CEHSM20400	CEHSM20400F
3.0	8	50	6	2	CEHS20300	CEHS20300F
4.0	10	50	6	2	CEHS20400	CEHS20400F
5.0	13	50	6	2	CEHS20500	CEHS20500F
6.0	15	50	6	2	CEHS20600	CEHS20600F
8.0	20	60	8	2	CEHS20800	CEHS20800F
10.0	25	75	10	2	CEHS21000	CEHS21000F
12.0	30	75	12	2	CEHS21200	CEHS21200F
16.0	35	100	16	2	CEHS21600	CEHS21600F

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

- CEHSM4 0000F
- CEHS4 0000F



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

MG FIRE 45° HRC 55 Milling Table 18

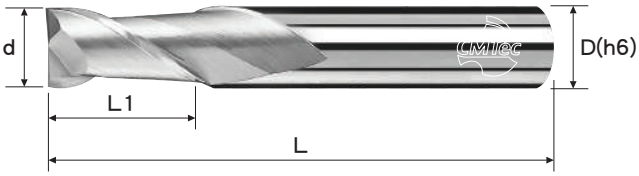
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	5	50	4	4	CEHSM40200	CEHSM40200F
3.0	8	50	4	4	CEHSM40300	CEHSM40300F
4.0	10	50	4	4	CEHSM40400	CEHSM40400F
3.0	8	50	6	4	CEHS40300	CEHS40300F
4.0	10	50	6	4	CEHS40400	CEHS40400F
5.0	13	50	6	4	CEHS40500	CEHS40500F
6.0	15	50	6	4	CEHS40600	CEHS40600F
8.0	20	60	8	4	CEHS40800	CEHS40800F
10.0	25	75	10	4	CEHS41000	CEHS41000F
12.0	30	75	12	4	CEHS41200	CEHS41200F
16.0	35	100	16	4	CEHS41600	CEHS41600F

➡ 切削條件表 Cutting Condition P.543 ➡ 技術資料 Technical Data P.622

S220 鎢鋼銅鋁用平銑刀- 小柄/標準型- 2刃

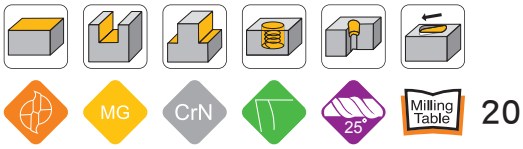
S220 CARBIDE END MILLS- Square Type For Copper, Aluminum- 2F

· CESCM2□□□□-□□A
· CESC2□□□□-□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

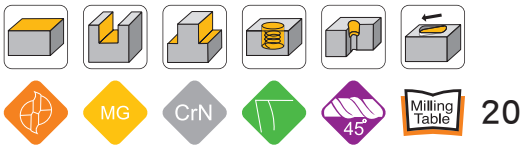


20

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5	1	50	4	2	CESCM20050-25	CESCM20050-25A
1.0	2	50	4	2	CESCM20100-25	CESCM20100-25A
1.5	3	50	4	2	CESCM20150-25	CESCM20150-25A
2.0	4	50	4	2	CESCM20200-25	CESCM20200-25A
2.5	5	50	4	2	CESCM20250-25	CESCM20250-25A
3.0	6	50	6	2	CESC20300-25	CESC20300-25A
4.0	8	50	6	2	CESC20400-25	CESC20400-25A
5.0	10	60	6	2	CESC20500-25	CESC20500-25A
6.0	12	60	6	2	CESC20600-25	CESC20600-25A
8.0	16	60	8	2	CESC20800-25	CESC20800-25A
10.0	20	75	10	2	CESC21000-25	CESC21000-25A
12.0	24	75	12	2	CESC21200-25	CESC21200-25A

· CESCM2□□□□-□□A
· CESC2□□□□-□□A

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



20

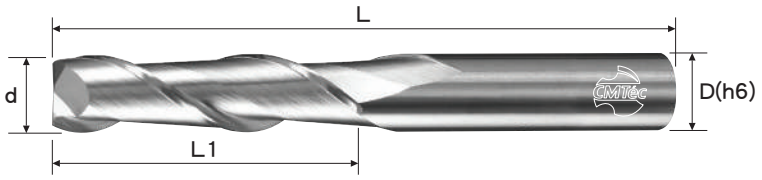
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5	1	50	4	2	CESCM20050-45	CESCM20050-45A
1.0	2	50	4	2	CESCM20100-45	CESCM20100-45A
1.5	3	50	4	2	CESCM20150-45	CESCM20150-45A
2.0	4	50	4	2	CESCM20200-45	CESCM20200-45A
2.5	5	50	4	2	CESCM20250-45	CESCM20250-45A
3.0	6	50	6	2	CESC20300-45	CESC20300-45A
4.0	8	50	6	2	CESC20400-45	CESC20400-45A
5.0	10	60	6	2	CESC20500-45	CESC20500-45A
6.0	12	60	6	2	CESC20600-45	CESC20600-45A
8.0	16	60	8	2	CESC20800-45	CESC20800-45A
10.0	20	75	10	2	CESC21000-45	CESC21000-45A
12.0	24	75	12	2	CESC21200-45	CESC21200-45A

➡ 切削條件表 Cutting Condition P.544
➡ 技術資料 Technical Data P.622

S220 鎢鋼銅鋁用平銑刀- 長刃型- 2刃

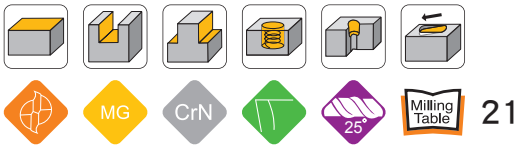
S220 CARBIDE END MILLS- Square & Long Flute For Copper, Aluminum- 2F

· CELFC2□□□□-□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

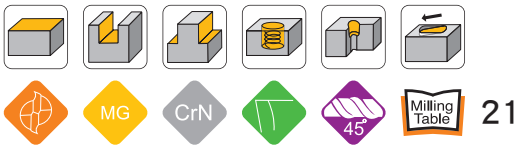


21

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	12	60	6	2	CELFC20300-25	CELFC20300-25A
4.0	16	60	6	2	CELFC20400-25	CELFC20400-25A
5.0	20	75	6	2	CELFC20500-25	CELFC20500-25A
6.0	24	75	6	2	CELFC20600-25	CELFC20600-25A
8.0	32	90	8	2	CELFC20800-25	CELFC20800-25A
10.0	40	100	10	2	CELFC21000-25	CELFC21000-25A
12.0	48	110	12	2	CELFC21200-25	CELFC21200-25A

· CELFC2□□□□-□□A

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



21

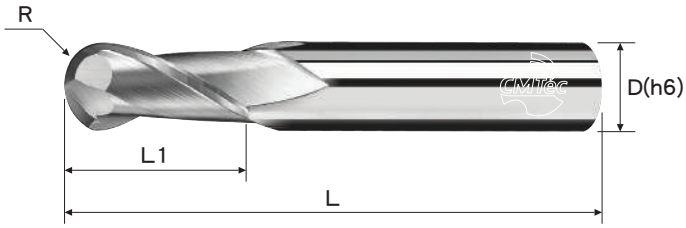
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	12	60	6	2	CELFC20300-45	CELFC20300-45A
4.0	16	60	6	2	CELFC20400-45	CELFC20400-45A
5.0	20	75	6	2	CELFC20500-45	CELFC20500-45A
6.0	24	75	6	2	CELFC20600-45	CELFC20600-45A
8.0	32	90	8	2	CELFC20800-45	CELFC20800-45A
10.0	40	100	10	2	CELFC21000-45	CELFC21000-45A
12.0	48	110	12	2	CELFC21200-45	CELFC21200-45A

➡ 切削條件表 Cutting Condition P.545
➡ 技術資料 Technical Data P.622

S220 鎢鋼銅鋁用球型銑刀- 小柄/標準型- 2刃

S220 CARBIDE END MILLS- Ball Nose For Copper, Aluminum- 2F

- CEBCM2□□□□A
- CEBC2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

22

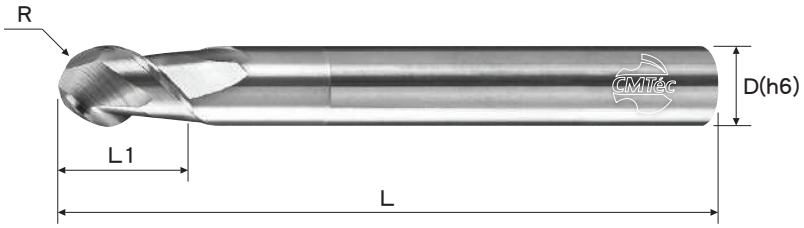
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	2	50	4	2	CEBCM20050	CEBCM20050A
0.75R	3	50	4	2	CEBCM20075	CEBCM20075A
1.0R	4	50	6	2	CEBC20100	CEBC20100A
1.25R	5	50	6	2	CEBC20125	CEBC20125A
1.5R	6	50	6	2	CEBC20150	CEBC20150A
2.0R	8	50	6	2	CEBC20200	CEBC20200A
2.5R	10	50	6	2	CEBC20250	CEBC20250A
3.0R	12	50	6	2	CEBC20300	CEBC20300A
4.0R	16	60	8	2	CEBC20400	CEBC20400A
5.0R	20	75	10	2	CEBC20500	CEBC20500A
6.0R	24	75	12	2	CEBC20600	CEBC20600A

➡ 切削條件表 Cutting Condition P.545
➡ 技術資料 Technical Data P.622

S220 鎢鋼銅鋁用球型銑刀- 長頸型- 2刃

S220 CARBIDE END MILLS- Long Neck Ball Nose For Copper, Aluminum- 2F

· CEBNCM2 0000A
· CEBNC2 0000A



半徑 R	公差 Tolerance
R	±0.02

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

23

半徑 R	刃長 L1	有效長 L2	頸徑 Nd	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	1.5	4	0.95	50	4	2	CEBNCM20050040	CEBNCM20050040A
		6					CEBNCM20050060	CEBNCM20050060A
1.0R	3.0	8	1.94	50	4	2	CEBNCM20100080	CEBNCM20100080A
		14					CEBNCM20100140	CEBNCM20100140A
1.5R	4.5	15	2.85	60	6	2	CEBNC20150150	CEBNC20150150A
		25					CEBNC20150250	CEBNC20150250A
2.0R	6.0	20	3.80	60	6	2	CEBNC20200200	CEBNC20200200A
		30		75			CEBNC20200300	CEBNC20200300A
3.0R	9.0	20	5.80	60	6	2	CEBNC20300200	CEBNC20300200A
		30		90	8		CEBNC20300300	CEBNC20300300A
4.0R	12.0	20	7.80	75	8	2	CEBNC20400200	CEBNC20400200A
		40		100	10		CEBNC20400400	CEBNC20400400A
5.0R	15.0	30	9.80	90	10	2	CEBNC20500300	CEBNC20500300A
		50		120	12		CEBNC20500500	CEBNC20500500A
6.0R	18.0	40	11.80	110	12	2	CEBNC20600400	CEBNC20600400A
		60		130	16		CEBNC20600600	CEBNC20600600A

切削條件表 Cutting Condition P.546
技術資料 Technical Data P.622

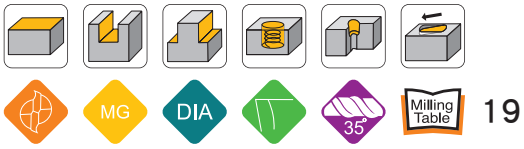
S220 鎢鋼平銑刀- 石墨專用型- 2刃

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

· CESGM2□□□□A
· CESG2□□□□A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



19

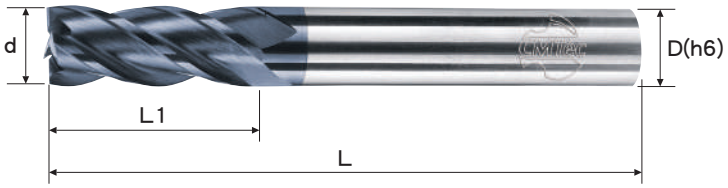
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	2	CESGM20100A
2.0	6	50	4	2	CESGM20200A
3.0	8	50	4	2	CESGM20300A
4.0	10	50	4	2	CESGM20400A
3.0	8	50	6	2	CESG20300A
4.0	10	50	6	2	CESG20400A
5.0	13	50	6	2	CESG20500A
6.0	15	50	6	2	CESG20600A
8.0	20	60	8	2	CESG20800A
10.0	25	75	10	2	CESG21000A
12.0	30	75	12	2	CESG21200A

➡ 切削條件表 Cutting Condition P.544
➡ 技術資料 Technical Data P.622

S220 鎢鋼平銑刀- 石墨專用型- 4刃

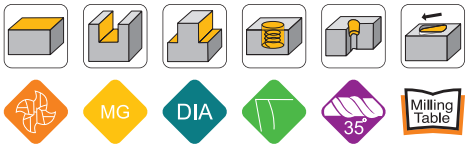
S220 CARBIDE END MILLS- Square Type- 4F For Graphite

· CESGM4 0000A
· CESG4 0000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



19

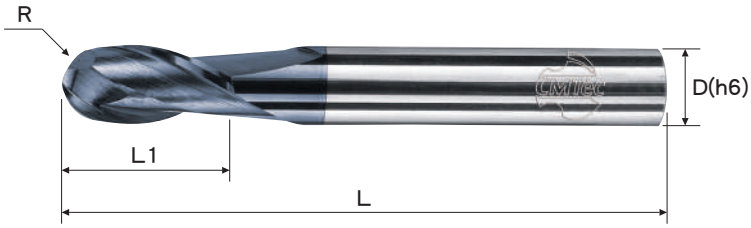
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
2.0	6	50	4	4	CESGM40200A
3.0	8	50	4	4	CESGM40300A
4.0	10	50	4	4	CESGM40400A
3.0	8	50	6	4	CESG40300A
4.0	10	50	6	4	CESG40400A
5.0	13	50	6	4	CESG40500A
6.0	15	50	6	4	CESG40600A
8.0	20	60	8	4	CESG40800A
10.0	25	75	10	4	CESG41000A
12.0	30	75	12	4	CESG41200A

➡ 切削條件表 Cutting Condition P.544
➡ 技術資料 Technical Data P.622

S220 鎢鋼球型銑刀- 石墨專用型- 2刃

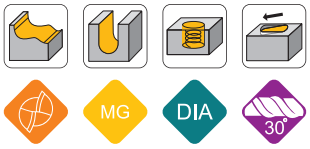
S220 CARBIDE END MILLS- Ball Nose- 2F For Graphite

- CEBGM2 0000A
- CEBG2 0000A



半徑 R	公差 Tolerance
R	±0.02

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



MG DIA 30° Milling Table 19

半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
0.5R	2	60	4	2	CEBGM20050A
1.0R	4	60	4	2	CEBGM20100A
1.5R	6	60	4	2	CEBGM20150A
2.0R	8	60	4	2	CEBGM20200A
1.5R	6	60	6	2	CEBG20150A
2.0R	8	60	6	2	CEBG20200A
2.5R	10	60	6	2	CEBG20250A
3.0R	12	60	6	2	CEBG20300A
4.0R	16	60	8	2	CEBG20400A
5.0R	20	75	10	2	CEBG20500A
6.0R	24	75	12	2	CEBG20600A

➡ 切削條件表 Cutting Condition P.544
➡ 技術資料 Technical Data P.622

M520
極細鎢鋼銑刀系列

Ultra Carbide End Mills Series

合金鋼	調質鋼≦55HRC
不銹鋼	鈦合金 / 鎳基合金

For Difficult-to-Cut materials (high-temp alloy), stainless steel (300 series), alloy steel and hardened steel (≦55HRC) machining.

模具加工專用刀具。
Cutting tools for mold processing
包裝盒蓋 / 藍色
Color of M520 packaging box / Blue

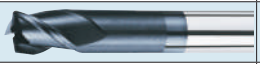
產品選擇表 Product Selection Table

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 應用於鋼材(≦55HRC)加工 For Alloy Steel (≦55HRC) Machining.						
平刀 Square	二刃 2 Flutes	MESS20000A	微小徑型 -Micro Dia.		Ø0.2 ~ Ø3.0	98
		MESM20000A			Ø0.2 ~ Ø0.9	98
		MESM20000A			Ø1 ~ Ø4	99
		MES20000A			Ø3 ~ Ø25	100
	四刃 4 Flutes	MESS40000A			Ø1 ~ Ø3	101
		MESM40000A			Ø1 ~ Ø4	101
		MES40000A	NEW SIZE		Ø3 ~ Ø25	102
短刃平刀 Short Flute Square	二刃 2 Flutes	MESD20000A	短刃型 -Short Flute		Ø1 ~ Ø12	103
	四刃 4 Flutes	MESD40000A	短刃型 -Short Flute		Ø3 ~ Ø12	104
長柄平刀 Long Shank Square	二刃 2 Flutes	MESDL20000A	短刃型 -Short Flute		Ø1 ~ Ø12	103
	四刃 4 Flutes	MESDL40000A	短刃型 -Short Flute		Ø3 ~ Ø12	104
長頸平刀 Long Neck Square	二刃 2 Flutes	MEN20000000A			Ø1 ~ Ø4	105
球刀 Ball	二刃 2 Flutes	MEBS20000A	微小徑型 -Micro Dia.		0.05R ~ 1.5R	106
		MEBM20000A			0.05R ~ 0.5R	106
		MEB(M)20000A			0.5R ~10.0R	107
	四刃 4 Flutes	MEB(M)40000A			1R ~ 8R	108
短刃球刀 Short Flute Ball	二刃 2 Flutes	MEBDM20000A	短刃型 -Short Flute		0.15R~1.50R	109
		MEBD20000A	短刃型 -Short Flute		1R ~ 6R	109
長柄球刀 Long Shank Ball	二刃 2 Flutes	MEBML20000A			1R ~ 2R	110
		MEBL20000A			1R ~ 10R	110
	二刃 2 Flutes	MEBDML20000A	短刃型 -Short Flute		0.5R ~ 1.5R	111
		MEBDL20000A	短刃型 -Short Flute		1R ~ 6R	111
長頸球刀 Long Neck Ball	二刃 2 Flutes	MEBN20000000A			0.5R ~ 2.0R	112
	四刃 4 Flutes	MEBN40000000A			0.5R ~ 2.0R	113
圓鼻刀 Corner Radius	二刃 2 Flutes	MECR(M)2000000A	NEW SIZE		Ø1 ~ Ø12	114
	四刃 4 Flutes	MECR(M)4000000A	NEW SIZE		Ø1 ~ Ø12	115

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												A	B	C	D
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	○	◎	○	—
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	○	◎	○	—
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	○	◎	○	—
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	◎
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	◎
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	○	—
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	○	—
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	◎
◎	◎	◎	◎	○	○	◎	—	—	—	○	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

產品選擇表 Product Selection Table

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 應用於鋼材(≦55HRC)加工 For Alloy Steel (≦55HRC) Machining.						
圓鼻刀 Corner Radius	四刃 4 Flutes	MECD(M)4000000A	短刃型 -Short Flute		Ø1 ~ Ø12	116
長柄圓鼻刀 Long Shsnk Corner Radius	三刃 3 Flutes	MECDL30000A	短刃型 -Short Flute		Ø3 ~ Ø12	117
	四刃 4 Flutes	MECDL40000A	短刃型 -Short Flute		Ø3 ~ Ø12	118
長頸圓鼻刀 Long Neck Corner Radius	二刃 2 Flutes	MECRN2000000000A			Ø1 ~ Ø6	119 ~ 121
	四刃 4 Flutes	MECRN4000000000A			Ø1 ~ Ø6	122 ~ 124
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	125
		MEBYM20000A	高精度型 -High Tolerance		0.1R ~ 2R	125
		MEBY20000A	高精度型 -High Tolerance		1R ~ 3R	126
	四刃 4 Flutes	MEBYM40000A	高精度型 -High Tolerance		1R ~ 2R	127
		MEBY40000A	高精度型 -High Tolerance		3R	127
圓鼻刀 Corner Radius	二刃 2 Flutes	MECYM2000000A	高精度型 -High Tolerance		Ø1 ~ Ø3	128
		MECY2000000A	高精度型 -High Tolerance		Ø4 ~ Ø6	128
	四刃 4 Flutes	MECY4000000A	高精度型 -High Tolerance		Ø3 ~ Ø6	129
應用於鋼材(≦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	130
應用於鋼材(≦55HRC)加工 For Alloy 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	131
	四刃 4 Flutes	MEHHD40000A	短刃型 -Short Flute		Ø3 ~ Ø12	131
		MEHH40000A			Ø3 ~ Ø20	132
圓鼻刀 Corner Radius	四刃 4 Flutes	MEHHCR4000000A			Ø3 ~ Ø20	133
應用於鋼材(≦55HRC)加工 For Alloy 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	134
		MEP40000-C0000A	倒角型 -Chamfering		Ø4 ~ Ø12	134
		MEP40000-R0000A	R角型 -Corner Radius NEW SIZE		Ø4 ~ Ø12	135

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	◎
◎	◎	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	◎	○
○	○	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
○	○	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
○	○	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	—	○	◎	○
○	○	◎	◎	○	○	◎	—	—	—	○	乾式 / 油霧 (Dry / Mist)	○	◎	○	—
○	○	◎	◎	○	○	◎	—	—	—	○	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 / 油霧 (Dry / Mist)	—	○	◎	◎
○	○	◎	◎	○	—	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	◎	◎	◎
○	○	◎	◎	○	—	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	◎	◎	◎
○	○	◎	◎	○	—	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	◎	◎	◎
◎	◎	◎	◎	○	○	◎	—	—	—	○	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

產品選擇表 Product Selection Table

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
應用於鋼材(≦55HRC)高效率加工 For Alloy 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 NEW SIZE		Ø3 ~ Ø12	138
圓鼻刀 Corner Radius	四刃 4 Flutes	MEVC4000000A	高效型 -High Performance		Ø3 ~ Ø20	139
球刀 Ball	四刃 4 Flutes	MEVB40000A	高效型 -High Performance		2.5R ~ 10R	140
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	141
長刃平刀 Long Flute Square	六刃 6 Flutes	MEDF60000A	高硬型 -High Hardness		Ø6 ~ Ø25	142
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		Ø1 ~ 25	143
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 NEW SIZE		Ø3 ~ Ø12	136
圓鼻刀 Corner Radius	四刃 4 Flutes	METVC4000000A	高效型 -High Performance NEW		Ø3 ~ Ø12	137

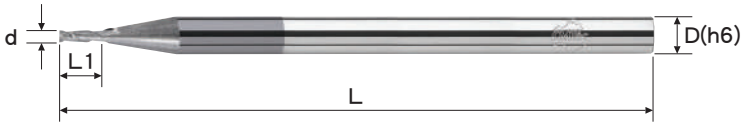
碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	◎	◎	◎	○	—	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	◎	◎	◎
◎	◎	◎	◎	○	—	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	◎	◎	◎
◎	◎	◎	◎	○	—	◎	—	—	—	—	乾式 / 油霧 (Dry / Mist)	—	◎	◎	◎
◎	◎	◎	◎	◎	○	◎	—	—	—	—	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)	—	◎	◎	◎

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

M520 極細鎢鋼平銑刀- 微柄/小柄型- 2刃

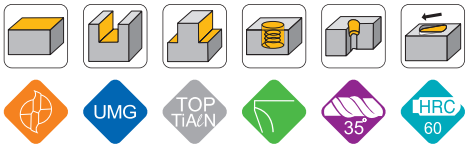
M520 ULTRA CARBIDE END MILLS- Square Type- Micro Diameter- 2F

· MESS20000A
· MESM20000A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.02

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



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刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.2	0.4	50	3	2	MESS20020	MESS20020A
0.25	0.5	50	3	2	MESS20025	MESS20025A
0.3	0.6	50	3	2	MESS20030	MESS20030A
0.35	0.7	50	3	2	MESS20035	MESS20035A
0.4	0.8	50	3	2	MESS20040	MESS20040A
0.5	1.0	50	3	2	MESS20050	MESS20050A
0.6	1.5	50	3	2	MESS20060	MESS20060A
0.7	2.0	50	3	2	MESS20070	MESS20070A
0.8	2.0	50	3	2	MESS20080	MESS20080A
0.9	2.0	50	3	2	MESS20090	MESS20090A
1.0	3.0	50	3	2	MESS20100	MESS20100A
1.5	4.0	50	3	2	MESS20150	MESS20150A
2.0	5.0	50	3	2	MESS20200	MESS20200A
2.5	6.0	50	3	2	MESS20250	MESS20250A
3.0	8.0	50	3	2	MESS20300	MESS20300A
0.2	0.4	50	4	2	MESM20020	MESM20020A
0.25	0.5	50	4	2	MESM20025	MESM20025A
0.3	0.6	50	4	2	MESM20030	MESM20030A
0.35	0.7	50	4	2	MESM20035	MESM20035A
0.4	0.8	50	4	2	MESM20040	MESM20040A
0.5	1.0	50	4	2	MESM20050	MESM20050A
0.6	1.5	50	4	2	MESM20060	MESM20060A
0.7	2.0	50	4	2	MESM20070	MESM20070A
0.8	2.0	50	4	2	MESM20080	MESM20080A
0.9	2.0	50	4	2	MESM20090	MESM20090A

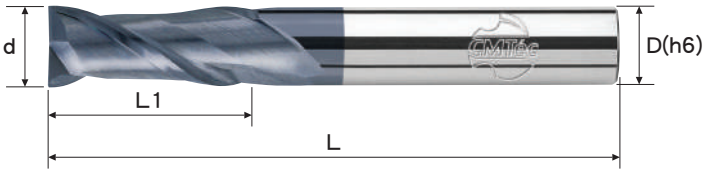
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.546
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 小柄/標準型- 2刃

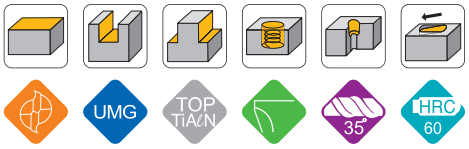
M520 ULTRA CARBIDE END MILLS- Square Type- 2F

· MESM20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	2	MESM20100	MESM20100A
1.5	4	50	4	2	MESM20150	MESM20150A
2.0	5	50	4	2	MESM20200	MESM20200A
2.5	6	50	4	2	MESM20250	MESM20250A
3.0	8	50	4	2	MESM20300	MESM20300A
3.5	9	50	4	2	MESM20350	MESM20350A
4.0	10	50	4	2	MESM20400	MESM20400A

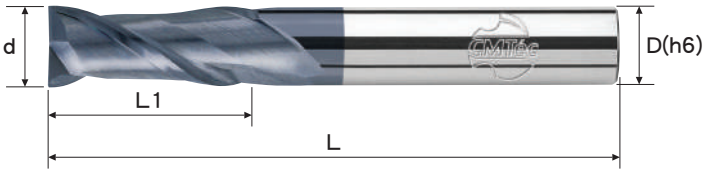
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.546
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 標準型- 2刃

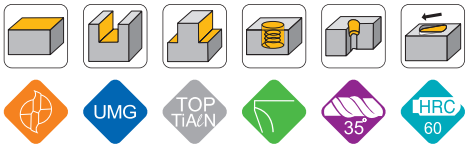
M520 ULTRA CARBIDE END MILLS- Square Type- 2F

· MES20000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



24

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	2	MES20300	MES20300A
3.5	9	50	6	2	MES20350	MES20350A
4.0	10	50	6	2	MES20400	MES20400A
4.5	11	50	6	2	MES20450	MES20450A
5.0	13	50	6	2	MES20500	MES20500A
5.5	14	50	6	2	MES20550	MES20550A
6.0	15	50	6	2	MES20600	MES20600A
6.5	16	60	8	2	MES20650	MES20650A
7.0	18	60	8	2	MES20700	MES20700A
7.5	18	60	8	2	MES20750	MES20750A
8.0	20	60	8	2	MES20800	MES20800A
8.5	20	75	10	2	MES20850	MES20850A
9.0	22	75	10	2	MES20900	MES20900A
9.5	22	75	10	2	MES20950	MES20950A
10.0	25	75	10	2	MES21000	MES21000A
10.5	25	75	12	2	MES21050	MES21050A
11.0	25	75	12	2	MES21100	MES21100A
12.0	30	75	12	2	MES21200	MES21200A
13.0	30	75	14	2	MES2130014	MES2130014A
14.0	30	75	14	2	MES2140014	MES2140014A
15.0	35	100	16	2	MES21500	MES21500A
16.0	35	100	16	2	MES21600	MES21600A
18.0	40	100	20	2	MES21800	MES21800A
20.0	45	100	20	2	MES22000	MES22000A
25.0	45	100	25	2	MES22500	MES22500A

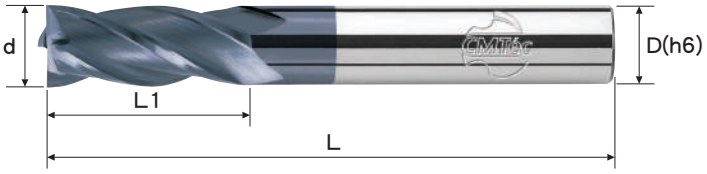
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.546
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 微柄/小柄型- 4刃

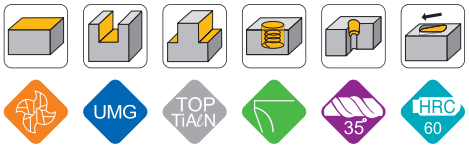
M520 ULTRA CARBIDE END MILLS- Square Type- 4F

· MESS4□□□□A
· MESM4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



26

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	3	50	3	4	MESS40100	MESS40100A
1.5	4	50	3	4	MESS40150	MESS40150A
2.0	5	50	3	4	MESS40200	MESS40200A
2.5	6	50	3	4	MESS40250	MESS40250A
3.0	8	50	3	4	MESS40300	MESS40300A
1.0	3	50	4	4	MESM40100	MESM40100A
1.5	4	50	4	4	MESM40150	MESM40150A
2.0	5	50	4	4	MESM40200	MESM40200A
2.5	6	50	4	4	MESM40250	MESM40250A
3.0	8	50	4	4	MESM40300	MESM40300A
3.5	9	50	4	4	MESM40350	MESM40350A
4.0	10	50	4	4	MESM40400	MESM40400A

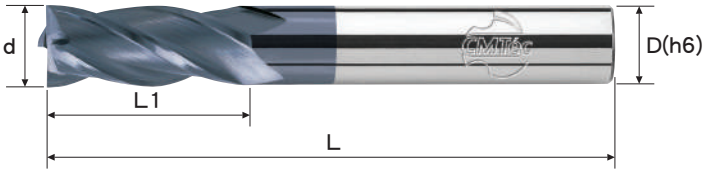
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.547
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 標準型- 4刃

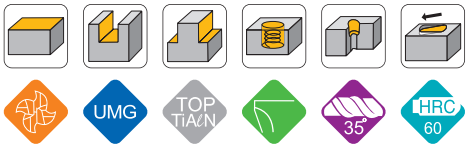
M520 ULTRA CARBIDE END MILLS- Square Type- 4F

· MES40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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NEW SIZE

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	4	MES40300	MES40300A
3.5	9	50	6	4	MES40350	MES40350A
4.0	10	50	6	4	MES40400	MES40400A
4.5	11	50	6	4	MES40450	MES40450A
5.0	13	50	6	4	MES40500	MES40500A
5.5	14	50	6	4	MES40550	MES40550A
6.0	15	50	6	4	MES40600	MES40600A
6.5	16	60	8	4	MES40650	MES40650A
7.0	18	60	8	4	MES40700	MES40700A
7.5	18	60	8	4	MES40750	MES40750A
8.0	20	60	8	4	MES40800	MES40800A
8.0	20	75	8	4	MES40800075L	MES40800075LA
8.5	20	75	10	4	MES40850	MES40850A
9.0	22	75	10	4	MES40900	MES40900A
9.5	22	75	10	4	MES40950	MES40950A
10.0	25	75	10	4	MES41000	MES41000A
10.5	25	75	12	4	MES41050	MES41050A
11.0	25	75	12	4	MES41100	MES41100A
11.5	25	75	12	4	MES41150	MES41150A
12.0	30	75	12	4	MES41200	MES41200A
13.0	30	75	14	4	MES4130014	MES4130014A
14.0	30	75	14	4	MES4140014	MES4140014A
15.0	35	100	16	4	MES41500	MES41500A
16.0	35	100	16	4	MES41600	MES41600A
18.0	40	100	20	4	MES41800	MES41800A
20.0	45	100	20	4	MES42000	MES42000A
25.0	45	100	25	4	MES42500	MES42500A

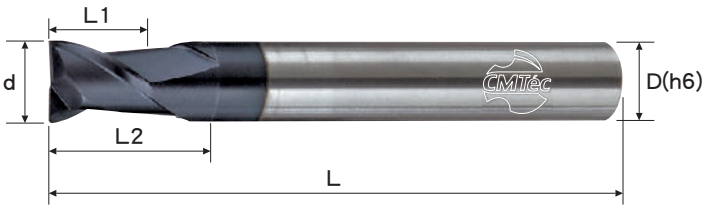
※ 0.2以上採攻面寬型式。
From 0.2 and larger have flatland type.
※ 尖角型式依需求生產。
Sharp corner type is on request.

➡ 切削條件表 Cutting Condition P.547
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 短刃型- 2刃

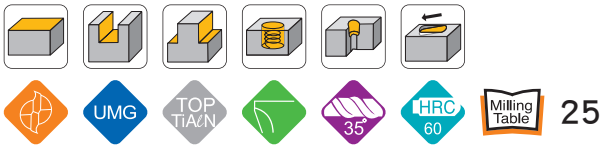
M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- 2F

· MESD2□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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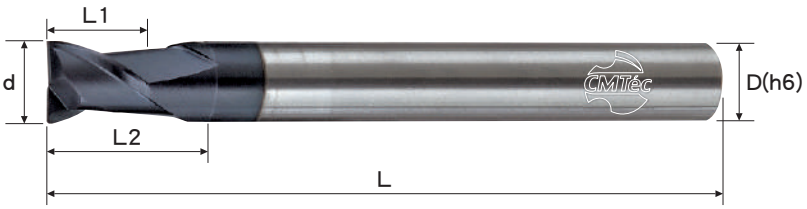
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
1.0	1	2	50	6	2	MESD20100A
2.0	2	4	50	6	2	MESD20200A
3.0	3	6	50	6	2	MESD20300A
4.0	4	8	50	6	2	MESD20400A
6.0	6	12	50	6	2	MESD20600A
8.0	8	16	60	8	2	MESD20800A
10.0	10	20	75	10	2	MESD21000A
12.0	12	24	75	12	2	MESD21200A

M520 極細鎢鋼平銑刀- 短刃長柄型- 2刃

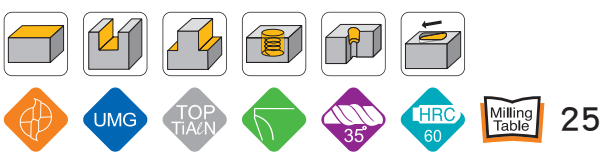
M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- Long Shank- 2F

· MESDL2□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



25

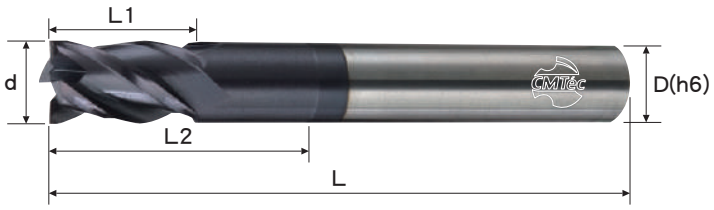
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
1.0	1	2	75	6	2	MESDL20100A
2.0	2	4	75	6	2	MESDL20200A
3.0	3	6	75	6	2	MESDL20300A
4.0	4	8	75	6	2	MESDL20400A
6.0	6	12	75	6	2	MESDL20600A
8.0	8	16	100	8	2	MESDL20800A
10.0	10	20	100	10	2	MESDL21000A
12.0	12	24	100	12	2	MESDL21200A

➡ 切削條件表 Cutting Condition P.547
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 短刃型- 4刃

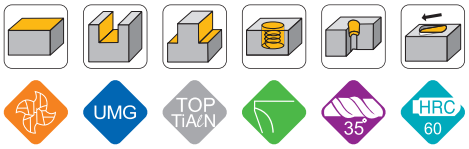
M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- 4F

· MESD40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



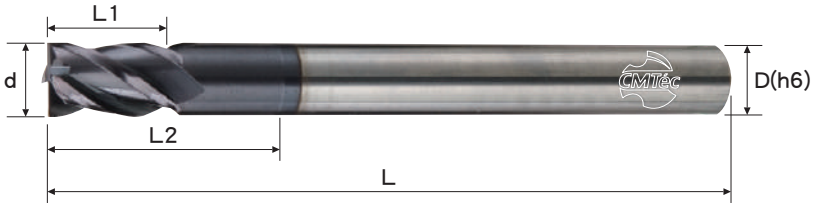
27

刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	3	6	50	6	4	MESD40300A
4.0	4	8	50	6	4	MESD40400A
5.0	5	10	50	6	4	MESD40500A
6.0	6	12	50	6	4	MESD40600A
8.0	8	16	60	8	4	MESD40800A
10.0	10	20	75	10	4	MESD41000A
12.0	12	24	75	12	4	MESD41200A

M520 極細鎢鋼平銑刀- 短刃長柄型- 4刃

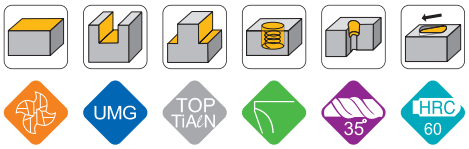
M520 ULTRA CARBIDE END MILLS- Short Flute- Square Type- Long Shank- 4F

· MESDL40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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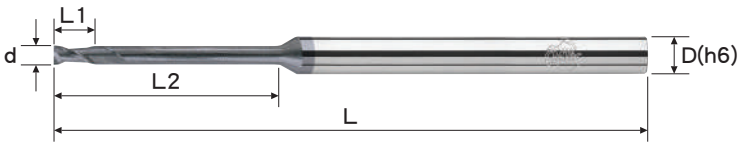
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	3	6	75	6	4	MESDL40300A
4.0	4	8	75	6	4	MESDL40400A
5.0	5	10	75	6	4	MESDL40500A
6.0	6	12	75	6	4	MESDL40600A
8.0	8	16	100	8	4	MESDL40800A
10.0	10	20	100	10	4	MESDL41000A
12.0	12	24	100	12	4	MESDL41200A

➡ 切削條件表 Cutting Condition P.548 ➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 長頸型- 2刃

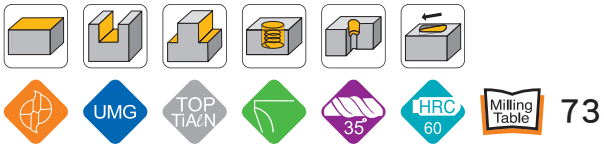
M520 ULTRA CARBIDE END MILLS- Square Type- Long Neck- 2F

· MEN2○○○○○○○A



刃徑 d	公差 Tolerance
Φ	0 ~ -0.02

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



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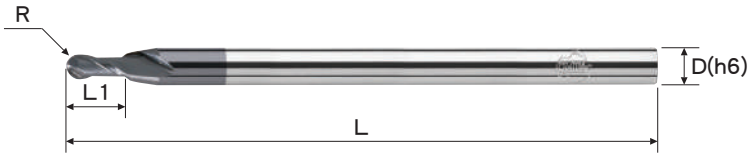
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	1.5	4	50	4	2	MEN20100040	MEN20100040A
1.0	1.5	8	50	4	2	MEN20100080	MEN20100080A
1.2	1.8	6	50	4	2	MEN20120060	MEN20120060A
1.2	1.8	10	50	4	2	MEN20120100	MEN20120100A
1.5	2.3	8	50	4	2	MEN20150080	MEN20150080A
1.5	2.3	12	50	4	2	MEN20150120	MEN20150120A
1.8	2.7	10	50	4	2	MEN20180100	MEN20180100A
1.8	2.7	16	50	4	2	MEN20180160	MEN20180160A
2.0	3.0	10	50	4	2	MEN20200100	MEN20200100A
2.0	3.0	16	50	4	2	MEN20200160	MEN20200160A
2.0	3.0	20	60	4	2	MEN20200200	MEN20200200A
2.5	3.5	12	50	4	2	MEN20250120	MEN20250120A
2.5	3.5	20	60	4	2	MEN20250200	MEN20250200A
3.0	4.5	12	50	6	2	MEN20300120	MEN20300120A
3.0	4.5	20	60	6	2	MEN20300200	MEN20300200A
4.0	6.0	20	60	6	2	MEN20400200	MEN20400200A
4.0	6.0	30	60	6	2	MEN20400300	MEN20400300A
1.0	1.5	4	38	4	2	MEN20100040038L	MEN20100040038LA
1.0	1.5	8	38	4	2	MEN20100080038L	MEN20100080038LA
1.2	1.8	6	38	4	2	MEN20120060038L	MEN20120060038LA
1.2	1.8	10	38	4	2	MEN20120100038L	MEN20120100038LA
1.5	2.3	8	38	4	2	MEN20150080038L	MEN20150080038LA
1.5	2.3	12	38	4	2	MEN20150120038L	MEN20150120038LA
1.8	2.7	10	38	4	2	MEN20180100038L	MEN20180100038LA
1.8	2.7	16	38	4	2	MEN20180160038L	MEN20180160038LA
2.0	3.0	10	38	4	2	MEN20200100038L	MEN20200100038LA
2.0	3.0	16	38	4	2	MEN20200160038L	MEN20200160038LA
2.0	3.0	20	50	4	2	MEN20200200050L	MEN20200200050LA
2.5	3.5	12	38	4	2	MEN20250120038L	MEN20250120038LA
2.5	3.5	20	50	4	2	MEN20250200050L	MEN20250200050LA
3.0	4.5	12	38	6	2	MEN20300120038L	MEN20300120038LA
3.0	4.5	20	50	6	2	MEN20300200050L	MEN20300200050LA
4.0	6.0	20	50	6	2	MEN20400200050L	MEN20400200050LA
4.0	6.0	30	50	6	2	MEN20400300050L	MEN20400300050LA

➡ 切削條件表 Cutting Condition P.573
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 微柄/小柄型- 2刃

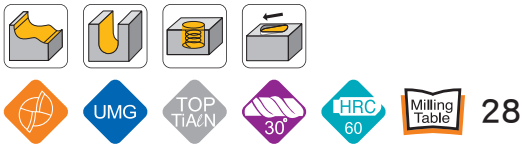
M520 ULTRA CARBIDE END MILLS- Ball Nose- Micro Diameter- 2F

· MEBS20000A
· MEBM20000A



半徑 R	公差 Tolerance
R	±0.02

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



28

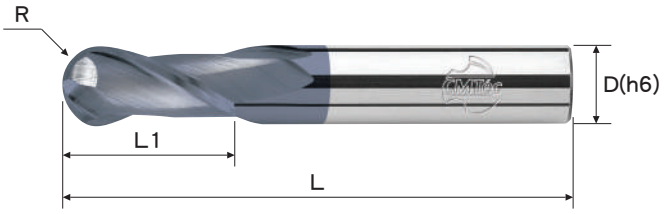
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.05R	0.2	50	3	2	MEBS20005	MEBS20005A
0.1R	0.4	50	3	2	MEBS20010	MEBS20010A
0.15R	0.6	50	3	2	MEBS20015	MEBS20015A
0.2R	0.8	50	3	2	MEBS20020	MEBS20020A
0.25R	1.0	50	3	2	MEBS20025	MEBS20025A
0.3R	1.2	50	3	2	MEBS20030	MEBS20030A
0.35R	1.4	50	3	2	MEBS20035	MEBS20035A
0.4R	1.6	50	3	2	MEBS20040	MEBS20040A
0.45R	1.8	50	3	2	MEBS20045	MEBS20045A
0.5R	2.0	50	3	2	MEBS20050	MEBS20050A
0.6R	2.4	50	3	2	MEBS20060	MEBS20060A
0.7R	2.8	50	3	2	MEBS20070	MEBS20070A
0.75R	3.0	50	3	2	MEBS20075	MEBS20075A
1.0R	4.0	50	3	2	MEBS20100	MEBS20100A
1.5R	6.0	50	3	2	MEBS20150	MEBS20150A
0.05R	0.2	50	4	2	MEBM20005	MEBM20005A
0.1R	0.4	50	4	2	MEBM20010	MEBM20010A
0.15R	0.6	50	4	2	MEBM20015	MEBM20015A
0.2R	0.8	50	4	2	MEBM20020	MEBM20020A
0.25R	1.0	50	4	2	MEBM20025	MEBM20025A
0.3R	1.2	50	4	2	MEBM20030	MEBM20030A
0.35R	1.4	50	4	2	MEBM20035	MEBM20035A
0.4R	1.6	50	4	2	MEBM20040	MEBM20040A
0.45R	1.8	50	4	2	MEBM20045	MEBM20045A
0.5R	2.0	50	4	2	MEBM20050	MEBM20050A

➡ 切削條件表 Cutting Condition P.548
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 小柄/標準型- 2刃

M520 ULTRA CARBIDE END MILLS- Ball Nose- 2F

- MEBM20000A
- MEB20000A



半徑 R	公差 Tolerance
R	±0.02

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

28

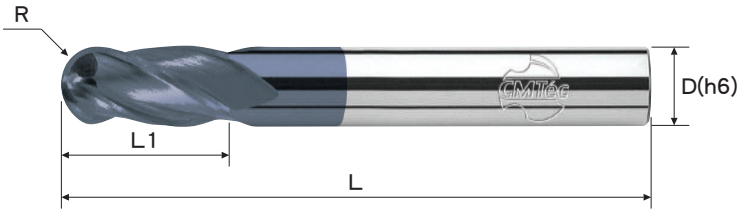
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	2.0	50	4	2	MEBM20050	MEBM20050A
0.6R	2.4	50	4	2	MEBM20060	MEBM20060A
0.7R	2.8	50	4	2	MEBM20070	MEBM20070A
0.75R	3.0	50	4	2	MEBM20075	MEBM20075A
1.0R	4.0	50	4	2	MEBM20100	MEBM20100A
1.25R	5.0	50	4	2	MEBM20125	MEBM20125A
1.5R	6.0	50	4	2	MEBM20150	MEBM20150A
1.75R	7.0	50	4	2	MEBM20175	MEBM20175A
2.0R	8.0	50	4	2	MEBM20200	MEBM20200A
1.0R	4.0	50	6	2	MEB20100	MEB20100A
1.25R	5.0	50	6	2	MEB20125	MEB20125A
1.5R	6.0	50	6	2	MEB20150	MEB20150A
2.0R	8.0	50	6	2	MEB20200	MEB20200A
2.5R	10.0	50	6	2	MEB20250	MEB20250A
3.0R	12.0	50	6	2	MEB20300	MEB20300A
3.5R	14.0	60	8	2	MEB20350	MEB20350A
4.0R	16.0	60	8	2	MEB20400	MEB20400A
5.0R	20.0	75	10	2	MEB20500	MEB20500A
6.0R	24.0	75	12	2	MEB20600	MEB20600A
8.0R	32.0	100	16	2	MEB20800	MEB20800A
10.0R	40.0	100	20	2	MEB21000	MEB21000A

➡ 切削條件表 Cutting Condition P.548
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 小柄/標準型- 4刃

M520 ULTRA CARBIDE END MILLS- Ball Nose- 4F

· MEBM4□□□□A
· MEB4□□□□A



半徑 R	Tolerance(公差)
R	±0.02

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

28

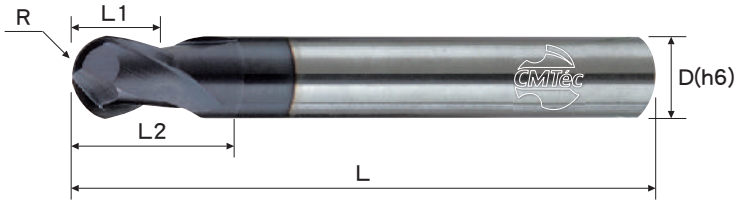
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	4	50	4	4	MEBM40100	MEBM40100A
1.25R	5	50	4	4	MEBM40125	MEBM40125A
1.5R	6	50	4	4	MEBM40150	MEBM40150A
1.75R	7	50	4	4	MEBM40175	MEBM40175A
2.0R	8	50	4	4	MEBM40200	MEBM40200A
3.0R	12	50	6	4	MEB40300	MEB40300A
4.0R	16	60	8	4	MEB40400	MEB40400A
5.0R	20	75	10	4	MEB40500	MEB40500A
6.0R	24	75	12	4	MEB40600	MEB40600A
8.0R	32	100	16	4	MEB40800	MEB40800A

➡ 切削條件表 Cutting Condition P.548
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 短刃型- 2刃

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

· MEBDM2□□□□A
· MEBD2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

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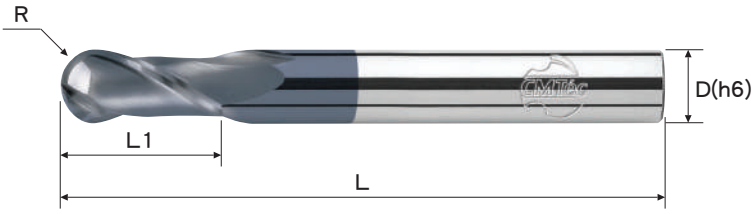
半徑 R	刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.15R	0.3	0.3	0.6	50	4	2	MEBDM20015A
0.2R	0.4	0.4	0.8	50	4	2	MEBDM20020A
0.25R	0.5	0.5	1.0	50	4	2	MEBDM20025A
0.3R	0.6	0.6	1.2	50	4	2	MEBDM20030A
0.4R	0.8	0.8	1.6	50	4	2	MEBDM20040A
0.5R	1.0	1.0	2.0	50	4	2	MEBDM20050A
1.0R	2.0	2.0	4.0	50	4	2	MEBDM20100A
1.5R	3.0	3.0	6.0	50	4	2	MEBDM20150A
1.0R	2.0	2.0	4.0	50	6	2	MEBD20100A
1.5R	3.0	3.0	6.0	50	6	2	MEBD20150A
2.0R	4.0	4.0	8.0	50	6	2	MEBD20200A
2.5R	5.0	5.0	10.0	50	6	2	MEBD20250A
3.0R	6.0	6.0	12.0	50	6	2	MEBD20300A
4.0R	8.0	8.0	16.0	60	8	2	MEBD20400A
5.0R	10.0	10.0	20.0	75	10	2	MEBD20500A
6.0R	12.0	12.0	24.0	75	12	2	MEBD20600A

➡ 切削條件表 Cutting Condition P.549
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 小長柄/長柄型- 2刃

M520 ULTRA CARBIDE END MILLS- Ball Nose- Long Shank- 2F

· MEBML2□□□□A
· MEBL2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

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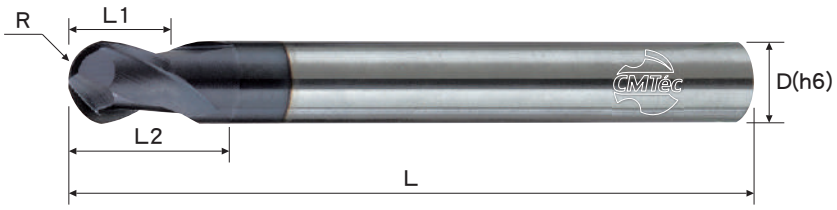
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Unc oated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	4	75	4	2	MEBML20100	MEBML20100A
1.5R	6	75	4	2	MEBML20150	MEBML20150A
2.0R	8	75	4	2	MEBML20200	MEBML20200A
1.0R	4	75	6	2	MEBL20100	MEBL20100A
1.5R	6	75	6	2	MEBL20150	MEBL20150A
2.0R	8	75	6	2	MEBL20200	MEBL20200A
2.5R	10	75	6	2	MEBL20250	MEBL20250A
3.0R	12	75	6	2	MEBL20300	MEBL20300A
4.0R	16	100	8	2	MEBL20400	MEBL20400A
5.0R	20	100	10	2	MEBL20500	MEBL20500A
6.0R	24	100	12	2	MEBL20600	MEBL20600A
8.0R	32	150	16	2	MEBL20800	MEBL20800A
10.0R	40	150	20	2	MEBL21000	MEBL21000A

切削條件表 Cutting Condition P.548
技術資料 Technical Data P.622

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 Nose- Long Shank- 2F

· MEBDML2□□□□A
· MEBDL2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

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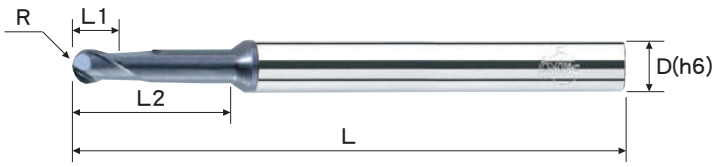
半徑 R	刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.5R	1	1	2	75	4	2	MEBDML20050A
1.0R	2	2	4	75	4	2	MEBDML20100A
1.5R	3	3	6	75	4	2	MEBDML20150A
1.0R	2	2	4	75	6	2	MEBDL20100A
1.5R	3	3	6	75	6	2	MEBDL20150A
2.0R	4	4	8	75	6	2	MEBDL20200A
2.5R	5	5	10	75	6	2	MEBDL20250A
3.0R	6	6	12	75	6	2	MEBDL20300A
4.0R	8	8	16	100	8	2	MEBDL20400A
5.0R	10	10	20	100	10	2	MEBDL20500A
6.0R	12	12	24	100	12	2	MEBDL20600A

切削條件表 Cutting Condition P.549
技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 長頸型- 2刃

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

· MEBN2□□□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

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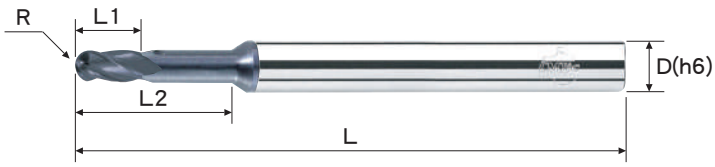
半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	0.8	4	50	4	2	MEBN20050040	MEBN20050040A
0.5R	0.8	7	50	4	2	MEBN20050070	MEBN20050070A
0.75R	1.2	6	50	4	2	MEBN20075060	MEBN20075060A
0.75R	1.2	10	50	4	2	MEBN20075100	MEBN20075100A
1.0R	1.6	8	50	4	2	MEBN20100080	MEBN20100080A
1.0R	1.6	12	50	4	2	MEBN20100120	MEBN20100120A
1.0R	1.6	18	50	4	2	MEBN20100180	MEBN20100180A
1.25R	2.0	10	50	4	2	MEBN20125100	MEBN20125100A
1.25R	2.0	20	60	4	2	MEBN20125200	MEBN20125200A
1.5R	2.4	12	50	6	2	MEBN20150120	MEBN20150120A
1.5R	2.4	20	60	6	2	MEBN20150200	MEBN20150200A
2.0R	3.2	16	50	6	2	MEBN20200160	MEBN20200160A
2.0R	3.2	25	60	6	2	MEBN20200250	MEBN20200250A
0.5R	0.8	4	38	4	2	MEBN20050040038L	MEBN20050040038LA
0.5R	0.8	7	38	4	2	MEBN20050070038L	MEBN20050070038LA
0.75R	1.2	6	38	4	2	MEBN20075060038L	MEBN20075060038LA
0.75R	1.2	10	38	4	2	MEBN20075100038L	MEBN20075100038LA
1.0R	1.6	8	38	4	2	MEBN20100080038L	MEBN20100080038LA
1.0R	1.6	12	38	4	2	MEBN20100120038L	MEBN20100120038LA
1.0R	1.6	18	38	4	2	MEBN20100180038L	MEBN20100180038LA
1.25R	2.0	10	38	4	2	MEBN20125100038L	MEBN20125100038LA
1.25R	2.0	20	50	4	2	MEBN20125200050L	MEBN20125200050LA
1.5R	2.4	12	38	6	2	MEBN20150120038L	MEBN20150120038LA
1.5R	2.4	20	50	6	2	MEBN20150200050L	MEBN20150200050LA
2.0R	3.2	16	38	6	2	MEBN20200160038L	MEBN20200160038LA
2.0R	3.2	25	50	6	2	MEBN20200250050L	MEBN20200250050LA

➡ 切削條件表 Cutting Condition P.573 ➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 長頸型- 4刃

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

· **MEBN4○○○○○○A**



半徑 R	公差 Tolerance
R	±0.02

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

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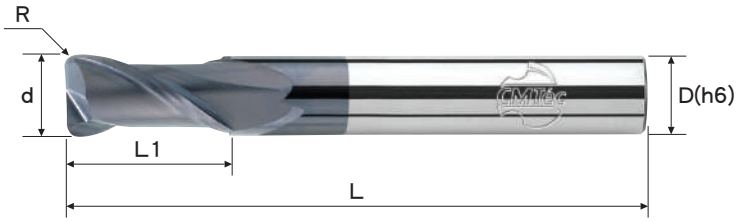
半徑 R	刃長 L1	有效長 L2	全 長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.5R	0.8	4	50	4	4	MEBN40050040	MEBN40050040A
0.5R	0.8	7	50	4	4	MEBN40050070	MEBN40050070A
0.75R	1.2	6	50	4	4	MEBN40075060	MEBN40075060A
0.75R	1.2	10	50	4	4	MEBN40075100	MEBN40075100A
1.0R	1.6	8	50	4	4	MEBN40100080	MEBN40100080A
1.0R	1.6	12	50	4	4	MEBN40100120	MEBN40100120A
1.0R	1.6	18	50	4	4	MEBN40100180	MEBN40100180A
1.25R	2.0	10	50	4	4	MEBN40125100	MEBN40125100A
1.25R	2.0	20	60	4	4	MEBN40125200	MEBN40125200A
1.5R	2.4	12	50	6	4	MEBN40150120	MEBN40150120A
1.5R	2.4	20	60	6	4	MEBN40150200	MEBN40150200A
2.0R	3.2	16	50	6	4	MEBN40200160	MEBN40200160A
2.0R	3.2	25	60	6	4	MEBN40200250	MEBN40200250A

➡ 切削條件表 Cutting Condition P.573 ➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 小柄/標準型- 2刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- 2F

· MECRM2000000A
· MECR2000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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NEW SIZE

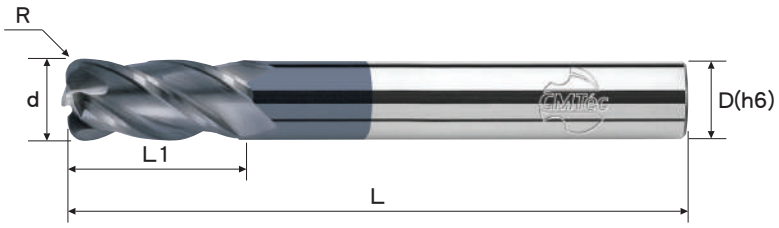
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	2	MECRM2010002	MECRM2010002A
1.5	0.2R	3	50	4	2	MECRM2015002	MECRM2015002A
2.0	0.2R	4	50	4	2	MECRM2020002	MECRM2020002A
2.5	0.2R	5	50	4	2	MECRM2025002	MECRM2025002A
2.5	0.5R	5	50	4	2	MECRM2025005	MECRM2025005A
3.0	0.5R	6	50	4	2	MECRM2030005	MECRM2030005A
3.0	1.0R	6	50	4	2	MECRM2030010	MECRM2030010A
4.0	0.3R	8	50	4	2	MECRM2040003	MECRM2040003A
4.0	0.5R	8	50	4	2	MECRM2040005	MECRM2040005A
4.0	1.0R	8	50	4	2	MECRM2040010	MECRM2040010A
4.0	0.5R	8	50	6	2	MECR2040005	MECR2040005A
4.0	1.0R	8	50	6	2	MECR2040010	MECR2040010A
5.0	0.5R	10	50	6	2	MECR2050005	MECR2050005A
5.0	1.0R	10	50	6	2	MECR2050010	MECR2050010A
6.0	0.5R	12	50	6	2	MECR2060005	MECR2060005A
6.0	1.0R	12	50	6	2	MECR2060010	MECR2060010A
8.0	0.5R	16	60	8	2	MECR2080005	MECR2080005A
8.0	1.0R	16	60	8	2	MECR2080010	MECR2080010A
8.0	1.5R	16	60	8	2	MECR2080015	MECR2080015A
10.0	0.5R	20	75	10	2	MECR2100005	MECR2100005A
10.0	1.0R	20	75	10	2	MECR2100010	MECR2100010A
10.0	1.5R	20	75	10	2	MECR2100015	MECR2100015A
10.0	2.0R	20	75	10	2	MECR2100020	MECR2100020A
12.0	0.5R	24	75	12	2	MECR2120005	MECR2120005A
12.0	1.0R	24	75	12	2	MECR2120010	MECR2120010A
12.0	1.5R	24	75	12	2	MECR2120015	MECR2120015A
12.0	2.0R	24	75	12	2	MECR2120020	MECR2120020A

➡ 切削條件表 Cutting Condition P.550
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 標準型- 4刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- 4F

· MECR4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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NEW SIZE

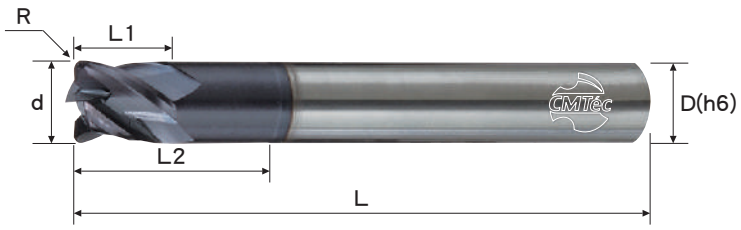
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	4	MECRM4010002	MECRM4010002A
1.5	0.2R	3	50	4	4	MECRM4015002	MECRM4015002A
2.0	0.2R	4	50	4	4	MECRM4020002	MECRM4020002A
2.5	0.2R	5	50	4	4	MECRM4025002	MECRM4025002A
2.5	0.5R	5	50	4	4	MECRM4025005	MECRM4025005A
3.0	0.5R	6	50	4	4	MECRM4030005	MECRM4030005A
3.0	1.0R	6	50	4	4	MECRM4030010	MECRM4030010A
4.0	0.3R	8	50	4	4	MECRM4040003	MECRM4040003A
4.0	0.5R	8	50	4	4	MECRM4040005	MECRM4040005A
4.0	1.0R	8	50	4	4	MECRM4040010	MECRM4040010A
3.0	0.5R	6	50	6	4	MECR4030005	MECR4030005A
3.0	1.0R	6	50	6	4	MECR4030010	MECR4030010A
4.0	0.5R	8	50	6	4	MECR4040005	MECR4040005A
4.0	1.0R	8	50	6	4	MECR4040010	MECR4040010A
5.0	0.5R	10	50	6	4	MECR4050005	MECR4050005A
5.0	1.0R	10	50	6	4	MECR4050010	MECR4050010A
6.0	0.5R	12	50	6	4	MECR4060005	MECR4060005A
6.0	1.0R	12	50	6	4	MECR4060010	MECR4060010A
8.0	0.5R	16	60	8	4	MECR4080005	MECR4080005A
8.0	1.0R	16	60	8	4	MECR4080010	MECR4080010A
8.0	1.5R	16	60	8	4	MECR4080015	MECR4080015A
8.0	0.5R	16	75	8	4	MECR4080005075L	MECR4080005075LA
10.0	0.5R	20	75	10	4	MECR4100005	MECR4100005A
10.0	1.0R	20	75	10	4	MECR4100010	MECR4100010A
10.0	1.5R	20	75	10	4	MECR4100015	MECR4100015A
10.0	2.0R	20	75	10	4	MECR4100020	MECR4100020A
12.0	0.5R	24	75	12	4	MECR4120005	MECR4120005A
12.0	1.0R	24	75	12	4	MECR4120010	MECR4120010A
12.0	1.5R	24	75	12	4	MECR4120015	MECR4120015A
12.0	2.0R	24	75	12	4	MECR4120020	MECR4120020A
12.0	3.0R	24	75	12	4	MECR4120030	MECR4120030A

➡ 切削條件表 Cutting Condition P.551
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 短刃型- 4刃

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

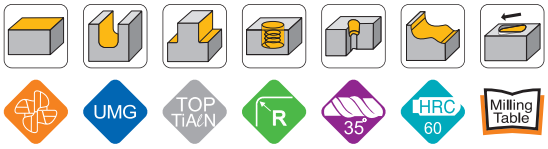
- **MECDM4000000A**
- **MECD4000000A**



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



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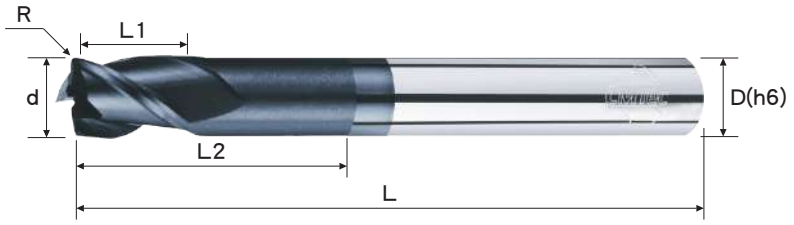
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0	0.2R	1.0	2.5	50	4	4	MECDM4010002A
1.5	0.15R	1.5	3.5	50	4	4	MECDM40150015A
1.5	0.3R	1.5	3.5	50	4	4	MECDM4015003A
2.0	0.3R	2.0	6.5	50	4	4	MECDM4020003A
2.5	0.3R	2.5	7.5	50	4	4	MECDM4025003A
2.5	0.5R	2.5	7.5	50	4	4	MECDM4025005A
3.0	0.3R	3.0	7.5	50	6	4	MECD4030003A
3.0	0.5R	3.0	7.5	50	6	4	MECD4030005A
4.0	0.3R	4.0	10.0	50	6	4	MECD4040003A
4.0	0.5R	4.0	10.0	50	6	4	MECD4040005A
5.0	0.3R	5.0	12.5	50	6	4	MECD4050003A
5.0	0.5R	5.0	12.5	50	6	4	MECD4050005A
6.0	0.5R	6.0	15.0	50	6	4	MECD4060005A
6.0	1.0R	6.0	15.0	50	6	4	MECD4060010A
8.0	0.5R	8.0	20.0	60	8	4	MECD4080005A
8.0	1.0R	8.0	20.0	60	8	4	MECD4080010A
8.0	1.5R	8.0	20.0	60	8	4	MECD4080015A
10.0	0.5R	10.0	25.0	75	10	4	MECD4100005A
10.0	1.0R	10.0	25.0	75	10	4	MECD4100010A
10.0	1.5R	10.0	25.0	75	10	4	MECD4100015A
10.0	2.0R	10.0	25.0	75	10	4	MECD4100020A
12.0	0.5R	12.0	30.0	75	12	4	MECD4120005A
12.0	1.0R	12.0	30.0	75	12	4	MECD4120010A
12.0	1.5R	12.0	30.0	75	12	4	MECD4120015A
12.0	2.0R	12.0	30.0	75	12	4	MECD4120020A

切削條件表 Cutting Condition P.549
技術資料 Technical Data P.622

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

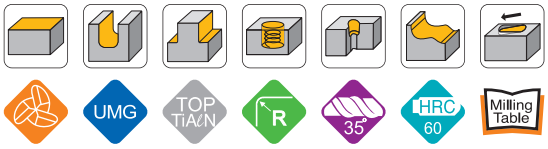
· MECDL3000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



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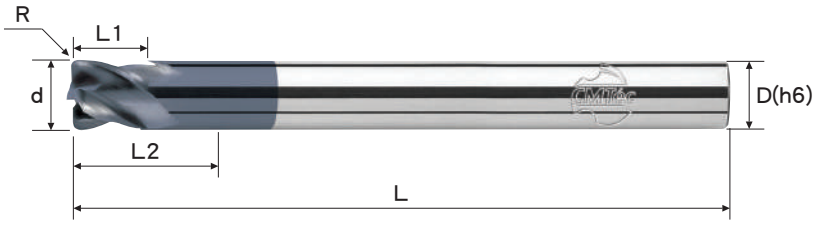
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	0.3R	3	7.5	75	6	3	MECDL3030003	MECDL3030003A
3.0	0.5R	3	7.5	75	6	3	MECDL3030005	MECDL3030005A
3.0	1.0R	3	7.5	75	6	3	MECDL3030010	MECDL3030010A
4.0	0.3R	4	10.0	75	6	3	MECDL3040003	MECDL3040003A
4.0	0.5R	4	10.0	75	6	3	MECDL3040005	MECDL3040005A
4.0	1.0R	4	10.0	75	6	3	MECDL3040010	MECDL3040010A
5.0	0.3R	5	12.5	75	6	3	MECDL3050003	MECDL3050003A
5.0	0.5R	5	12.5	75	6	3	MECDL3050005	MECDL3050005A
5.0	1.0R	5	12.5	75	6	3	MECDL3050010	MECDL3050010A
6.0	0.5R	6	15.0	75	6	3	MECDL3060005	MECDL3060005A
6.0	1.0R	6	15.0	75	6	3	MECDL3060010	MECDL3060010A
8.0	0.5R	8	20.0	100	8	3	MECDL3080005	MECDL3080005A
8.0	1.0R	8	20.0	100	8	3	MECDL3080010	MECDL3080010A
8.0	1.5R	8	20.0	100	8	3	MECDL3080015	MECDL3080015A
10.0	0.5R	10	25.0	100	10	3	MECDL3100005	MECDL3100005A
10.0	1.0R	10	25.0	100	10	3	MECDL3100010	MECDL3100010A
10.0	1.5R	10	25.0	100	10	3	MECDL3100015	MECDL3100015A
10.0	2.0R	10	30.0	100	10	3	MECDL3100020	MECDL3100020A
12.0	0.5R	12	30.0	100	12	3	MECDL3120005	MECDL3120005A
12.0	1.0R	12	30.0	100	12	3	MECDL3120010	MECDL3120010A
12.0	1.5R	12	30.0	100	12	3	MECDL3120015	MECDL3120015A
12.0	2.0R	12	30.0	100	12	3	MECDL3120020	MECDL3120020A

➡ 切削條件表 Cutting Condition P.547 ➡ 技術資料 Technical Data P.622

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

· MECDL4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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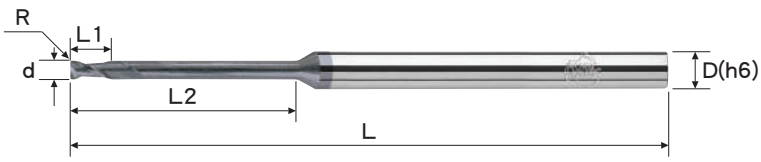
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	0.3R	3	7.5	75	6	4	MECDL4030003	MECDL4030003A
3.0	0.5R	3	7.5	75	6	4	MECDL4030005	MECDL4030005A
3.0	1.0R	3	7.5	75	6	4	MECDL4030010	MECDL4030010A
4.0	0.3R	4	10.0	75	6	4	MECDL4040003	MECDL4040003A
4.0	0.5R	4	10.0	75	6	4	MECDL4040005	MECDL4040005A
4.0	1.0R	4	10.0	75	6	4	MECDL4040010	MECDL4040010A
5.0	0.3R	5	12.5	75	6	4	MECDL4050003	MECDL4050003A
5.0	0.5R	5	12.5	75	6	4	MECDL4050005	MECDL4050005A
5.0	1.0R	5	12.5	75	6	4	MECDL4050010	MECDL4050010A
6.0	0.5R	6	15.0	75	6	4	MECDL4060005	MECDL4060005A
6.0	1.0R	6	15.0	75	6	4	MECDL4060010	MECDL4060010A
8.0	0.5R	8	20.0	100	8	4	MECDL4080005	MECDL4080005A
8.0	1.0R	8	20.0	100	8	4	MECDL4080010	MECDL4080010A
8.0	1.5R	8	20.0	100	8	4	MECDL4080015	MECDL4080015A
10.0	0.5R	10	25.0	100	10	4	MECDL4100005	MECDL4100005A
10.0	1.0R	10	25.0	100	10	4	MECDL4100010	MECDL4100010A
10.0	1.5R	10	25.0	100	10	4	MECDL4100015	MECDL4100015A
10.0	2.0R	10	30.0	100	10	4	MECDL4100020	MECDL4100020A
12.0	0.5R	12	30.0	100	12	4	MECDL4120005	MECDL4120005A
12.0	1.0R	12	30.0	100	12	4	MECDL4120010	MECDL4120010A
12.0	1.5R	12	30.0	100	12	4	MECDL4120015	MECDL4120015A
12.0	2.0R	12	30.0	100	12	4	MECDL4120020	MECDL4120020A

➡ 切削條件表 Cutting Condition P.549
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 長頸型- 2刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- Long Neck- 2F

· MECRN2□□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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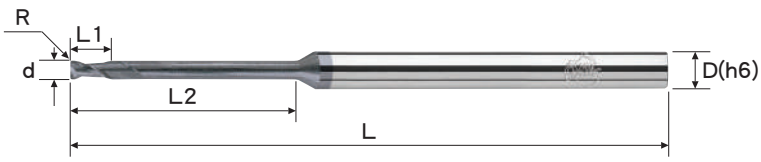
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2	1.5	4	50	4	2	MECRN2010002040	MECRN2010002040A
1.0	0.2	1.5	6	50	4	2	MECRN2010002060	MECRN2010002060A
1.0	0.2	1.5	8	50	4	2	MECRN2010002080	MECRN2010002080A
1.0	0.2	1.5	10	50	4	2	MECRN2010002100	MECRN2010002100A
1.0	0.2	1.5	12	50	4	2	MECRN2010002120	MECRN2010002120A
1.5	0.2	2.3	6	50	4	2	MECRN2015002060	MECRN2015002060A
1.5	0.2	2.3	8	50	4	2	MECRN2015002080	MECRN2015002080A
1.5	0.2	2.3	10	50	4	2	MECRN2015002100	MECRN2015002100A
1.5	0.2	2.3	12	50	4	2	MECRN2015002120	MECRN2015002120A
1.5	0.2	2.3	16	50	4	2	MECRN2015002160	MECRN2015002160A
2.0	0.2	3.0	6	50	4	2	MECRN2020002060	MECRN2020002060A
2.0	0.2	3.0	8	50	4	2	MECRN2020002080	MECRN2020002080A
2.0	0.2	3.0	10	50	4	2	MECRN2020002100	MECRN2020002100A
2.0	0.2	3.0	12	50	4	2	MECRN2020002120	MECRN2020002120A
2.0	0.2	3.0	16	50	4	2	MECRN2020002160	MECRN2020002160A
2.0	0.2	3.0	20	60	4	2	MECRN2020002200	MECRN2020002200A
2.0	0.3	3.0	6	50	4	2	MECRN2020003060	MECRN2020003060A
2.0	0.3	3.0	8	50	4	2	MECRN2020003080	MECRN2020003080A
2.0	0.3	3.0	10	50	4	2	MECRN2020003100	MECRN2020003100A
2.0	0.3	3.0	12	50	4	2	MECRN2020003120	MECRN2020003120A
2.0	0.3	3.0	16	50	4	2	MECRN2020003160	MECRN2020003160A
2.0	0.3	3.0	20	60	4	2	MECRN2020003200	MECRN2020003200A
2.0	0.5	3.0	6	50	4	2	MECRN2020005060	MECRN2020005060A
2.0	0.5	3.0	8	50	4	2	MECRN2020005080	MECRN2020005080A
2.0	0.5	3.0	10	50	4	2	MECRN2020005100	MECRN2020005100A
2.0	0.5	3.0	12	50	4	2	MECRN2020005120	MECRN2020005120A
2.0	0.5	3.0	16	50	4	2	MECRN2020005160	MECRN2020005160A
2.0	0.5	3.0	20	60	4	2	MECRN2020005200	MECRN2020005200A
2.5	0.2	3.5	10	50	4	2	MECRN2025002100	MECRN2025002100A
2.5	0.2	3.5	16	50	4	2	MECRN2025002160	MECRN2025002160A
2.5	0.2	3.5	20	60	4	2	MECRN2025002200	MECRN2025002200A
2.5	0.3	3.5	10	50	4	2	MECRN2025003100	MECRN2025003100A
2.5	0.3	3.5	16	50	4	2	MECRN2025003160	MECRN2025003160A
2.5	0.3	3.5	20	60	4	2	MECRN2025003200	MECRN2025003200A
2.5	0.5	3.5	10	50	4	2	MECRN2025005100	MECRN2025005100A
2.5	0.5	3.5	16	50	4	2	MECRN2025005160	MECRN2025005160A
2.5	0.5	3.5	20	60	4	2	MECRN2025005200	MECRN2025005200A

➡ 切削條件表 Cutting Condition P.550
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 長頸型- 2刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- Long Neck- 2F

· MECRN2□□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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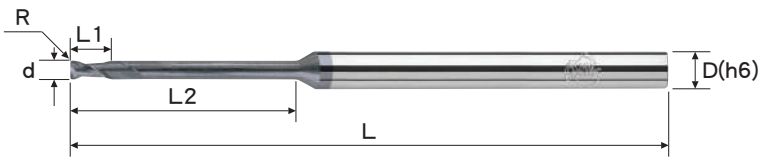
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	0.2	4.5	10	50	6	2	MECRN2030002100	MECRN2030002100A
3.0	0.2	4.5	16	50	6	2	MECRN2030002160	MECRN2030002160A
3.0	0.2	4.5	20	60	6	2	MECRN2030002200	MECRN2030002200A
3.0	0.3	4.5	10	50	6	2	MECRN2030003100	MECRN2030003100A
3.0	0.3	4.5	16	50	6	2	MECRN2030003160	MECRN2030003160A
3.0	0.3	4.5	20	60	6	2	MECRN2030003200	MECRN2030003200A
3.0	0.5	4.5	10	50	6	2	MECRN2030005100	MECRN2030005100A
3.0	0.5	4.5	16	50	6	2	MECRN2030005160	MECRN2030005160A
3.0	0.5	4.5	20	60	6	2	MECRN2030005200	MECRN2030005200A
3.0	1.0	4.5	10	50	6	2	MECRN2030010100	MECRN2030010100A
3.0	1.0	4.5	16	50	6	2	MECRN2030010160	MECRN2030010160A
3.0	1.0	4.5	20	60	6	2	MECRN2030010200	MECRN2030010200A
4.0	0.2	6.0	12	50	6	2	MECRN2040002120	MECRN2040002120A
4.0	0.2	6.0	16	50	6	2	MECRN2040002160	MECRN2040002160A
4.0	0.2	6.0	20	60	6	2	MECRN2040002200	MECRN2040002200A
4.0	0.2	6.0	25	60	6	2	MECRN2040002250	MECRN2040002250A
4.0	0.3	6.0	12	50	6	2	MECRN2040003120	MECRN2040003120A
4.0	0.3	6.0	16	50	6	2	MECRN2040003160	MECRN2040003160A
4.0	0.3	6.0	20	60	6	2	MECRN2040003200	MECRN2040003200A
4.0	0.3	6.0	25	60	6	2	MECRN2040003250	MECRN2040003250A
4.0	0.5	6.0	12	50	6	2	MECRN2040005120	MECRN2040005120A
4.0	0.5	6.0	16	50	6	2	MECRN2040005160	MECRN2040005160A
4.0	0.5	6.0	20	60	6	2	MECRN2040005200	MECRN2040005200A
4.0	0.5	6.0	25	60	6	2	MECRN2040005250	MECRN2040005250A
4.0	1.0	6.0	12	50	6	2	MECRN2040010120	MECRN2040010120A
4.0	1.0	6.0	16	50	6	2	MECRN2040010160	MECRN2040010160A
4.0	1.0	6.0	20	60	6	2	MECRN2040010200	MECRN2040010200A
4.0	1.0	6.0	25	60	6	2	MECRN2040010250	MECRN2040010250A
5.0	0.2	7.0	16	60	6	2	MECRN2050002160	MECRN2050002160A
5.0	0.2	7.0	20	60	6	2	MECRN2050002200	MECRN2050002200A
5.0	0.2	7.0	25	60	6	2	MECRN2050002250	MECRN2050002250A
5.0	0.2	7.0	30	60	6	2	MECRN2050002300	MECRN2050002300A
5.0	0.3	7.0	16	60	6	2	MECRN2050003160	MECRN2050003160A
5.0	0.3	7.0	20	60	6	2	MECRN2050003200	MECRN2050003200A
5.0	0.3	7.0	25	60	6	2	MECRN2050003250	MECRN2050003250A
5.0	0.3	7.0	30	60	6	2	MECRN2050003300	MECRN2050003300A

➡ 切削條件表 Cutting Condition P.550
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 長頸型- 2刃

M520 ULTRA CARBIDE END MILLS- Corner Radius- Long Neck- 2F

· MECRN2□□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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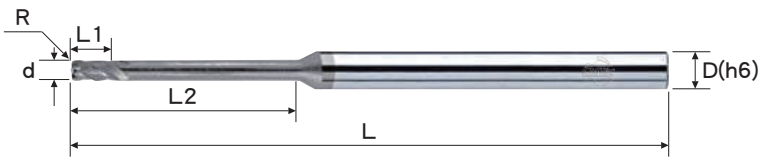
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
5.0	0.5	7	16	60	6	2	MECRN2050005160	MECRN2050005160A
5.0	0.5	7	20	60	6	2	MECRN2050005200	MECRN2050005200A
5.0	0.5	7	25	60	6	2	MECRN2050005250	MECRN2050005250A
5.0	0.5	7	30	60	6	2	MECRN2050005300	MECRN2050005300A
5.0	1.0	7	16	60	6	2	MECRN2050010160	MECRN2050010160A
5.0	1.0	7	20	60	6	2	MECRN2050010200	MECRN2050010200A
5.0	1.0	7	25	60	6	2	MECRN2050010250	MECRN2050010250A
5.0	1.0	7	30	60	6	2	MECRN2050010300	MECRN2050010300A
6.0	0.2	8	20	60	6	2	MECRN2060002200	MECRN2060002200A
6.0	0.2	8	25	60	6	2	MECRN2060002250	MECRN2060002250A
6.0	0.2	8	30	60	6	2	MECRN2060002300	MECRN2060002300A
6.0	0.3	8	20	60	6	2	MECRN2060003200	MECRN2060003200A
6.0	0.3	8	25	60	6	2	MECRN2060003250	MECRN2060003250A
6.0	0.3	8	30	60	6	2	MECRN2060003300	MECRN2060003300A
6.0	0.5	8	20	60	6	2	MECRN2060005200	MECRN2060005200A
6.0	0.5	8	25	60	6	2	MECRN2060005250	MECRN2060005250A
6.0	0.5	8	30	60	6	2	MECRN2060005300	MECRN2060005300A
6.0	1.0	8	20	60	6	2	MECRN2060010200	MECRN2060010200A
6.0	1.0	8	25	60	6	2	MECRN2060010250	MECRN2060010250A
6.0	1.0	8	30	60	6	2	MECRN2060010300	MECRN2060010300A
6.0	1.5	8	20	60	6	2	MECRN2060015200	MECRN2060015200A
6.0	1.5	8	25	60	6	2	MECRN2060015250	MECRN2060015250A
6.0	1.5	8	30	60	6	2	MECRN2060015300	MECRN2060015300A

➡ 切削條件表 Cutting Condition P.550
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 長頸型- 4刃

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

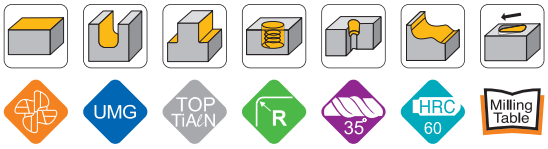
· MECRN4□□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



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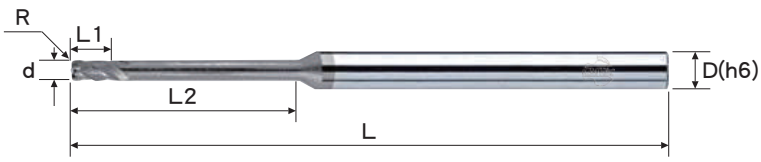
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2	1.5	4	50	4	4	MECRN4010002040	MECRN4010002040A
1.0	0.2	1.5	6	50	4	4	MECRN4010002060	MECRN4010002060A
1.0	0.2	1.5	8	50	4	4	MECRN4010002080	MECRN4010002080A
1.0	0.2	1.5	10	50	4	4	MECRN4010002100	MECRN4010002100A
1.0	0.2	1.5	12	50	4	4	MECRN4010002120	MECRN4010002120A
1.5	0.2	2.3	6	50	4	4	MECRN4015002060	MECRN4015002060A
1.5	0.2	2.3	8	50	4	4	MECRN4015002080	MECRN4015002080A
1.5	0.2	2.3	10	50	4	4	MECRN4015002100	MECRN4015002100A
1.5	0.2	2.3	12	50	4	4	MECRN4015002120	MECRN4015002120A
1.5	0.2	2.3	16	50	4	4	MECRN4015002160	MECRN4015002160A
2.0	0.2	3.0	6	50	4	4	MECRN4020002060	MECRN4020002060A
2.0	0.2	3.0	8	50	4	4	MECRN4020002080	MECRN4020002080A
2.0	0.2	3.0	10	50	4	4	MECRN4020002100	MECRN4020002100A
2.0	0.2	3.0	12	50	4	4	MECRN4020002120	MECRN4020002120A
2.0	0.2	3.0	16	50	4	4	MECRN4020002160	MECRN4020002160A
2.0	0.2	3.0	20	60	4	4	MECRN4020002200	MECRN4020002200A
2.0	0.3	3.0	6	50	4	4	MECRN4020003060	MECRN4020003060A
2.0	0.3	3.0	8	50	4	4	MECRN4020003080	MECRN4020003080A
2.0	0.3	3.0	10	50	4	4	MECRN4020003100	MECRN4020003100A
2.0	0.3	3.0	12	50	4	4	MECRN4020003120	MECRN4020003120A
2.0	0.3	3.0	16	50	4	4	MECRN4020003160	MECRN4020003160A
2.0	0.3	3.0	20	60	4	4	MECRN4020003200	MECRN4020003200A
2.0	0.5	3.0	6	50	4	4	MECRN4020005060	MECRN4020005060A
2.0	0.5	3.0	8	50	4	4	MECRN4020005080	MECRN4020005080A
2.0	0.5	3.0	10	50	4	4	MECRN4020005100	MECRN4020005100A
2.0	0.5	3.0	12	50	4	4	MECRN4020005120	MECRN4020005120A
2.0	0.5	3.0	16	50	4	4	MECRN4020005160	MECRN4020005160A
2.0	0.5	3.0	20	60	4	4	MECRN4020005200	MECRN4020005200A
2.5	0.2	3.5	10	50	4	4	MECRN4025002100	MECRN4025002100A
2.5	0.2	3.5	16	50	4	4	MECRN4025002160	MECRN4025002160A
2.5	0.2	3.5	20	60	4	4	MECRN4025002200	MECRN4025002200A
2.5	0.3	3.5	10	50	4	4	MECRN4025003100	MECRN4025003100A
2.5	0.3	3.5	16	50	4	4	MECRN4025003160	MECRN4025003160A
2.5	0.3	3.5	20	60	4	4	MECRN4025003200	MECRN4025003200A
2.5	0.5	3.5	10	50	4	4	MECRN4025005100	MECRN4025005100A
2.5	0.5	3.5	16	50	4	4	MECRN4025005160	MECRN4025005160A
2.5	0.5	3.5	20	60	4	4	MECRN4025005200	MECRN4025005200A

➡ 切削條件表 Cutting Condition P.551
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 長頸型- 4刃

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

· MECRN4□□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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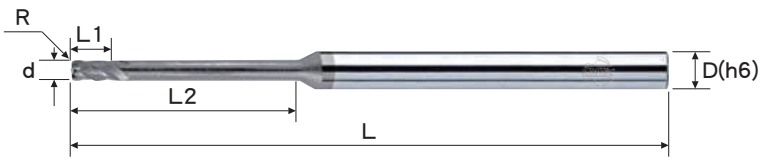
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	0.2	4.5	10	50	6	4	MECRN4030002100	MECRN4030002100A
3.0	0.2	4.5	16	50	6	4	MECRN4030002160	MECRN4030002160A
3.0	0.2	4.5	20	60	6	4	MECRN4030002200	MECRN4030002200A
3.0	0.3	4.5	10	50	6	4	MECRN4030003100	MECRN4030003100A
3.0	0.3	4.5	16	50	6	4	MECRN4030003160	MECRN4030003160A
3.0	0.3	4.5	20	60	6	4	MECRN4030003200	MECRN4030003200A
3.0	0.5	4.5	10	50	6	4	MECRN4030005100	MECRN4030005100A
3.0	0.5	4.5	16	50	6	4	MECRN4030005160	MECRN4030005160A
3.0	0.5	4.5	20	60	6	4	MECRN4030005200	MECRN4030005200A
3.0	1.0	4.5	10	50	6	4	MECRN4030010100	MECRN4030010100A
3.0	1.0	4.5	16	50	6	4	MECRN4030010160	MECRN4030010160A
3.0	1.0	4.5	20	60	6	4	MECRN4030010200	MECRN4030010200A
4.0	0.2	6.0	12	50	6	4	MECRN4040002120	MECRN4040002120A
4.0	0.2	6.0	16	50	6	4	MECRN4040002160	MECRN4040002160A
4.0	0.2	6.0	20	60	6	4	MECRN4040002200	MECRN4040002200A
4.0	0.2	6.0	25	60	6	4	MECRN4040002250	MECRN4040002250A
4.0	0.3	6.0	12	50	6	4	MECRN4040003120	MECRN4040003120A
4.0	0.3	6.0	16	50	6	4	MECRN4040003160	MECRN4040003160A
4.0	0.3	6.0	20	60	6	4	MECRN4040003200	MECRN4040003200A
4.0	0.3	6.0	25	60	6	4	MECRN4040003250	MECRN4040003250A
4.0	0.5	6.0	12	50	6	4	MECRN4040005120	MECRN4040005120A
4.0	0.5	6.0	16	50	6	4	MECRN4040005160	MECRN4040005160A
4.0	0.5	6.0	20	60	6	4	MECRN4040005200	MECRN4040005200A
4.0	0.5	6.0	25	60	6	4	MECRN4040005250	MECRN4040005250A
4.0	1.0	6.0	12	50	6	4	MECRN4040010120	MECRN4040010120A
4.0	1.0	6.0	16	50	6	4	MECRN4040010160	MECRN4040010160A
4.0	1.0	6.0	20	60	6	4	MECRN4040010200	MECRN4040010200A
4.0	1.0	6.0	25	60	6	4	MECRN4040010250	MECRN4040010250A
5.0	0.2	7.0	16	60	6	4	MECRN4050002160	MECRN4050002160A
5.0	0.2	7.0	20	60	6	4	MECRN4050002200	MECRN4050002200A
5.0	0.2	7.0	25	60	6	4	MECRN4050002250	MECRN4050002250A
5.0	0.2	7.0	30	60	6	4	MECRN4050002300	MECRN4050002300A
5.0	0.3	7.0	16	60	6	4	MECRN4050003160	MECRN4050003160A
5.0	0.3	7.0	20	60	6	4	MECRN4050003200	MECRN4050003200A
5.0	0.3	7.0	25	60	6	4	MECRN4050003250	MECRN4050003250A
5.0	0.3	7.0	30	60	6	4	MECRN4050003300	MECRN4050003300A

➡ 切削條件表 Cutting Condition P.551
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 長頸型- 4刃

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

· MECRN4□□□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
5.0	0.5	7	16	60	6	4	MECRN4050005160	MECRN4050005160A
5.0	0.5	7	20	60	6	4	MECRN4050005200	MECRN4050005200A
5.0	0.5	7	25	60	6	4	MECRN4050005250	MECRN4050005250A
5.0	0.5	7	30	60	6	4	MECRN4050005300	MECRN4050005300A
5.0	1.0	7	16	60	6	4	MECRN4050010160	MECRN4050010160A
5.0	1.0	7	20	60	6	4	MECRN4050010200	MECRN4050010200A
5.0	1.0	7	25	60	6	4	MECRN4050010250	MECRN4050010250A
5.0	1.0	7	30	60	6	4	MECRN4050010300	MECRN4050010300A
6.0	0.2	8	20	60	6	4	MECRN4060002200	MECRN4060002200A
6.0	0.2	8	25	60	6	4	MECRN4060002250	MECRN4060002250A
6.0	0.2	8	30	60	6	4	MECRN4060002300	MECRN4060002300A
6.0	0.3	8	20	60	6	4	MECRN4060003200	MECRN4060003200A
6.0	0.3	8	25	60	6	4	MECRN4060003250	MECRN4060003250A
6.0	0.3	8	30	60	6	4	MECRN4060003300	MECRN4060003300A
6.0	0.5	8	20	60	6	4	MECRN4060005200	MECRN4060005200A
6.0	0.5	8	25	60	6	4	MECRN4060005250	MECRN4060005250A
6.0	0.5	8	30	60	6	4	MECRN4060005300	MECRN4060005300A
6.0	1.0	8	20	60	6	4	MECRN4060010200	MECRN4060010200A
6.0	1.0	8	25	60	6	4	MECRN4060010250	MECRN4060010250A
6.0	1.0	8	30	60	6	4	MECRN4060010300	MECRN4060010300A
6.0	1.5	8	20	60	6	4	MECRN4060015200	MECRN4060015200A
6.0	1.5	8	25	60	6	4	MECRN4060015250	MECRN4060015250A
6.0	1.5	8	30	60	6	4	MECRN4060015300	MECRN4060015300A

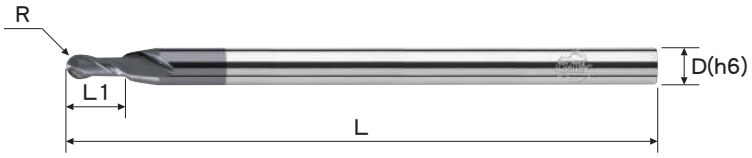
➡ 切削條件表 Cutting Condition P.551
➡ 技術資料 Technical Data P.622

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- Micro Diameter- 2F

- **MEBYS2□□□□A**
- **MEBYM2□□□□A**

半徑 R	公差 Tolerance	刃徑 d	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



Milling Table 64

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

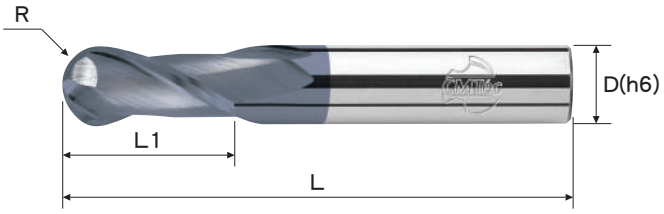
半徑 R	刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.1R	0.2	0.4	50	3	2	MEBYS20010	MEBYS20010A
0.15R	0.3	0.6	50	3	2	MEBYS20015	MEBYS20015A
0.2R	0.4	0.8	50	3	2	MEBYS20020	MEBYS20020A
0.25R	0.5	1.0	50	3	2	MEBYS20025	MEBYS20025A
0.3R	0.6	1.2	50	3	2	MEBYS20030	MEBYS20030A
0.35R	0.7	1.4	50	3	2	MEBYS20035	MEBYS20035A
0.4R	0.8	1.6	50	3	2	MEBYS20040	MEBYS20040A
0.45R	0.9	1.8	50	3	2	MEBYS20045	MEBYS20045A
0.5R	1.0	2.0	50	3	2	MEBYS20050	MEBYS20050A
0.6R	1.2	2.4	50	3	2	MEBYS20060	MEBYS20060A
0.7R	1.4	2.8	50	3	2	MEBYS20070	MEBYS20070A
0.75R	1.5	3.0	50	3	2	MEBYS20075	MEBYS20075A
0.8R	1.6	3.2	50	3	2	MEBYS20080	MEBYS20080A
0.9R	1.8	3.6	50	3	2	MEBYS20090	MEBYS20090A
1.0R	2.0	4.0	50	3	2	MEBYS20100	MEBYS20100A
1.5R	3.0	6.0	50	3	2	MEBYS20150	MEBYS20150A
0.1R	0.2	0.4	50	4	2	MEBYM20010	MEBYM20010A
0.15R	0.3	0.6	50	4	2	MEBYM20015	MEBYM20015A
0.2R	0.4	0.8	50	4	2	MEBYM20020	MEBYM20020A
0.25R	0.5	1.0	50	4	2	MEBYM20025	MEBYM20025A
0.3R	0.6	1.2	50	4	2	MEBYM20030	MEBYM20030A
0.35R	0.7	1.4	50	4	2	MEBYM20035	MEBYM20035A
0.4R	0.8	1.6	50	4	2	MEBYM20040	MEBYM20040A
0.45R	0.9	1.8	50	4	2	MEBYM20045	MEBYM20045A
0.5R	1.0	2.0	50	4	2	MEBYM20050	MEBYM20050A
0.75R	1.5	3.0	50	4	2	MEBYM20075	MEBYM20075A
1.0R	2.0	4.0	50	4	2	MEBYM20100	MEBYM20100A
1.25R	2.5	5.0	50	4	2	MEBYM20125	MEBYM20125A
1.5R	3.0	6.0	50	4	2	MEBYM20150	MEBYM20150A
2.0R	4.0	8.0	50	4	2	MEBYM20200	MEBYM20200A

➡ 切削條件表 Cutting Condition P.568
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼球型銑刀- 小柄/標準- 高精度型- 2刃

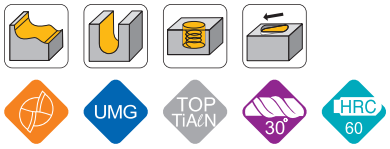
M520 ULTRA CARBIDE END MILLS- Ball Nose- High R Tolerance Type- 2F

· MEBY2□□□□A



半徑 R	公差 Tolerance	刃徑 d	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

Milling Table 64



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

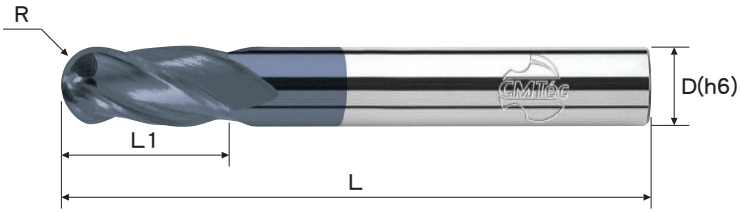
半徑 R	刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	2.0	4	50	6	2	MEBY20100	MEBY20100A
1.25R	2.5	5	50	6	2	MEBY20125	MEBY20125A
1.5R	3.0	6	50	6	2	MEBY20150	MEBY20150A
2.0R	4.0	8	50	6	2	MEBY20200	MEBY20200A
2.5R	5.0	10	50	6	2	MEBY20250	MEBY20250A
3.0R	6.0	12	50	6	2	MEBY20300	MEBY20300A

切削條件表 Cutting Condition P.568
技術資料 Technical Data P.622

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

· MEBYM4 0000A
· MEBY4 0000A



半徑 R	公差 Tolerance	刃徑 d	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

Milling Table 64

UMG | TOP TiAlN | 30° | HRC 60

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

半徑 R	刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0R	2.0	4	50	4	4	MEBYM40100	MEBYM40100A
1.25R	2.5	5	50	4	4	MEBYM40125	MEBYM40125A
1.5R	3.0	6	50	4	4	MEBYM40150	MEBYM40150A
1.75R	3.5	7	50	4	4	MEBYM40175	MEBYM40175A
2.0R	4.0	8	50	4	4	MEBYM40200	MEBYM40200A
3.0R	6.0	12	50	6	4	MEBY40300	MEBY40300A

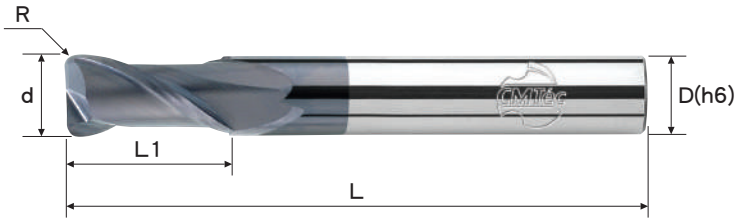
➡ 切削條件表 Cutting Condition P.568
➡ 技術資料 Technical Data P.622

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

- MECYM2000000A
- MECY2000000A

半徑 R	公差 Tolerance	刃徑 d	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



Milling Table 65

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

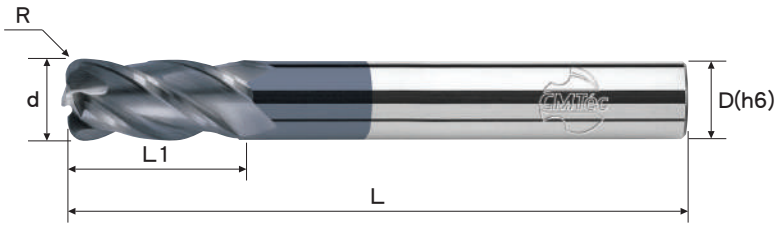
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	2	MECYM2010002	MECYM2010002A
1.5	0.2R	3	50	4	2	MECYM2015002	MECYM2015002A
2.0	0.2R	4	50	4	2	MECYM2020002	MECYM2020002A
2.5	0.2R	5	50	4	2	MECYM2025002	MECYM2025002A
2.5	0.5R	5	50	4	2	MECYM2025005	MECYM2025005A
3.0	0.5R	6	50	4	2	MECYM2030005	MECYM2030005A
3.0	1.0R	6	50	4	2	MECYM2030010	MECYM2030010A
4.0	0.5R	8	50	6	2	MECY2040005	MECY2040005A
4.0	1.0R	8	50	6	2	MECY2040010	MECY2040010A
5.0	0.5R	10	50	6	2	MECY2050005	MECY2050005A
5.0	1.0R	10	50	6	2	MECY2050010	MECY2050010A
6.0	0.5R	12	50	6	2	MECY2060005	MECY2060005A
6.0	1.0R	12	50	6	2	MECY2060010	MECY2060010A

➡ 切削條件表 Cutting Condition P.568
➡ 技術資料 Technical Data P.622

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

· MECY4000000A



半徑 R	公差 Tolerance	刃徑 d	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

Milling Table 66

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

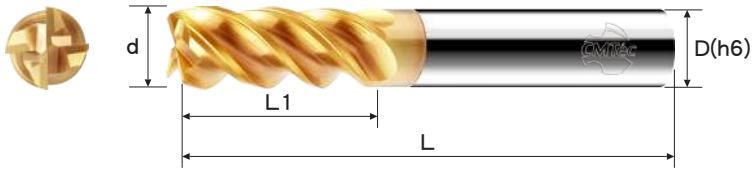
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	0.5R	6	50	6	4	MECY4030005	MECY4030005A
3.0	1.0R	6	50	6	4	MECY4030010	MECY4030010A
4.0	0.5R	8	50	6	4	MECY4040005	MECY4040005A
4.0	1.0R	8	50	6	4	MECY4040010	MECY4040010A
5.0	0.5R	10	50	6	4	MECY4050005	MECY4050005A
5.0	1.0R	10	50	6	4	MECY4050010	MECY4050010A
6.0	0.5R	12	50	6	4	MECY4060005	MECY4060005A
6.0	1.0R	12	50	6	4	MECY4060010	MECY4060010A

切削條件表 Cutting Condition P.569
技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 不等距高導型- 4刃

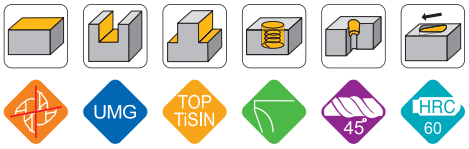
M520 ULTRA CARBIDE END MILLS- Unequal Flute Spacing Angle- Square Type- High Helix- 4F

· **MEHU40000A**



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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切削實例 CUT EXAMPLES

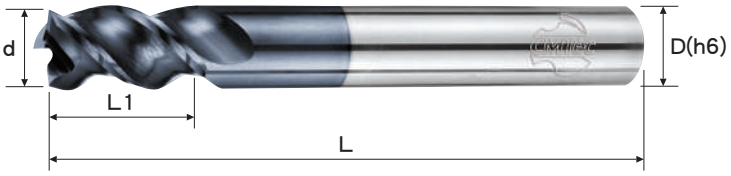
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	8	50	4	4	MEHUM40300A
4.0	10	50	4	4	MEHUM40400A
3.0	8	50	6	4	MEHU40300A
4.0	10	50	6	4	MEHU40400A
5.0	13	50	6	4	MEHU40500A
6.0	15	50	6	4	MEHU40600A
6.0	18	50	6	4	MEHU40600180CA
8.0	20	60	8	4	MEHU40800A
8.0	24	60	8	4	MEHU40800240CA
10.0	25	75	10	4	MEHU41000A
10.0	30	75	10	4	MEHU41000300CA
12.0	30	75	12	4	MEHU41200A
12.0	36	75	12	4	MEHU41200360CA
16.0	35	100	16	4	MEHU41600A

切削條件表 Cutting Condition P.579
技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 短刃強重型- 3刃

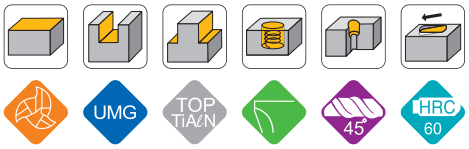
M520 ULTRA CARBIDE END MILLS- Square Type- Short Flute For Heavy- Duty Cutting- 3F

· MEHHD3□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	4.5	50	6	3	MEHHD30300A
4.0	6.0	50	6	3	MEHHD30400A
5.0	7.5	50	6	3	MEHHD30500A
6.0	9.0	50	6	3	MEHHD30600A
8.0	12.0	60	8	3	MEHHD30800A
10.0	15.0	75	10	3	MEHHD31000A
12.0	18.0	75	12	3	MEHHD31200A

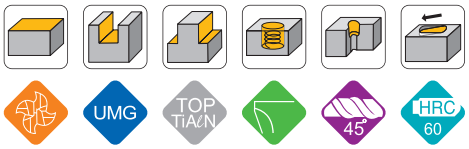
M520 極細鎢鋼平銑刀- 短刃強重型- 4刃

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

· MEHHD4□□□□A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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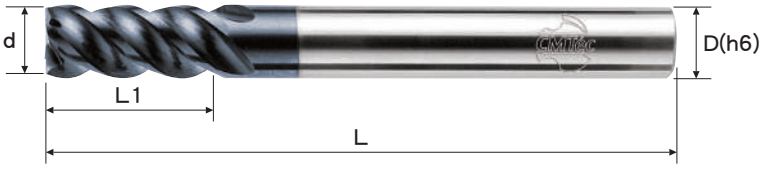
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	4.5	50	6	4	MEHHD40300A
4.0	6.0	50	6	4	MEHHD40400A
5.0	7.5	50	6	4	MEHHD40500A
6.0	9.0	50	6	4	MEHHD40600A
8.0	12.0	60	8	4	MEHHD40800A
10.0	15.0	75	10	4	MEHHD41000A
12.0	18.0	75	12	4	MEHHD41200A

➡ 切削條件表 Cutting Condition P.550 ➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 強重型- 4刃

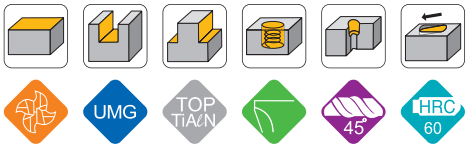
M520 ULTRA CARBIDE END MILLS- For Heavy- Duty Cutting- 4F

· MEHH40000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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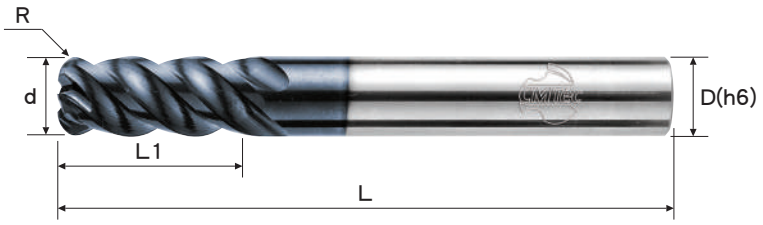
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	4	MEHH40300A
4.0	11	50	6	4	MEHH40400A
5.0	13	50	6	4	MEHH40500A
6.0	13	50	6	4	MEHH40600A
8.0	19	60	8	4	MEHH40800A
10.0	22	75	10	4	MEHH41000A
12.0	26	75	12	4	MEHH41200A
16.0	32	100	16	4	MEHH41600A
20.0	38	100	20	4	MEHH42000A

➡ 切削條件表 Cutting Condition P.550
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼圓鼻銑刀- 強重型- 4刃

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

· MEHHCR4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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

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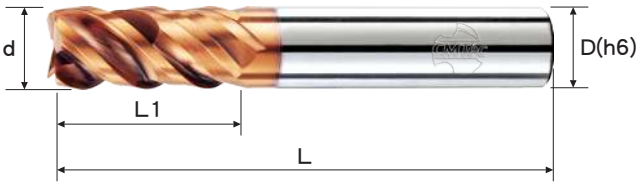
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	0.2R	8	50	6	4	MEHHCR4030002A
3.0	0.5R	8	50	6	4	MEHHCR4030005A
4.0	0.2R	11	50	6	4	MEHHCR4040002A
4.0	0.5R	11	50	6	4	MEHHCR4040005A
4.0	1.0R	11	50	6	4	MEHHCR4040010A
5.0	0.2R	13	50	6	4	MEHHCR4050002A
5.0	0.5R	13	50	6	4	MEHHCR4050005A
5.0	1.0R	13	50	6	4	MEHHCR4050010A
6.0	0.3R	13	50	6	4	MEHHCR4060003A
6.0	0.5R	13	50	6	4	MEHHCR4060005A
6.0	1.0R	13	50	6	4	MEHHCR4060010A
8.0	0.3R	19	60	8	4	MEHHCR4080003A
8.0	0.5R	19	60	8	4	MEHHCR4080005A
8.0	1.0R	19	60	8	4	MEHHCR4080010A
8.0	1.5R	19	60	8	4	MEHHCR4080015A
8.0	2.0R	19	60	8	4	MEHHCR4080020A
10.0	0.3R	22	75	10	4	MEHHCR4100003A
10.0	0.5R	22	75	10	4	MEHHCR4100005A
10.0	1.0R	22	75	10	4	MEHHCR4100010A
10.0	1.5R	22	75	10	4	MEHHCR4100015A
10.0	2.0R	22	75	10	4	MEHHCR4100020A
10.0	3.0R	22	75	10	4	MEHHCR4100030A
12.0	0.5R	26	75	12	4	MEHHCR4120005A
12.0	1.0R	26	75	12	4	MEHHCR4120010A
12.0	1.5R	26	75	12	4	MEHHCR4120015A
12.0	2.0R	26	75	12	4	MEHHCR4120020A
12.0	3.0R	26	75	12	4	MEHHCR4120030A
16.0	1.0R	35	100	16	4	MEHHCR4160010A
16.0	1.5R	35	100	16	4	MEHHCR4160015A
16.0	2.0R	35	100	16	4	MEHHCR4160020A
16.0	3.0R	35	100	16	4	MEHHCR4160030A
20.0	1.0R	40	100	20	4	MEHHCR4200010A
20.0	1.5R	40	100	20	4	MEHHCR4200015A
20.0	2.0R	40	100	20	4	MEHHCR4200020A
20.0	3.0R	40	100	20	4	MEHHCR4200030A

➡ 切削條件表 Cutting Condition P.550
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 不等距雙心徑型- 4刃

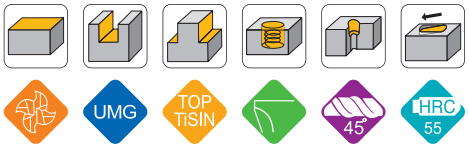
M520 ULTRA CARBIDE END MILLS- Square Type- Unequal Flute Spacing Angle- Duo Core Dia- 4F

· MEP4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



04

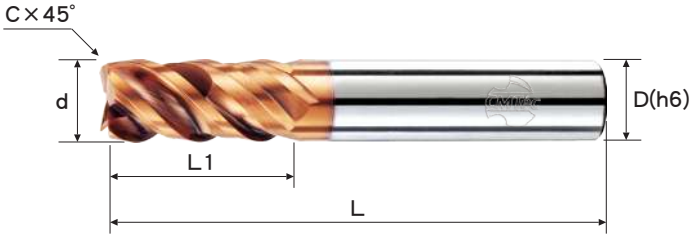
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	10	50	6	4	MEP40400A
5.0	12	50	6	4	MEP40500A
6.0	14	50	6	4	MEP40600A
8.0	18	60	8	4	MEP40800A
10.0	22	75	10	4	MEP41000A
12.0	26	75	12	4	MEP41200A

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

M520 極細鎢鋼平銑刀- 不等距雙心徑倒角型- 4刃

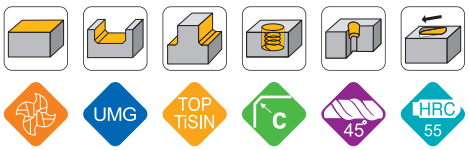
M520 ULTRA CARBIDE END MILLS- Square Type- Unequal Flute Spacing Angle- Duo Core Dia- Chamfering- 4F

· MEP4□□□□-C□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



04

切削實例 CUT EXAMPLES

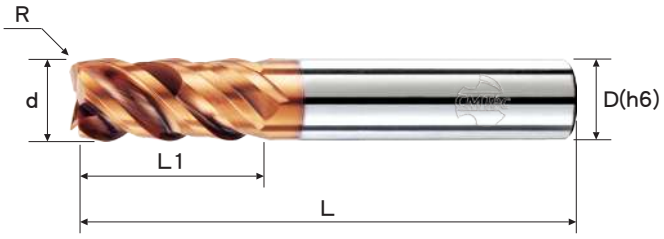
刃徑 d	倒C角 C(Max)	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	0.2	10	50	6	4	MEP40400-C0020A
5.0	0.2	12	50	6	4	MEP40500-C0020A
6.0	0.2	14	50	6	4	MEP40600-C0020A
8.0	0.3	18	60	8	4	MEP40800-C0030A
10.0	0.3	22	75	10	4	MEP41000-C0030A
12.0	0.4	26	75	12	4	MEP41200-C0040A

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

M520 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

· MEP4□□□□-R□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

R角	公差 Tolerance
R	±0.02

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

UMG | TOP TiSiN | R | 45° | HRC 55 | Milling Table 04

NEW SIZE

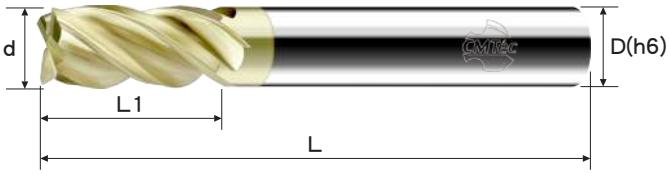
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	0.2R	10	50	6	4	MEP40400-R0020A
5.0	0.2R	12	50	6	4	MEP40500-R0020A
6.0	0.2R	14	50	6	4	MEP40600-R0020A
8.0	0.5R	18	60	8	4	MEP40800-R0050A
10.0	0.5R	22	75	10	4	MEP41000-R0050A
12.0	0.5R	26	75	12	4	MEP41200-R0050A

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

M520 極細鎢鋼鈦合金用平銑刀- 高效型- 4刃

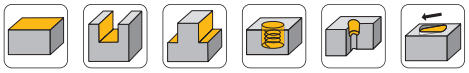
M520 ULTRA CARBIDE END MILLS FOR TITANIUM- High Performance- 4F

· METV4 0000 A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



83

NEW SIZE

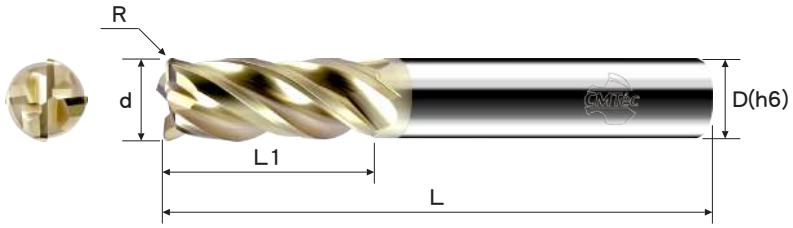
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	8	50	6	4	METV40300A
4.0	10	50	6	4	METV40400A
4.0	12	50	6	4	METV40400120CA
6.0	15	50	6	4	METV40600A
6.0	18	50	6	4	METV40600180CA
8.0	20	60	8	4	METV40800A
8.0	24	60	8	4	METV40800240CA
10.0	25	75	10	4	METV41000A
10.0	30	75	10	4	METV41000300CA
12.0	30	75	12	4	METV41200A
12.0	36	75	12	4	METV41200360CA

➡ 切削條件表 Cutting Condition P.580
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼鈦合金用圓鼻銑刀- 高效型- 4刃

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

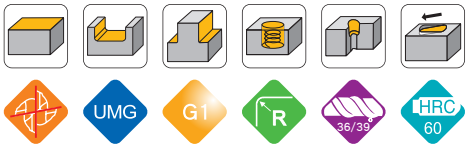
· METVC4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



83

NEW

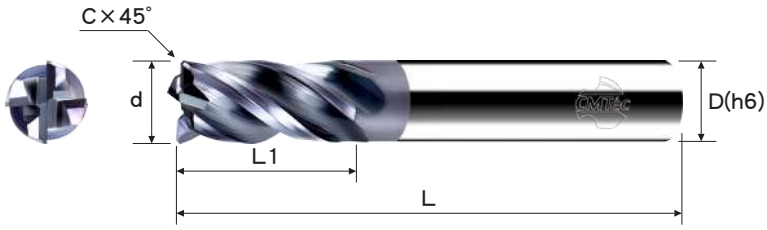
刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	0.2R	8	50	6	4	METVC4030002A
3.0	0.5R	8	50	6	4	METVC4030005A
4.0	0.2R	10	50	6	4	METVC4040002A
4.0	0.5R	10	50	6	4	METVC4040005A
4.0	1.0R	10	50	6	4	METVC4040010A
5.0	0.2R	13	50	6	4	METVC4050002A
5.0	0.5R	13	50	6	4	METVC4050005A
5.0	1.0R	13	50	6	4	METVC4050010A
5.0	1.5R	13	50	6	4	METVC4050015A
6.0	0.3R	15	50	6	4	METVC4060003A
6.0	0.5R	15	50	6	4	METVC4060005A
6.0	1.0R	15	50	6	4	METVC4060010A
8.0	0.3R	20	60	8	4	METVC4080003A
8.0	0.5R	20	60	8	4	METVC4080005A
8.0	1.0R	20	60	8	4	METVC4080010A
8.0	1.5R	20	60	8	4	METVC4080015A
8.0	2.0R	20	60	8	4	METVC4080020A
10.0	0.3R	25	75	10	4	METVC4100003A
10.0	0.5R	25	75	10	4	METVC4100005A
10.0	1.0R	25	75	10	4	METVC4100010A
10.0	1.5R	25	75	10	4	METVC4100015A
10.0	2.0R	25	75	10	4	METVC4100020A
10.0	3.0R	25	75	10	4	METVC4100030A
12.0	0.5R	30	75	12	4	METVC4120005A
12.0	1.0R	30	75	12	4	METVC4120010A
12.0	1.5R	30	75	12	4	METVC4120015A
12.0	2.0R	30	75	12	4	METVC4120020A
12.0	3.0R	30	75	12	4	METVC4120030A

➡ 切削條件表 Cutting Condition P.580
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼鋼用平銑刀- 高效型- 4刃

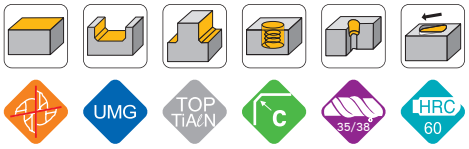
M520 ULTRA CARBIDE END MILLS FOR ALLOY STEEL- High Performance- 4F

· MEV4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



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NEW SIZE

切 削 實 例 CUT EXAMPLES

刃徑 d	倒C角 C(Max)	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	0.1	6	50	6	4	MEV40300A
4.0	0.2	8	50	6	4	MEV40400A
4.0	0.2	12	50	6	4	MEV40400120CA
5.0	0.2	10	50	6	4	MEV40500A
6.0	0.2	12	50	6	4	MEV40600A
6.0	0.2	18	50	6	4	MEV40600180CA
8.0	0.3	16	60	8	4	MEV40800A
8.0	0.3	24	60	8	4	MEV40800240CA
10.0	0.3	20	75	10	4	MEV41000A
10.0	0.3	30	75	10	4	MEV41000300CA
12.0	0.4	24	75	12	4	MEV41200A
12.0	0.4	36	75	12	4	MEV41200360CA

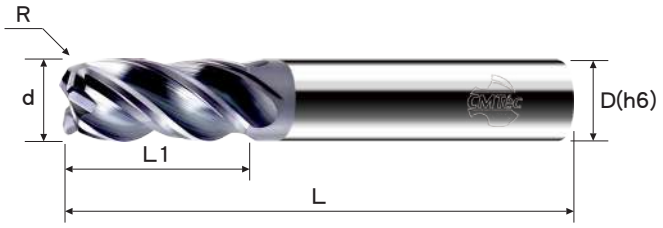
➡ 切削條件表 Cutting Condition P.569, 570

➡ 技術資料 Technical Data P.622

M520 極細鎢鋼鋼用圓鼻銑刀- 高效型- 4刃

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

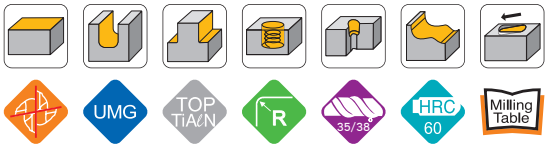
· MEVC4000000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

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



69,70

刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
3.0	0.2R	8	50	6	4	MEVC4030002A
3.0	0.5R	8	50	6	4	MEVC4030005A
4.0	0.2R	11	50	6	4	MEVC4040002A
4.0	0.5R	11	50	6	4	MEVC4040005A
4.0	1.0R	11	50	6	4	MEVC4040010A
5.0	0.2R	13	50	6	4	MEVC4050002A
5.0	0.5R	13	50	6	4	MEVC4050005A
5.0	1.0R	13	50	6	4	MEVC4050010A
6.0	0.3R	13	50	6	4	MEVC4060003A
6.0	0.5R	13	50	6	4	MEVC4060005A
6.0	1.0R	13	50	6	4	MEVC4060010A
8.0	0.3R	19	60	8	4	MEVC4080003A
8.0	0.5R	19	60	8	4	MEVC4080005A
8.0	1.0R	19	60	8	4	MEVC4080010A
8.0	1.5R	19	60	8	4	MEVC4080015A
8.0	2.0R	19	60	8	4	MEVC4080020A
10.0	0.3R	22	75	10	4	MEVC4100003A
10.0	0.5R	22	75	10	4	MEVC4100005A
10.0	1.0R	22	75	10	4	MEVC4100010A
10.0	1.5R	22	75	10	4	MEVC4100015A
10.0	2.0R	22	75	10	4	MEVC4100020A
10.0	3.0R	22	75	10	4	MEVC4100030A
12.0	0.5R	26	75	12	4	MEVC4120005A
12.0	1.0R	26	75	12	4	MEVC4120010A
12.0	1.5R	26	75	12	4	MEVC4120015A
12.0	2.0R	26	75	12	4	MEVC4120020A
12.0	3.0R	26	75	12	4	MEVC4120030A
16.0	1.0R	35	100	16	4	MEVC4160010A
16.0	1.5R	35	100	16	4	MEVC4160015A
16.0	2.0R	35	100	16	4	MEVC4160020A
16.0	3.0R	35	100	16	4	MEVC4160030A
20.0	1.0R	40	100	20	4	MEVC4200010A
20.0	1.5R	40	100	20	4	MEVC4200015A
20.0	2.0R	40	100	20	4	MEVC4200020A
20.0	3.0R	40	100	20	4	MEVC4200030A

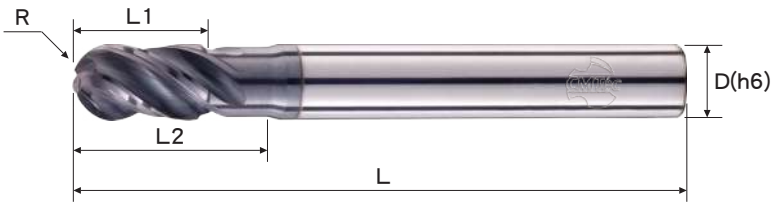
➡ 切削條件表 Cutting Condition P.570, 571

➡ 技術資料 Technical Data P.622

M520 極細鎢鋼鋼用球型銑刀- 高效型- 4刃

M520 ULTRA CARBIDE END MILLS FOR ALLOY STEEL- Ball Nose- High Performance- 4F

· MEVB40000A



半徑 R	公差 Tolerance
R	±0.02

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

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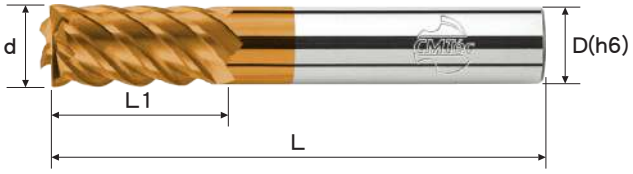
半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
2.5R	10	15	60	6	4	MEVB40250A
3.0R	12	15	60	6	4	MEVB40300A
4.0R	16	20	75	8	4	MEVB40400A
5.0R	20	25	75	10	4	MEVB40500A
6.0R	24	30	75	12	4	MEVB40600A
8.0R	32	40	100	16	4	MEVB40800A
10.0R	40	50	100	20	4	MEVB41000A

➡ 切削條件表 Cutting Condition P.571
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 高硬型- 6刃

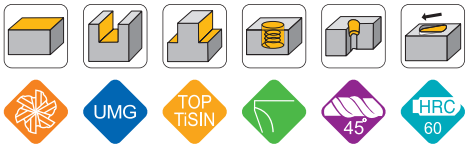
M520 ULTRA MICRO GRAIN CARBIDE END MILLS- High Hardness- 6F

· MED60000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



84

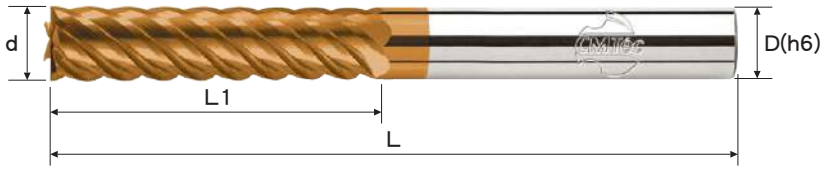
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	15	50	6	6	MED60600A
8.0	20	60	8	6	MED60800A
10.0	25	75	10	6	MED61000A
12.0	30	75	12	6	MED61200A
14.0	30	75	14	6	MED61400A
16.0	40	100	16	6	MED61600A
18.0	40	100	18	6	MED61800A
20.0	45	100	20	6	MED62000A
25.0	45	100	25	6	MED62500A

切削條件表 Cutting Condition P.581
技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 高硬長刃型- 6刃

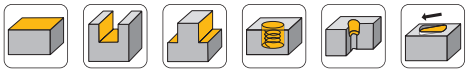
M520 ULTRA MICRO GRAIN CARBIDE END MILLS- High Hardness & Long Flute- 6F

· MEDF60000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



84

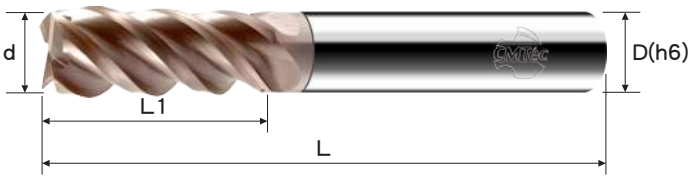
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.0	35	75	6	6	MEDF60600A
8.0	45	100	8	6	MEDF60800A
10.0	55	100	10	6	MEDF61000A
12.0	55	100	12	6	MEDF61200A
14.0	75	150	14	6	MEDF61400A
16.0	75	150	16	6	MEDF61600A
18.0	90	150	18	6	MEDF61800A
20.0	90	150	20	6	MEDF62000A
25.0	90	150	25	6	MEDF62500A

➡ 切削條件表 Cutting Condition P.581
➡ 技術資料 Technical Data P.622

M520 極細鎢鋼不銹鋼用平銑刀- 高導型- 4刃

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

· MEMHM4□□□□F
· MEMH4□□□□F



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

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切 削 實 例 CUT EXAMPLES

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
1.0	3	50	4	4	MEMHM40100F
2.0	5	50	4	4	MEMHM40200F
3.0	8	50	4	4	MEMHM40300F
4.0	10	50	4	4	MEMHM40400F
2.0	5	50	6	4	MEMH40200F
3.0	8	50	6	4	MEMH40300F
4.0	10	50	6	4	MEMH40400F
5.0	13	50	6	4	MEMH40500F
6.0	15	50	6	4	MEMH40600F
7.0	18	60	8	4	MEMH40700F
8.0	20	60	8	4	MEMH40800F
10.0	25	75	10	4	MEMH41000F
12.0	30	75	12	4	MEMH41200F
14.0	30	75	14	4	MEMH4140014F
15.0	35	100	16	4	MEMH41500F
16.0	35	100	16	4	MEMH41600F
18.0	40	100	20	4	MEMH41800F
20.0	45	100	20	4	MEMH42000F
25.0	45	100	25	4	MEMH42500F

➡ 切削條件表 Cutting Condition P.574
➡ 技術資料 Technical Data P.622

MEMO

N620
奈米鎢鋼銑刀系列

Nano Carbide End Mills Series

高硬度鋼材(調質鋼)45~65HRC

For hardened steel (45~65HRC) machining.

包裝盒蓋 / 紅色

Color of N620 packaging box / Red

產品選擇表 Product Selection Table

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
N620 奈米鎢鋼銑刀系列 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	148
		NESD20000A	短刃型(小R角) -Short Flute		Ø6 ~ Ø12	148
	三刃 3 Flutes	NESD30000A	短刃型(小R角) -Short Flute		Ø3 ~ Ø12	148
	四刃 4 Flutes	NESD(M)40000A	短刃型(小R角) -Short Flute NEW SIZE		Ø1 ~ Ø12	149
	四刃 4 Flutes	NED(M)40000A	短刃型(無R角) -Short Flute		Ø1 ~ Ø12	153
	六刃 6 Flutes	NEHD60000A	短刃型(小R角) -Short Flute		Ø6 ~ Ø20	150
長頸平刀 Long Neck Square	二刃 2 Flutes	NESND20000000A	短刃型(小R角) -Short Flute		Ø0.5 ~ Ø5.0	151
球刀 Ball	二刃 2 Flutes	NEB20000A	標準型 -Standard		1R ~ 6R	153
		NEBDM20000A	短刃型 -Short Flute NEW SIZE		0.05R ~ 2.0R	152
		NEBD20000A	短刃型 -Short Flute		1R ~ 6R	152
長柄球刀 Long Shank Ball	二刃 2 Flutes	NEBL20000A	標準型 -Standard		1R ~ 6R	155
		NEBDML20000A	短刃型 -Short Flute		0.5R ~ 1.5R	154
		NEBDL20000A	短刃型 -Short Flute		1R ~ 6R	154
長頸球刀 Long Neck Ball	二刃 2 Flutes	NEBND20000000A	短刃型 -Short Flute		0.3R ~ 3.0R	156
圓鼻刀 Corner Radius	四刃 4 Flutes	NECDM4000000A	短刃型 -Short Flute NEW SIZE		Ø1 ~ Ø4	157
		NECD40000000A	短刃型 -Short Flute		Ø3 ~ Ø12	157
平刀 Square	四刃 4 Flutes	NEDY(M)40000A	高精度型 -High Tolerance		Ø1 ~ Ø12	158
球刀 Ball	二刃 2 Flutes	NEBDY(M)20000A	高精度型 -High Tolerance		0.05R ~ 6.0R	159

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing 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)	○	◎	○	—

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

N620 奈米鎢鋼平銑刀- 短刃型- 2刃

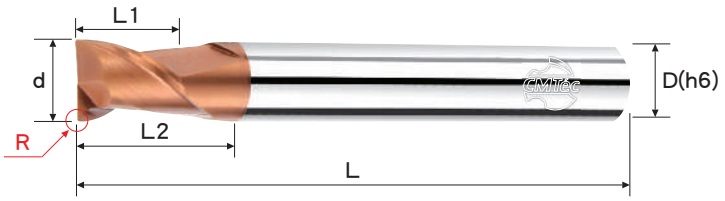
N620 NANO CARBIDE END MILLS- Square Type- Short Flute- With Corner Radii- 2F

- NESDM2□□□□A
- NESD2□□□□A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

半徑 R	公差 Tolerance
R	±0.02

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



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刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0	0.1R	1	2	50	4	2	NESDM20100A
2.0	0.1R	2	4	50	4	2	NESDM20200A
3.0	0.1R	3	6	50	4	2	NESDM20300A
4.0	0.2R	4	8	50	4	2	NESDM20400A
6.0	0.2R	6	12	50	6	2	NESD20600A
8.0	0.3R	8	16	60	8	2	NESD20800A
10.0	0.3R	10	20	75	10	2	NESD21000A
12.0	0.3R	12	24	75	12	2	NESD21200A

N620 奈米鎢鋼平銑刀- 短刃型- 3刃

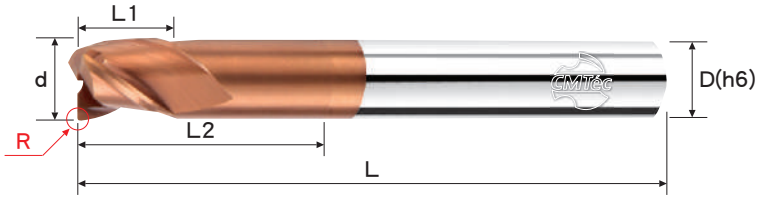
N620 NANO CARBIDE END MILLS- Square Type- Short Flute- With Corner Radii- 3F

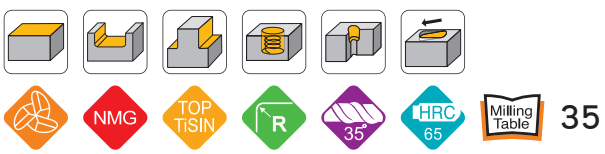
- NESD3□□□□A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

半徑 R	公差 Tolerance
R	±0.02

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





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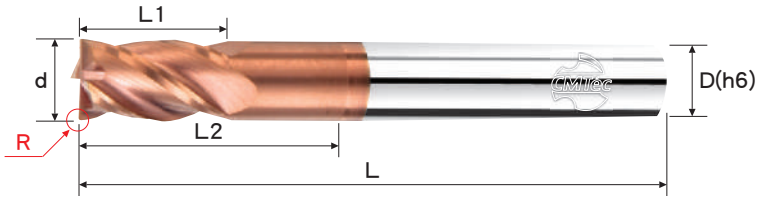
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
3.0	0.1R	3	9	50	6	3	NESD30300A
4.0	0.2R	4	12	50	6	3	NESD30400A
6.0	0.2R	6	18	50	6	3	NESD30600A
8.0	0.3R	8	24	60	8	3	NESD30800A
10.0	0.3R	10	30	75	10	3	NESD31000A
12.0	0.3R	12	36	75	12	3	NESD31200A

➡ 切削條件表 Cutting Condition P.551, 552
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼平銑刀- 短刃型- 4刃

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

· NESD4□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

半徑 R	公差 Tolerance
R	±0.02

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

NMG | TOP TiSiN | R | 35° | HRC 65 | Milling Table 36

NEW SIZE

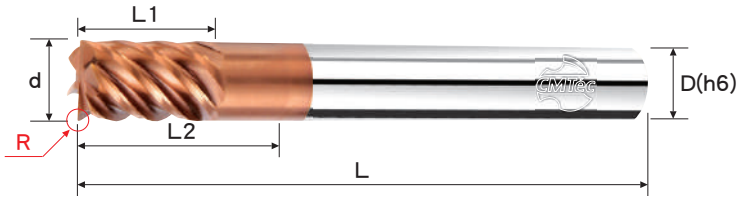
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0	0.1R	1.0	2	50	4	4	NESDM40100A
1.5	0.1R	1.5	3	50	4	4	NESDM40150A
2.0	0.1R	2.0	4	50	4	4	NESDM40200A
2.5	0.1R	2.5	5	50	4	4	NESDM40250A
3.0	0.1R	4.0	8	50	4	4	NESDM40300A
4.0	0.2R	5.0	10	50	4	4	NESDM40400A
3.0	0.1R	4.0	8	50	6	4	NESD40300A
4.0	0.2R	5.0	10	50	6	4	NESD40400A
5.0	0.2R	7.0	14	50	6	4	NESD40500A
6.0	0.2R	8.0	16	50	6	4	NESD40600A
8.0	0.3R	12.0	24	60	8	4	NESD40800A
10.0	0.3R	16.0	32	75	10	4	NESD41000A
12.0	0.3R	18.0	36	75	12	4	NESD41200A

➡ 切削條件表 Cutting Condition P.552
➡ 技術資料 Technical Data P.622

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- With Corner Radii- 6F

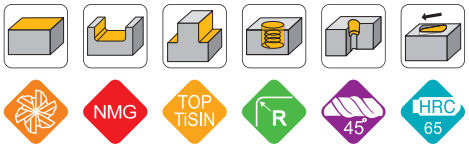
· NEHD60000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

半徑 R	公差 Tolerance
R	±0.02

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



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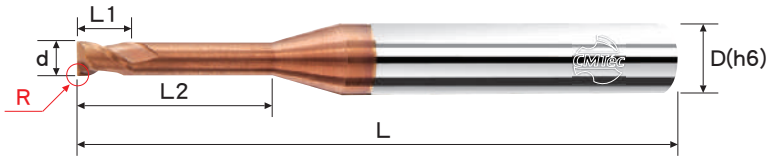
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
6.0	0.2R	9	15	50	6	6	NEHD60600A
8.0	0.3R	12	20	60	8	6	NEHD60800A
10.0	0.3R	15	25	75	10	6	NEHD61000A
12.0	0.3R	18	30	75	12	6	NEHD61200A
16.0	0.5R	24	40	100	16	6	NEHD61600A
20.0	0.5R	30	50	100	20	6	NEHD62000A

➡ 切削條件表 Cutting Condition P.553
➡ 技術資料 Technical Data P.622

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- With Corner Radii- 2F

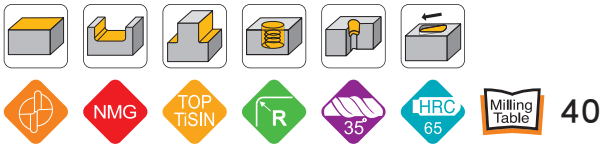
· NESND2□□□□□□□A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

半徑 R	公差 Tolerance
R	±0.02

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



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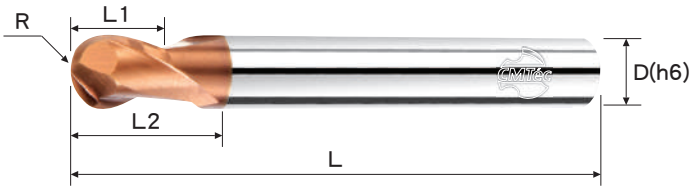
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.5	0.1R	1.0	2	50	4	2	NESND20050020A
0.5	0.1R	1.0	4	50	4	2	NESND20050040A
1.0	0.1R	1.5	4	50	6	2	NESND20100040A
1.0	0.1R	1.5	6	50	6	2	NESND20100060A
1.0	0.1R	1.5	8	50	6	2	NESND20100080A
1.5	0.1R	1.5	4	50	6	2	NESND20150040A
1.5	0.1R	1.5	8	50	6	2	NESND20150080A
2.0	0.2R	2.0	8	50	6	2	NESND20200080A
2.0	0.2R	2.0	10	50	6	2	NESND20200100A
2.0	0.2R	2.0	12	50	6	2	NESND20200120A
3.0	0.2R	3.0	8	50	6	2	NESND20300080A
3.0	0.2R	3.0	12	50	6	2	NESND20300120A
3.0	0.2R	3.0	16	50	6	2	NESND20300160A
3.0	0.2R	3.0	20	50	6	2	NESND20300200A
4.0	0.3R	4.0	16	60	6	2	NESND20400160A
4.0	0.3R	4.0	20	60	6	2	NESND20400200A
4.0	0.3R	4.0	26	75	6	2	NESND20400260A
5.0	0.3R	5.0	20	75	6	2	NESND20500200A
5.0	0.3R	5.0	30	75	6	2	NESND20500300A
5.0	0.3R	5.0	40	75	6	2	NESND20500400A

➡ 切削條件表 Cutting Condition P.554
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼球型銑刀- 短刃型- 2刃

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

· NEBDM2□□□□A
· NEBD2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

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NEW SIZE

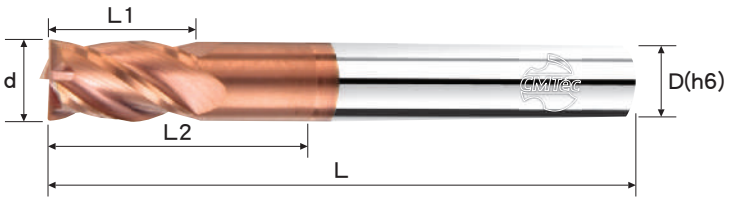
半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.05R	0.1	0.2	50	4	2	NEBDM20005A
0.1R	0.2	0.4	50	4	2	NEBDM20010A
0.15R	0.3	0.6	50	4	2	NEBDM20015A
0.2R	0.4	0.8	50	4	2	NEBDM20020A
0.25R	0.5	1.0	50	4	2	NEBDM20025A
0.3R	0.6	1.2	50	4	2	NEBDM20030A
0.35R	0.7	1.4	50	4	2	NEBDM20035A
0.4R	0.8	1.6	50	4	2	NEBDM20040A
0.45R	0.9	1.8	50	4	2	NEBDM20045A
0.5R	1.0	2.0	50	4	2	NEBDM20050A
0.75R	1.5	3.0	50	4	2	NEBDM20075A
1.0R	2.0	4.0	50	4	2	NEBDM20100A
1.5R	3.0	6.0	50	4	2	NEBDM20150A
2.0R	4.0	8.0	50	4	2	NEBDM20200A
1.0R	2.0	4.0	50	6	2	NEBD20100A
1.5R	3.0	6.0	50	6	2	NEBD20150A
2.0R	4.0	8.0	50	6	2	NEBD20200A
2.5R	5.0	10.0	50	6	2	NEBD20250A
3.0R	6.0	12.0	50	6	2	NEBD20300A
4.0R	8.0	16.0	60	8	2	NEBD20400A
5.0R	10.0	20.0	75	10	2	NEBD20500A
6.0R	12.0	24.0	75	12	2	NEBD20600A

➡ 切削條件表 Cutting Condition P.554
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼平銑刀- 短刃型- 4刃

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

- **NEDM40000A**
- **NED40000A**



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

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

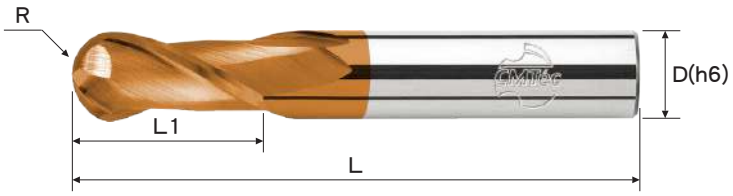
NMG | TOP TiSiN | 35° | HRC 65 | Milling Table 36

刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0	1.0	2	50	4	4	NEDM40100A
1.5	1.5	3	50	4	4	NEDM40150A
2.0	2.0	4	50	4	4	NEDM40200A
2.5	2.5	5	50	4	4	NEDM40250A
3.0	3.0	8	50	6	4	NED40300A
4.0	4.0	10	50	6	4	NED40400A
5.0	5.0	14	50	6	4	NED40500A
6.0	6.0	16	50	6	4	NED40600A
8.0	8.0	24	60	8	4	NED40800A
10.0	10.0	32	75	10	4	NED41000A
12.0	12.0	36	75	12	4	NED41200A

N620 奈米鎢鋼球型銑刀- 標準型- 2刃

N620 NANO CARBIDE END MILLS- Ball Nose- 2F

- **NEB20000A**



半徑 R	公差 Tolerance
R	±0.02

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

NMG | TOP TiSiN | 30° | HRC 65 | Milling Table 39

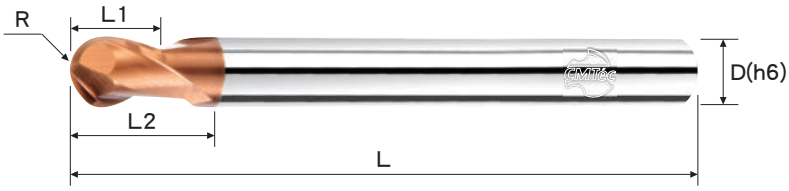
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0R	4	50	6	2	NEB20100A
1.5R	6	50	6	2	NEB20150A
2.0R	8	50	6	2	NEB20200A
3.0R	12	50	6	2	NEB20300A
4.0R	16	60	8	2	NEB20400A
5.0R	20	75	10	2	NEB20500A
6.0R	24	75	12	2	NEB20600A

→ 切削條件表 Cutting Condition P.552, 554
→ 技術資料 Technical Data P.622

N620 奈米鎢鋼球型銑刀- 短刃長柄型- 2刃

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

- NEBDML2□□□□A
- NEBDL2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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

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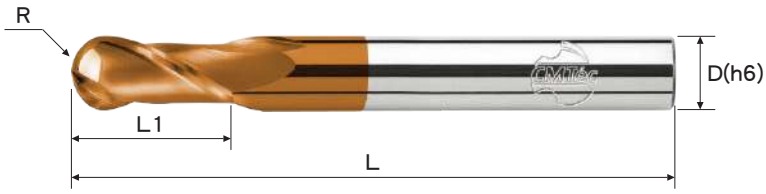
半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.5R	1	2	75	4	2	NEBDML20050A
1.0R	2	4	75	4	2	NEBDML20100A
1.5R	3	6	75	4	2	NEBDML20150A
1.0R	2	4	75	6	2	NEBDL20100A
1.5R	3	6	75	6	2	NEBDL20150A
2.0R	4	8	75	6	2	NEBDL20200A
2.5R	5	10	75	6	2	NEBDL20250A
3.0R	6	12	75	6	2	NEBDL20300A
4.0R	8	16	100	8	2	NEBDL20400A
5.0R	10	20	100	10	2	NEBDL20500A
6.0R	12	24	100	12	2	NEBDL20600A

➡ 切削條件表 Cutting Condition P.554
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼球型銑刀- 標準/長柄型- 2刃

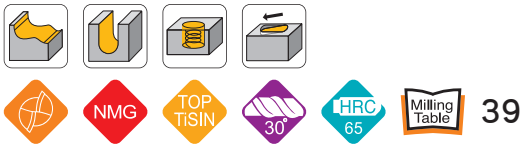
N620 NANO CARBIDE END MILLS- Ball Nose- Long Shank- 2F

· NEBL2□□□□A



半徑 R	公差 Tolerance
R	±0.02

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



39

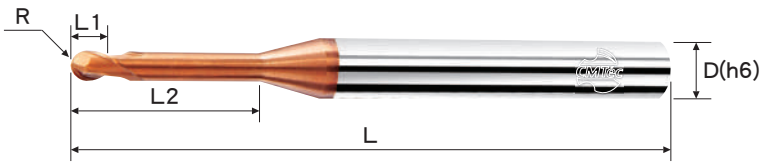
半徑 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0R	4	75	6	2	NEBL20100A
1.5R	6	75	6	2	NEBL20150A
2.0R	8	75	6	2	NEBL20200A
3.0R	12	75	6	2	NEBL20300A
4.0R	16	100	8	2	NEBL20400A
5.0R	20	100	10	2	NEBL20500A
6.0R	24	100	12	2	NEBL20600A

➡ 切削條件表 Cutting Condition P.554
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼球型銑刀- 短刃長頸型- 2刃

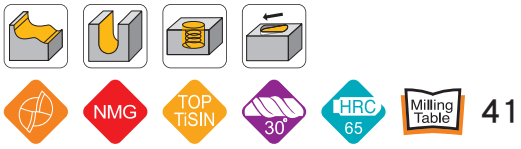
N620 NANO CARBIDE END MILLS- Ball Nose- Short Flute- Long Neck- 2F

· NEBND2□□□□□□□A



半徑 R	公差 Tolerance
R	±0.02

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



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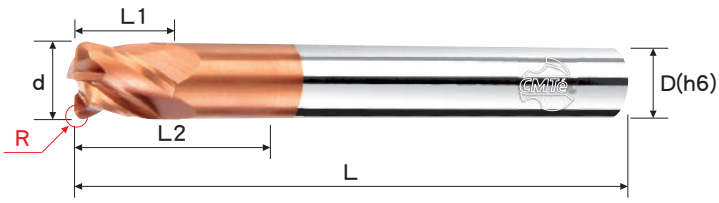
半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.3R	0.6	3	50	4	2	NEBND20030030A
0.3R	0.6	4	50	4	2	NEBND20030040A
0.4R	0.8	4	50	4	2	NEBND20040040A
0.4R	0.8	6	50	4	2	NEBND20040060A
0.5R	1.0	4	50	4	2	NEBND20050040A
0.5R	1.0	6	50	4	2	NEBND20050060A
0.5R	1.0	8	50	4	2	NEBND20050080A
0.75R	1.5	6	50	4	2	NEBND20075060A
0.75R	1.5	9	50	4	2	NEBND20075090A
0.75R	1.5	12	50	4	2	NEBND20075120A
1.0R	2.0	8	50	4	2	NEBND20100080A
1.0R	2.0	12	50	4	2	NEBND20100120A
1.0R	2.0	16	50	4	2	NEBND20100160A
1.5R	3.0	12	60	6	2	NEBND20150120A
1.5R	3.0	18	60	6	2	NEBND20150180A
1.5R	3.0	25	75	6	2	NEBND20150250A
2.0R	4.0	16	75	6	2	NEBND20200160A
2.0R	4.0	25	75	6	2	NEBND20200250A
2.0R	4.0	30	75	6	2	NEBND20200300A
2.5R	5.0	20	75	6	2	NEBND20250200A
2.5R	5.0	30	75	6	2	NEBND20250300A
2.5R	5.0	40	75	6	2	NEBND20250400A
3.0R	6.0	30	75	6	2	NEBND20300300A
3.0R	6.0	45	100	6	2	NEBND20300450A

➡ 切削條件表 Cutting Condition P.555
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼圓鼻銑刀- 短刃型- 4刃

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

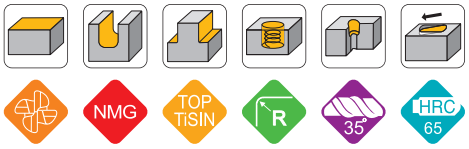
- **NECDM4000000A**
- **NECD4000000A**



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.015
3≦Φ≦10	0 ~ -0.03
10<Φ	0 ~ -0.03

半徑 R	公差 Tolerance
R	±0.02

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



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NEW SIZE

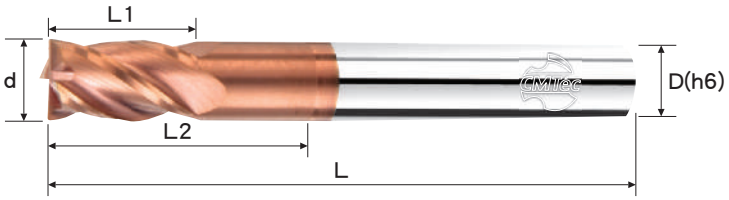
刃徑 d	R角 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0	0.2R	1.0	2.5	50	4	4	NECDM4010002A
1.5	0.15R	1.5	3.5	50	4	4	NECDM40150015A
1.5	0.3R	1.5	3.5	50	4	4	NECDM4015003A
2.0	0.25R	2.0	6.5	50	4	4	NECDM40200025A
2.5	0.25R	2.5	7.5	50	4	4	NECDM40250025A
2.5	0.5R	2.5	7.5	50	4	4	NECDM4025005A
4.0	0.2R	4.0	10.0	50	4	4	NECDM4040002A
3.0	0.25R	3.0	7.5	50	6	4	NECD40300025A
3.0	0.5R	3.0	7.5	50	6	4	NECD4030005A
4.0	0.25R	4.0	10.0	50	6	4	NECD40400025A
4.0	0.5R	4.0	10.0	50	6	4	NECD4040005A
5.0	0.25R	5.0	12.5	50	6	4	NECD40500025A
5.0	0.5R	5.0	12.5	50	6	4	NECD4050005A
6.0	0.5R	6.0	15.0	50	6	4	NECD4060005A
6.0	1.0R	6.0	15.0	50	6	4	NECD4060010A
8.0	0.5R	8.0	20.0	60	8	4	NECD4080005A
8.0	1.0R	8.0	20.0	60	8	4	NECD4080010A
8.0	1.5R	8.0	20.0	60	8	4	NECD4080015A
10.0	0.5R	10.0	25.0	75	10	4	NECD4100005A
10.0	1.0R	10.0	25.0	75	10	4	NECD4100010A
10.0	1.5R	10.0	25.0	75	10	4	NECD4100015A
10.0	2.0R	10.0	25.0	75	10	4	NECD4100020A
12.0	0.5R	12.0	30.0	75	12	4	NECD4120005A
12.0	1.0R	12.0	30.0	75	12	4	NECD4120010A
12.0	1.5R	12.0	30.0	75	12	4	NECD4120015A
12.0	2.0R	12.0	30.0	75	12	4	NECD4120020A

➡ 切削條件表 Cutting Condition P.553
➡ 技術資料 Technical Data P.622

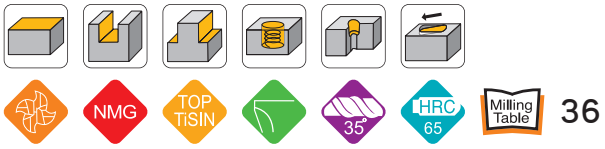
N620 奈米鎢鋼平銑刀- 短刃- 高精度型- 4刃

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

· NEDYM4□□□□A
· NEDY4□□□□A



刃徑 d	公差 Tolerance
Φ≦5	0 ~ -0.01
6≦Φ≦12	-0.01 ~ -0.025
13≦Φ≦20	-0.015 ~ -0.03



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

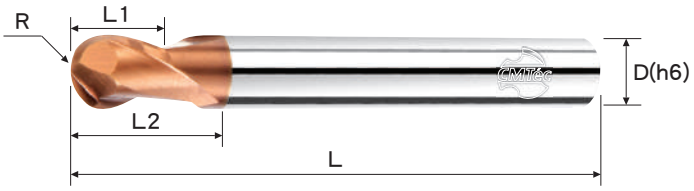
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
1.0	1.0	2	50	4	4	NEDYM40100A
1.5	1.5	3	50	4	4	NEDYM40150A
2.0	2.0	4	50	4	4	NEDYM40200A
2.5	2.5	5	50	4	4	NEDYM40250A
3.0	3.0	8	50	6	4	NEDY40300A
4.0	4.0	10	50	6	4	NEDY40400A
5.0	5.0	14	50	6	4	NEDY40500A
6.0	6.0	16	50	6	4	NEDY40600A
8.0	8.0	24	60	8	4	NEDY40800A
10.0	10.0	32	75	10	4	NEDY41000A
12.0	12.0	36	75	12	4	NEDY41200A

➡ 切削條件表 Cutting Condition P.552
➡ 技術資料 Technical Data P.622

N620 奈米鎢鋼球型銑刀- 短刃- 高精度型- 2刃

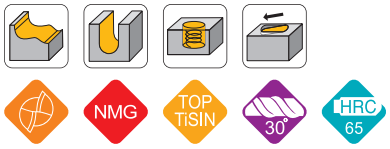
N620 NANO CARBIDE END MILLS- Ball Nose- Short Flute- High R Tolerance Type- 2F

· NEBDYM2 0000A
· NEBDY2 0000A



半徑 R	公差 Tolerance	刃徑 d	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

Milling Table 39



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

半徑 R	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	鍍膜訂單編號 Coated Order No.
0.05R	0.1	0.2	50	4	2	NEBDYM20005A
0.1R	0.2	0.4	50	4	2	NEBDYM20010A
0.15R	0.3	0.6	50	4	2	NEBDYM20015A
0.2R	0.4	0.8	50	4	2	NEBDYM20020A
0.25R	0.5	1.0	50	4	2	NEBDYM20025A
0.3R	0.6	1.2	50	4	2	NEBDYM20030A
0.35R	0.7	1.4	50	4	2	NEBDYM20035A
0.4R	0.8	1.6	50	4	2	NEBDYM20040A
0.45R	0.9	1.8	50	4	2	NEBDYM20045A
0.5R	1.0	2.0	50	4	2	NEBDYM20050A
1.0R	2.0	4.0	50	4	2	NEBDYM20100A
1.5R	3.0	6.0	50	4	2	NEBDYM20150A
1.0R	2.0	4.0	50	6	2	NEBDY20100A
1.5R	3.0	6.0	50	6	2	NEBDY20150A
2.0R	4.0	8.0	50	6	2	NEBDY20200A
2.5R	5.0	10.0	50	6	2	NEBDY20250A
3.0R	6.0	12.0	50	6	2	NEBDY20300A
4.0R	8.0	16.0	60	8	2	NEBDY20400A
5.0R	10.0	20.0	75	10	2	NEBDY20500A
6.0R	12.0	24.0	75	12	2	NEBDY20600A

➡ 切削條件表 Cutting Condition P.554
➡ 技術資料 Technical Data P.622

MEMO

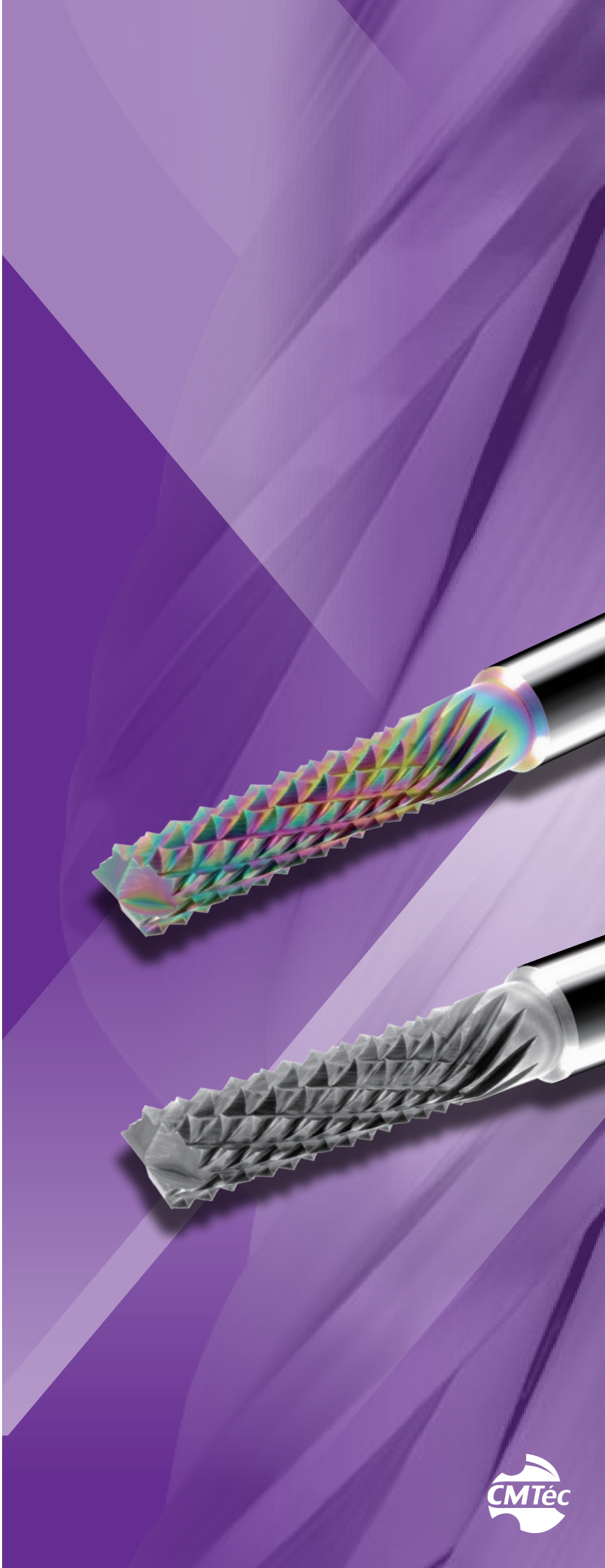
鎢鋼複合材料銑刀系列

Carbide Composites End Mills Series

碳纖維 / 玻璃纖維

非金屬材質

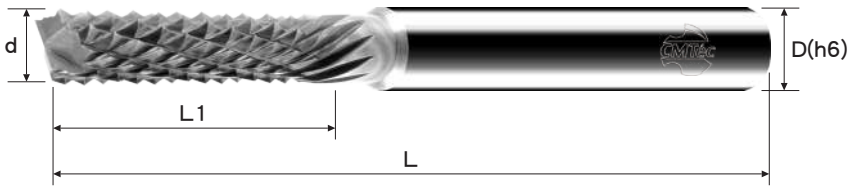
For Non-metal (carbon fiber/glass fiber) machining.



鎢鋼複合材料專用銑刀- 小柄/標準型

CARBIDE END MILLS FOR COMPOSITES- Square Type

- CEFM00000D
- CEF00000D



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

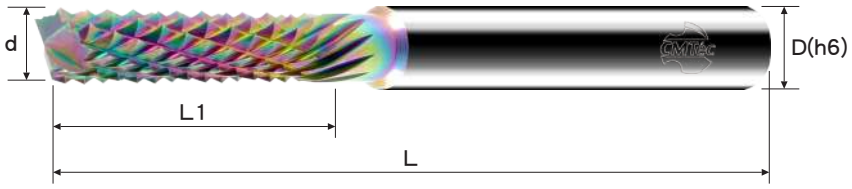
MG DIA 30° Milling Table 80

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	DIA 鍍膜訂購編號 DIA Coated Order No.
4.0	20	60	4	8	CEFM80400D
6.0	25	60	6	11	CEF110600D
8.0	25	60	8	14	CEF140800D
10.0	30	75	10	16	CEF161000D
12.0	32	100	12	17	CEF171200D

鎢鋼複合材料專用銑刀- 小柄/標準型

CARBIDE END MILLS FOR COMPOSITES- Square Type

- CEFM00000A
- CEF00000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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

MG RD 30° Milling Table 81

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	RD 鍍膜訂購編號 RD Coated Order No.
4.0	20	60	4	8	CEFM80400A
6.0	25	60	6	11	CEF110600A
8.0	25	60	8	14	CEF140800A
10.0	30	75	10	16	CEF161000A
12.0	32	100	12	17	CEF171200A

➡ 切削條件表 Cutting Condition P.578 ➡ 技術資料 Technical Data P.622

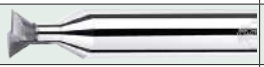
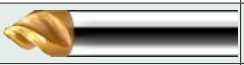
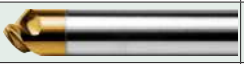
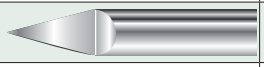
鎢鋼成型銑刀系列

Carbide Special End Mills Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表 Product Selection Table

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
鎢鋼成型銑刀系列 Carbide Special End Mills						
T型刀 T-Slot Keyseat End Mills	四/六刃 4/6 Flutes	CEK000000000A			Ø4 ~ Ø12	166
	10/12/16刃 10/12/16 Flutes	AEK000000000			Ø16 ~ Ø30	167
外圓槽銑刀 Convex End Mills	四/六刃 4/6 Flutes	CEC000000000A			Ø4 ~ Ø12	168
	10/12/16刃 10/12/16 Flutes	AEC000000000			Ø16 ~ Ø30	169
鳩尾槽銑刀 Dovetail End Mills	四/六刃 4/6 Flutes	CECS00000000000A	45˚		Ø3 ~ Ø12	170
		CECS00000000000A	60˚		Ø3 ~ Ø12	170
等角鳩尾槽銑刀 V-Type Dovetail End Mills	四/六刃 4/6 Flutes	CECSW000000000A	60˚		Ø6 ~ Ø12	171
		CECSW000000000A	90˚		Ø6 ~ Ø12	171
倒角兼用銑刀 V-Pointed End Mills	二刃 2 Flutes	CEC20000000A	90˚		Ø3 ~ Ø20	172
		CEC20000000A	120˚		Ø3 ~ Ø20	172
扁形倒角銑刀 Chamfering End Mills	二刃 2 Flutes	CEFC00000	標準型-Standard 60 / 90 / 120˚ NEW SIZE		Ø3 ~ Ø16	173
多功能倒角銑刀 Multifunctional Chamfer End Mills (Chamfering-Spotting-Engraving)	單刃 1 Flute	CEFC100000	標準型-Standard 60 / 90˚		Ø3 ~ Ø12	174
		CEFCL100000	長柄型-Long Shank 60 / 90˚		Ø3 ~ Ø12	174
	三刃 3 Flutes	MEFCD300000A	標準型-Standard 60 / 90˚		Ø3 ~ Ø12	175
		MEFCDL300000A	長柄型-Long Shank 60 / 90˚		Ø3 ~ Ø12	175
		MEFC300000A	標準型-Standard 60 / 90˚ NEW		Ø3 ~ Ø12	176
		MEFCL300000A	長柄型-Long Shank 60 / 90˚ NEW		Ø3 ~ Ø12	176
雕刻銑刀 Engraving End Mills	單刃 1 Flute	CEU(M)000000	標準型-Standard 30 / 60 / 90˚		Ø0.1 ~ Ø1.5	177
內R角銑刀 Inner Radius End Mills	二刃 2 Flutes	CEIR200000000			0.5R ~ 6.0R	178

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	◎	○	—	—	○	○	○	○	—	—	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)				
—	—	—	—	—	—	—	◎	◎	◎	—	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)				
○	—	—	—	—	—	—	◎	◎	◎	○	濕式(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

鎢鋼T型刀- 直刃

CARBIDE END MILLS- T-Slot Keyseat- Flat Flute

· CEK□□□□□□□□□A

刃長	公差 Tolerance
L1	±0.02

MG TiAlN HRC 45 Milling Table 45

※ 螺旋刃依需求生產。
Helix flute is on request.

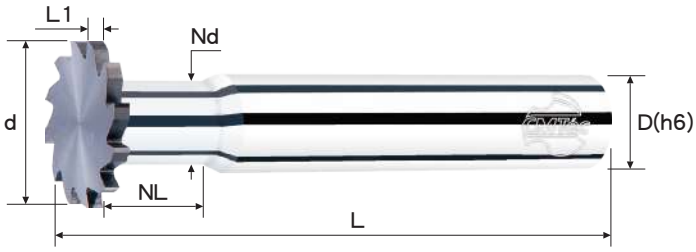
刃徑 d	刃長 L1	頸徑 Nd	頸長 NL	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
4.0	0.5	2.5	3.5	50	4	4	CEK040005004	CEK040005004A
4.0	0.6	2.5	3.5	50	4	4	CEK040006004	CEK040006004A
4.0	0.7	2.5	3.5	50	4	4	CEK040007004	CEK040007004A
4.0	0.8	2.5	3.5	50	4	4	CEK040008004	CEK040008004A
4.0	0.9	2.5	3.5	50	4	4	CEK040009004	CEK040009004A
4.0	1.0	2.5	3.5	50	4	4	CEK040010004	CEK040010004A
4.0	1.5	2.5	3.5	50	4	4	CEK040015004	CEK040015004A
4.0	2.0	2.5	3.5	50	4	4	CEK040020004	CEK040020004A
5.0	0.5	2.5	4.0	50	6	4	CEK050005004	CEK050005004A
5.0	0.6	2.5	4.0	50	6	4	CEK050006004	CEK050006004A
5.0	0.7	2.5	4.0	50	6	4	CEK050007004	CEK050007004A
5.0	0.8	2.5	4.0	50	6	4	CEK050008004	CEK050008004A
5.0	0.9	2.5	4.0	50	6	4	CEK050009004	CEK050009004A
5.0	1.0	2.5	4.0	50	6	4	CEK050010004	CEK050010004A
5.0	1.5	2.5	4.0	50	6	4	CEK050015004	CEK050015004A
5.0	2.0	2.5	4.0	50	6	4	CEK050020004	CEK050020004A
6.0	0.5	3.0	4.0	50	6	6	CEK060005006	CEK060005006A
6.0	0.6	3.0	4.0	50	6	6	CEK060006006	CEK060006006A
6.0	0.7	3.0	4.0	50	6	6	CEK060007006	CEK060007006A
6.0	0.8	3.0	4.0	50	6	6	CEK060008006	CEK060008006A
6.0	0.9	3.0	4.0	50	6	6	CEK060009006	CEK060009006A
6.0	1.0	3.0	4.0	50	6	6	CEK060010006	CEK060010006A
6.0	1.5	3.0	4.0	50	6	6	CEK060015006	CEK060015006A
6.0	2.0	3.0	4.0	50	6	6	CEK060020006	CEK060020006A
8.0	1.0	4.0	4.0	60	8	6	CEK080010006	CEK080010006A
8.0	1.5	4.0	4.0	60	8	6	CEK080015006	CEK080015006A
8.0	2.0	4.0	4.0	60	8	6	CEK080020006	CEK080020006A
10.0	1.0	5.0	6.0	75	10	6	CEK100010006	CEK100010006A
10.0	1.5	5.0	6.0	75	10	6	CEK100015006	CEK100015006A
10.0	2.0	5.0	6.0	75	10	6	CEK100020006	CEK100020006A
12.0	1.0	6.0	7.0	75	12	6	CEK120010006	CEK120010006A
12.0	1.5	6.0	7.0	75	12	6	CEK120015006	CEK120015006A
12.0	2.0	6.0	7.0	75	12	6	CEK120020006	CEK120020006A

➡ 切削條件表 Cutting Condition P.557
➡ 技術資料 Technical Data P.622

鎢鋼焊接T型刀- 直刃

BRAZED- CARBIDE END MILLS- T-Slot Keyseat- Flat Flute

· AEK000000000



刃長	公差 Tolerance
L1	±0.02

MG HRC 45 Milling Table 45

※ 螺旋刃依需求生產。
Helix flute is on request.

※ 刃徑(d)≧16mm，柄部為焊接設計。
Dia.(d)≧16mm is brazed shank.

刃徑 d	刃長 L1	頸徑 Nd	頸長 NL	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
16.0	1.0	8	10	100	12	10	AEK160010010
16.0	1.5	8	10	100	12	10	AEK160015010
16.0	2.0	8	10	100	12	10	AEK160020010
16.0	2.5	8	10	100	12	10	AEK160025010
16.0	3.0	8	10	100	12	10	AEK160030010
20.0	0.5	10	14	100	12	12	AEK200005012
20.0	1.0	10	14	100	12	12	AEK200010012
20.0	1.5	10	14	100	12	12	AEK200015012
20.0	2.0	10	14	100	12	12	AEK200020012
20.0	2.5	10	14	100	12	12	AEK200025012
20.0	3.0	10	14	100	12	12	AEK200030012
25.0	1.0	12	16	100	16	16	AEK250010016
25.0	2.0	12	16	100	16	16	AEK250020016
25.0	2.5	12	16	100	16	16	AEK250025016
25.0	3.0	12	16	100	16	16	AEK250030016
25.0	4.0	12	16	100	16	16	AEK250040016
25.0	5.0	12	16	100	16	16	AEK250050016
30.0	1.0	15	18	100	16	16	AEK300010016
30.0	2.0	15	18	100	16	16	AEK300020016
30.0	3.0	15	18	100	16	16	AEK300030016
30.0	4.0	15	18	100	16	16	AEK300040016
30.0	5.0	15	18	100	16	16	AEK300050016

➡ 切削條件表 Cutting Condition P.557
➡ 技術資料 Technical Data P.622

鎢鋼外圓槽銑刀

CARBIDE END MILLS- Convex

· CEC000000000A

R角	公差 Tolerance
R	±0.02

MG TiAlN HRC 45 Milling Table 45

刃徑 d	R角 R	刃長 L1	頸徑 Nd	頸長 NL	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
4.0	0.3R	0.6	2.0	3.5	50	6	4	CEC040006004	CEC040006004A
4.0	0.5R	1.0	2.0	3.5	50	6	4	CEC040010004	CEC040010004A
4.0	1.0R	2.0	2.0	3.5	50	6	4	CEC040020004	CEC040020004A
5.0	0.3R	0.6	2.2	3.5	50	6	4	CEC050006004	CEC050006004A
5.0	0.5R	1.0	2.2	3.5	50	6	4	CEC050010004	CEC050010004A
5.0	1.0R	2.0	2.2	3.5	50	6	4	CEC050020004	CEC050020004A
6.0	0.3R	0.6	2.7	4.0	50	6	4	CEC060006004	CEC060006004A
6.0	0.5R	1.0	2.7	4.0	50	6	4	CEC060010004	CEC060010004A
6.0	1.0R	2.0	2.7	4.0	50	6	4	CEC060020004	CEC060020004A
8.0	0.3R	0.6	3.6	5.0	60	8	6	CEC080006006	CEC080006006A
8.0	0.5R	1.0	3.6	5.0	60	8	6	CEC080010006	CEC080010006A
8.0	1.0R	2.0	3.6	5.0	60	8	6	CEC080020006	CEC080020006A
10.0	0.3R	0.6	4.5	6.0	75	10	6	CEC100006006	CEC100006006A
10.0	0.5R	1.0	4.5	6.0	75	10	6	CEC100010006	CEC100010006A
10.0	1.0R	2.0	4.5	6.0	75	10	6	CEC100020006	CEC100020006A
10.0	1.5R	3.0	4.5	6.0	75	10	6	CEC100030006	CEC100030006A
10.0	2.0R	4.0	4.5	6.0	75	10	6	CEC100040006	CEC100040006A
12.0	0.3R	0.6	5.5	6.0	75	12	6	CEC120006006	CEC120006006A
12.0	0.5R	1.0	5.5	6.0	75	12	6	CEC120010006	CEC120010006A
12.0	1.0R	2.0	5.5	6.0	75	12	6	CEC120020006	CEC120020006A
12.0	1.5R	3.0	5.5	6.0	75	12	6	CEC120030006	CEC120030006A
12.0	2.0R	4.0	5.5	6.0	75	12	6	CEC120040006	CEC120040006A

➡ 切削條件表 Cutting Condition P.557
➡ 技術資料 Technical Data P.622

鎢鋼焊接外圓槽銑刀

BRAZED- CARBIDE END MILLS- Convex

· AEC000000000

R角	公差 Tolerance
R	±0.02

MG HRC 45 Milling Table 45

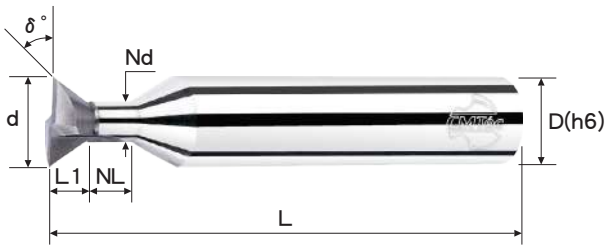
刃徑 d	R角 R	刃長 L1	頸徑 Nd	頸長 NL	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
16.0	0.3R	0.6	8	10	100	12	10	AEC160006010
16.0	0.5R	1.0	8	10	100	12	10	AEC160010010
16.0	1.0R	2.0	8	10	100	12	10	AEC160020010
16.0	1.5R	3.0	8	10	100	12	10	AEC160030010
16.0	2.0R	4.0	8	10	100	12	10	AEC160040010
16.0	3.0R	6.0	8	10	100	12	10	AEC160060010
20.0	0.3R	0.6	10	14	100	12	12	AEC200006012
20.0	0.5R	1.0	10	14	100	12	12	AEC200010012
20.0	1.0R	2.0	10	14	100	12	12	AEC200020012
20.0	1.5R	3.0	10	14	100	12	12	AEC200030012
20.0	2.0R	4.0	10	14	100	12	12	AEC200040012
20.0	3.0R	6.0	10	14	100	12	12	AEC200060012
25.0	0.5R	1.0	12	16	100	16	16	AEC250010016
25.0	1.0R	2.0	12	16	100	16	16	AEC250020016
25.0	1.5R	3.0	12	16	100	16	16	AEC250030016
25.0	2.0R	4.0	12	16	100	16	16	AEC250040016
25.0	3.0R	6.0	12	16	100	16	16	AEC250060016
30.0	0.5R	1.0	15	18	100	16	16	AEC300010016
30.0	1.0R	2.0	15	18	100	16	16	AEC300020016
30.0	1.5R	3.0	15	18	100	16	16	AEC300030016
30.0	2.0R	4.0	15	18	100	16	16	AEC300040016
30.0	3.0R	6.0	15	18	100	16	16	AEC300060016

➡ 切削條件表 Cutting Condition P.557
➡ 技術資料 Technical Data P.622

鎢鋼鳩尾槽銑刀- 直刃

CARBIDE END MILLS- Dovetail- Flat Flute

· CECS0000000000A



角度(單邊)	公差 Tolerance
δ°	±1°

MG TiAlN HRC 45 Milling Table 45

※ 螺旋刃依需求生產。
Helix Flute is on request.

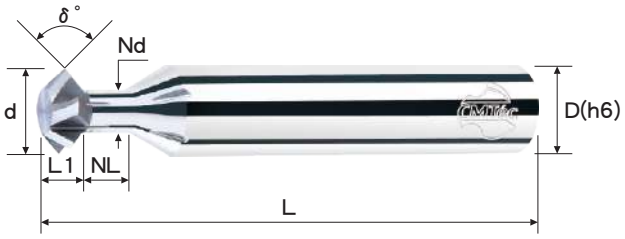
刃徑 d	角度 δ°	刃長 L1	頸徑 Nd	頸長 NL	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	45°	0.8	1.4	3.0	60	6	4	CECS03000800445	CECS03000800445A
4.0	45°	1.0	2.0	3.5	60	6	4	CECS04001000445	CECS04001000445A
5.0	45°	1.2	2.5	4.0	60	6	4	CECS05001200445	CECS05001200445A
6.0	45°	1.4	3.0	4.0	60	6	4	CECS06001400445	CECS06001400445A
8.0	45°	1.9	4.0	5.0	60	8	6	CECS08001900645	CECS08001900645A
10.0	45°	2.4	5.0	6.0	75	10	6	CECS10002400645	CECS10002400645A
12.0	45°	2.9	6.0	7.0	75	12	6	CECS12002900645	CECS12002900645A
3.0	60°	1.2	1.5	3.0	60	6	4	CECS03001200460	CECS03001200460A
4.0	60°	1.6	2.0	3.5	60	6	4	CECS04001600460	CECS04001600460A
5.0	60°	2.2	2.3	4.0	60	6	4	CECS05002200460	CECS05002200460A
6.0	60°	2.7	2.7	4.0	60	6	4	CECS06002700460	CECS06002700460A
8.0	60°	3.7	3.6	5.0	60	8	6	CECS08003700660	CECS08003700660A
10.0	60°	4.6	4.5	6.0	75	10	6	CECS10004600660	CECS10004600660A
12.0	60°	5.6	5.4	7.0	75	12	6	CECS12005600660	CECS12005600660A

切削條件表 Cutting Condition P.557
技術資料 Technical Data P.622

鎢鋼等角鳩尾槽銑刀- 直刃

CARBIDE END MILLS- V-Type Dovetail- Flat Flute

· CECSW□□□□□□□□□A



角度	公差 Tolerance
δ°	±1°

MG TiAlN HRC 45 Milling Table 45

刃徑 d	角度 δ°	刃長 L1	頸徑 Nd	頸長 NL	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
6.0	60°	1.8	2.7	4	60	6	4	CECSW060018060	CECSW060018060A
8.0	60°	2.4	3.6	5	60	8	6	CECSW080024060	CECSW080024060A
10.0	60°	3.1	4.5	6	75	10	6	CECSW100031060	CECSW100031060A
12.0	60°	3.7	5.4	7	75	12	6	CECSW120037060	CECSW120037060A
6.0	90°	2.8	3.0	4	60	6	4	CECSW060028090	CECSW060028090A
8.0	90°	3.8	4.0	5	60	8	6	CECSW080038090	CECSW080038090A
10.0	90°	4.8	5.0	6	75	10	6	CECSW100048090	CECSW100048090A
12.0	90°	5.8	6.0	7	75	12	6	CECSW120058090	CECSW120058090A

切削條件表 Cutting Condition P.557
技術資料 Technical Data P.622

鎢鋼倒角兼用銑刀- 2刃

CARBIDE END MILLS- V-Pointed- 2F

· CEC2□□□□□□□A

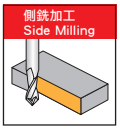
角度	公差 Tolerance
ε °	±1 °

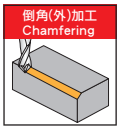
代碼	角度
C0	120

※ 尖點建議輕切削
Light-cutting will be recommended for point.

MG TiAlN 30° HRC 55 Milling Table 46

頂角 ε °	刃徑 d	刃長 L1	全長 L	柄徑 D	鍍膜訂購編號 Coated Order No.
90°	3.0	6	50	6	CEC2030090A
90°	4.0	8	50	6	CEC2040090A
90°	5.0	10	50	6	CEC2050090A
90°	6.0	12	50	6	CEC2060090A
90°	8.0	16	60	8	CEC2080090A
90°	10.0	20	75	10	CEC2100090A
90°	12.0	24	75	12	CEC2120090A
90°	16.0	32	100	16	CEC2160090A
90°	20.0	40	100	20	CEC2200090A
120°	3.0	6	50	6	CEC20300C0A
120°	4.0	8	50	6	CEC20400C0A
120°	5.0	10	50	6	CEC20500C0A
120°	6.0	12	50	6	CEC20600C0A
120°	8.0	16	60	8	CEC20800C0A
120°	10.0	20	75	10	CEC21000C0A
120°	12.0	24	75	12	CEC21200C0A
120°	16.0	32	100	16	CEC21600C0A
120°	20.0	40	100	20	CEC22000C0A





➡ 切削條件表 Cutting Condition P.557
➡ 技術資料 Technical Data P.622

鎢鋼扁形倒角銑刀- 2刃

CARBIDE CHAMFERING END MILLS- Flat- 2F

· CEFC00000

角度	公差 Tolerance
ε °	±1 °

代碼	角度
C0	120

※ 尖點建議輕切削
Light-cutting will be recommended for point.

MG

NEW SIZE

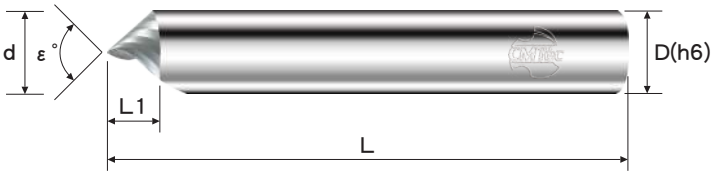
頂角 ε °	刃徑 d	刃長 L1	全長 L	柄徑 D	白刃訂購編號 Uncoated Order No.
60°	3	2.59	50	3	CEFC03060
60°	4	3.46	50	4	CEFC04060
60°	6	5.19	50	6	CEFC06060
60°	8	6.92	50	8	CEFC08060
60°	10	8.66	75	10	CEFC10060
60°	12	10.39	75	12	CEFC12060
60°	16	13.85	75	16	CEFC16060
60°	3	2.59	75	3	CEFCL03060
60°	4	3.46	75	4	CEFCL04060
60°	6	5.19	75	6	CEFCL06060
60°	8	6.92	75	8	CEFCL08060
60°	10	8.66	100	10	CEFCL10060
60°	12	10.39	100	12	CEFCL12060
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
90°	3	1.50	75	3	CEFCL03090
90°	4	2.00	75	4	CEFCL04090
90°	6	3.00	75	6	CEFCL06090
90°	8	4.00	75	8	CEFCL08090
90°	10	5.00	100	10	CEFCL10090
90°	12	6.00	100	12	CEFCL12090
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

技術資料 Technical Data P.622

鎢鋼鋁用倒角銑刀- 標準 & 長柄型- 1刃

CARBIDE CHAMFERING END MILLS- For Aluminum- 1F

- CEFC100000
- CEFCL100000



角度	Tolerance(公差)
ε °	±1 °

MG 45° Milling Table 43

※ 切削刃中心小平面≦刃徑的10%。
The cutting edge center flat is
≦10% of the cutting diameter.

切削實例 CUT EXAMPLES

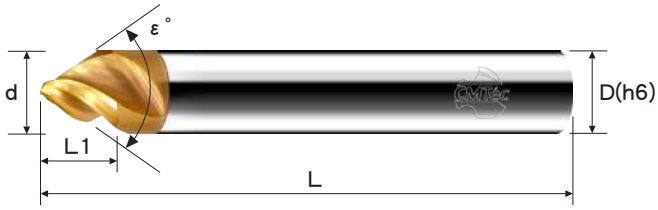
頂角 ε °	刃徑 d	刃長 L1	全長 L	柄徑 D	白刀訂購編號 Uncoated Order No.
60°	3	2.59	50	3	CEFC103060
60°	4	3.46	50	4	CEFC104060
60°	6	5.19	50	6	CEFC106060
60°	8	6.92	60	8	CEFC108060
60°	10	8.66	60	10	CEFC110060
60°	12	10.39	60	12	CEFC112060
60°	3	2.59	75	3	CEFCL103060
60°	4	3.46	75	4	CEFCL104060
60°	6	5.19	75	6	CEFCL106060
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	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
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

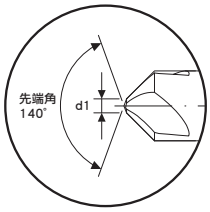
➡ 切削條件表 Cutting Condition P.556
➡ 技術資料 Technical Data P.622

鎢鋼高硬用倒角銑刀- 標準＆長柄型- 3刃

CARBIDE CHAMFERING END MILLS- For High Hardness- 3F

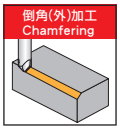
- MEFCD3□□□□□A
- MEFCDL3□□□□□A





角度	Tolerance(公差)
ε °	±1 °

頂角 ε °	刃徑 d	先端徑 d1	刃長 L1	全長 L	柄徑 D	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
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	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
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

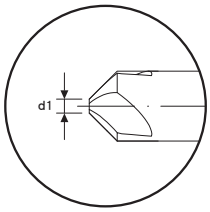


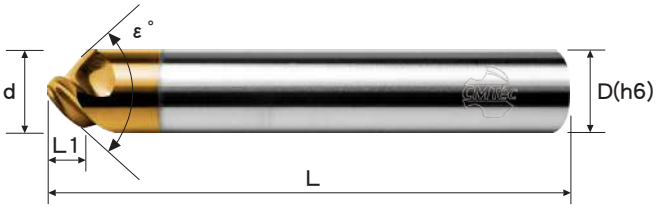
➡ 切削條件表 Cutting Condition P.556
➡ 技術資料 Technical Data P.622

鎢鋼倒角銑刀- 標準 & 長柄型- 3刃

CARBIDE CHAMFERING END MILLS- Standard- 3F

- MEFC3 00000A
- MEFCL3 00000A





先端徑 d1	公差 Tolerance
d1≦1	0 ~ -0.02
d1>1	0 ~ -0.05

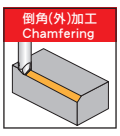
角度	Tolerance(公差)
ε °	±0.5 °

※ 產品特色：可由編程精準控制倒角尺寸。
Programming control chamfer dimension.

UMG | TOP TiSiN | 35° | HRC 55 | Milling Table | 44

NEW

頂角 ε °	刃徑 d	先端徑 d1 (Max)	刃長 L1	全長 L	柄徑 D	鍍膜訂購編號 Coated Order No.
60°	3	0.8	1.90	50	3	MEFC303060A
60°	4	0.8	2.77	50	4	MEFC304060A
60°	6	1.0	4.33	50	6	MEFC306060A
60°	8	1.0	6.06	60	8	MEFC308060A
60°	10	2.0	6.92	60	10	MEFC310060A
60°	12	2.0	8.66	60	12	MEFC312060A
60°	3	0.8	1.90	75	3	MEFCL303060A
60°	4	0.8	2.77	75	4	MEFCL304060A
60°	6	1.0	4.33	75	6	MEFCL306060A
60°	8	1.0	6.06	100	8	MEFCL308060A
60°	10	2.0	6.92	100	10	MEFCL310060A
60°	12	2.0	8.66	100	12	MEFCL312060A
90°	3	0.8	1.10	50	3	MEFC303090A
90°	4	0.8	1.60	50	4	MEFC304090A
90°	6	1.0	2.50	50	6	MEFC306090A
90°	8	1.0	3.50	60	8	MEFC308090A
90°	10	2.0	4.00	60	10	MEFC310090A
90°	12	2.0	5.00	60	12	MEFC312090A
90°	3	0.8	1.10	75	3	MEFCL303090A
90°	4	0.8	1.60	75	4	MEFCL304090A
90°	6	1.0	2.50	75	6	MEFCL306090A
90°	8	1.0	3.50	100	8	MEFCL308090A
90°	10	2.0	4.00	100	10	MEFCL310090A
90°	12	2.0	5.00	100	12	MEFCL312090A

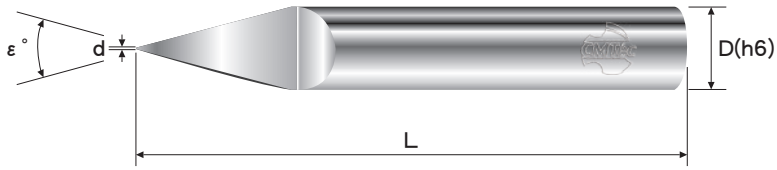


➡ 切削條件表 Cutting Condition P.556
➡ 技術資料 Technical Data P.622

鎢鋼雕刻刀- 標準型- 1刃

CARBIDE ENGRAVING END MILLS- Standard- 1F

· CEUM000000
· CEU000000



加工材質：鋼材、鋁合金、黃銅、塑膠、木材。
For steel, aluminum, brass, plastic, wood.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

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

MG Milling Table 42

切削實例 CUT EXAMPLES

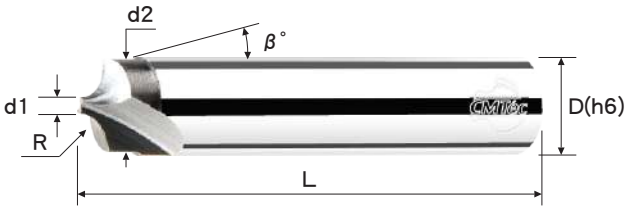
頂角 ε °	刃徑 d	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
30°	0.10	50	4	1	CEUM001030
30°	0.25	50	4	1	CEUM002530
30°	0.50	50	4	1	CEUM005030
30°	0.75	50	4	1	CEUM007530
30°	0.10	50	6	1	CEU001030
30°	0.25	50	6	1	CEU002530
30°	0.50	50	6	1	CEU005030
30°	0.75	50	6	1	CEU007530
60°	0.10	50	4	1	CEUM001060
60°	0.25	50	4	1	CEUM002560
60°	0.50	50	4	1	CEUM005060
60°	0.75	50	4	1	CEUM007560
60°	1.50	50	4	1	CEUM015060
60°	0.10	50	6	1	CEU001060
60°	0.25	50	6	1	CEU002560
60°	0.50	50	6	1	CEU005060
60°	0.75	50	6	1	CEU007560
60°	1.50	50	6	1	CEU015060
90°	0.10	50	4	1	CEUM001090
90°	0.25	50	4	1	CEUM002590
90°	0.50	50	4	1	CEUM005090
90°	0.75	50	4	1	CEUM007590
90°	1.50	50	4	1	CEUM015090
90°	0.10	50	6	1	CEU001090
90°	0.25	50	6	1	CEU002590
90°	0.50	50	6	1	CEU005090
90°	0.75	50	6	1	CEU007590
90°	1.50	50	6	1	CEU015090

→ 切削條件表 Cutting Condition P.555
→ 技術資料 Technical Data P.622

鎢鋼內R角銑刀- 2刃

CARBIDE END MILLS- Inner Radius- 2F

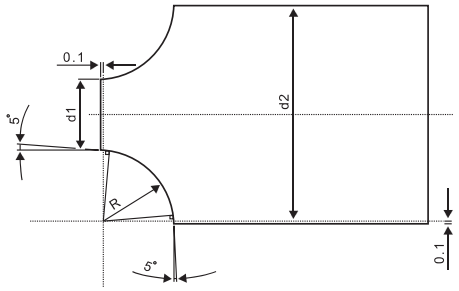
· CEIR2□□□□□□□□



R角	公差 Tolerance
R<1	±0.02
1≦R<5	±0.03
5≦R	±0.05

MG HRC 55 R Milling Table 47

R角 R	柄斜角 β°	先端徑 d1	粗端徑 d2	全長 L	柄徑 D	白刃訂購編號 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



➡ 切削條件表 Cutting Condition P.558
➡ 技術資料 Technical Data P.622

鎢鋼銑牙刀系列

Carbide Thread Mills Series

泛用鋼材≦50HRC

不銹鋼

鋁合金 / 銅合金

鑄鐵

鈦合金

For general steel (≦50HRC), stainless steel, cast iron, aluminum/copper alloy and titanium alloy machining.

產品選擇表 Product Selection Table

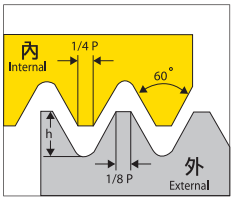
刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
銑牙刀系列 Carbide Thread Mills						
多功能鑽銑牙刀 Multipurpose Thread Cutter (Drill-Thread-Chamfer)	二刃 2 Flutes	CSHI200000-000A	內螺紋-ISO規格 -Internal-ISO		Ø5.0 ~ Ø10.3	182
	單刃 1 Flute	MSHIA100000-000A	內螺紋-ISO規格 -Internal-ISO		Ø0.60~Ø1.21	183
	二刃 2 Flutes	MSHIA200000-000A	內螺紋-ISO規格 -Internal-ISO		Ø1.55~Ø4.00	183
	三刃 3 Flutes	MSHIA300000-000A	內螺紋-ISO規格 -Internal-ISO		Ø4.85~Ø7.90	183
	一刃 1 Flute	MSHIDA100000-000A	內螺紋-ISO規格 -Internal-ISO		Ø0.60~Ø1.21	184
	二刃 2 Flutes	MSHIDA200000-000A	內螺紋-ISO規格 -Internal-ISO		Ø1.55~Ø4.00	184
	三刃 3 Flutes	MSHIDA300000-000A	內螺紋-ISO規格 -Internal-ISO		Ø4.85~Ø7.90	184
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	185
	五刃 5 Flutes	CTSE500000-000A	外螺紋-ISO規格 -External-ISO		Ø9.9~Ø19.9	185
	三刃 3 Flutes	CTSI300000-000A	外/內螺紋-ISO規格 -External-Internal-ISO		Ø3.0 ~ Ø7.9	186
	五刃 5 Flutes	CTSI500000-000A	外/內螺紋-ISO規格 -External-Internal-ISO		Ø9.9 ~ Ø19.9	186
	三刃 3 Flutes	CTSEU300000-000A	外螺紋-UN美製規格 -External-UN		Ø5.9 ~ Ø7.9	187
	五刃 5 Flutes	CTSEU500000-000A	外螺紋-UN美製規格 -External-UN		Ø9.9 ~ Ø19.9	187
	三刃 3 Flutes	CTSIU300000-000A	外/內螺紋-UN美製規格 -External-Internal-UN		Ø3.0 ~ Ø7.9	188
	五刃 5 Flutes	CTSIU500000-000A	外/內螺紋-UN美製規格 -External-Internal-UN		Ø9.9 ~ Ø19.9	188
螺旋銑牙刀 Thread Helix Flute	三刃 3 Flutes	MTHIA000000-000A	外/內螺紋-ISO規格 -External-Internal-ISO		Ø1.2 ~ Ø15.9	189
	三刃 3 Flutes	CTHI300000-000A	外/內螺紋-ISO規格 NEW SIZE -External-Internal-ISO		Ø2.2 ~ Ø7.7	190
	四刃 4 Flutes	CTHI400000-000A	外/內螺紋-ISO規格 -External-Internal-ISO		Ø3.9 ~ Ø15.9	190
	五刃 5 Flutes	CTHI500000-000A	外/內螺紋-ISO規格 -External-Internal-ISO		Ø13.9	190
	三刃 3 Flutes	MTHUA000000-000A	外/內螺紋-UN美製規格 NEW -External-Internal-UN		Ø1.4 ~ Ø9.55	192
	三刃 3 Flutes	CTHIU300000-000A	外/內螺紋-UN美製規格 -External-Internal-UN		Ø3.0 ~ Ø7.4	191
	四刃 4 Flutes	CTHIU400000-000A	外/內螺紋-UN美製規格 -External-Internal-UN		Ø9.2 ~ Ø17.0	191
	五刃 5 Flutes	CTHIU500000-000A	外/內螺紋-UN美製規格 -External-Internal-UN		Ø13.5~Ø19.9	191
	三/四/五刃 3/4/5 Flutes	CTHPT000000-000A	外/內螺紋-NPT美製規格 -External-Internal-NPT		Ø5.3 ~ Ø19.9	193

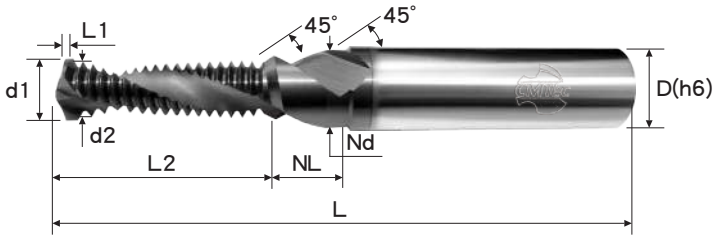
碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	◎	○	—	—	—	◎	—	—	—	—	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)				
◎	◎	◎	○	—	○	◎	○	○	—	○

鎢鋼多功能螺旋鑽銑牙刀(鑽孔-螺紋-倒角)-內螺紋用(ISO規格)

CARBIDE MULTIPURPOSE THREAD MILLS- DRILL-THREAD-CHAMFER- Helix Flute- Internal(ISO Metric)

· CSHI2□□□□□-□□□A

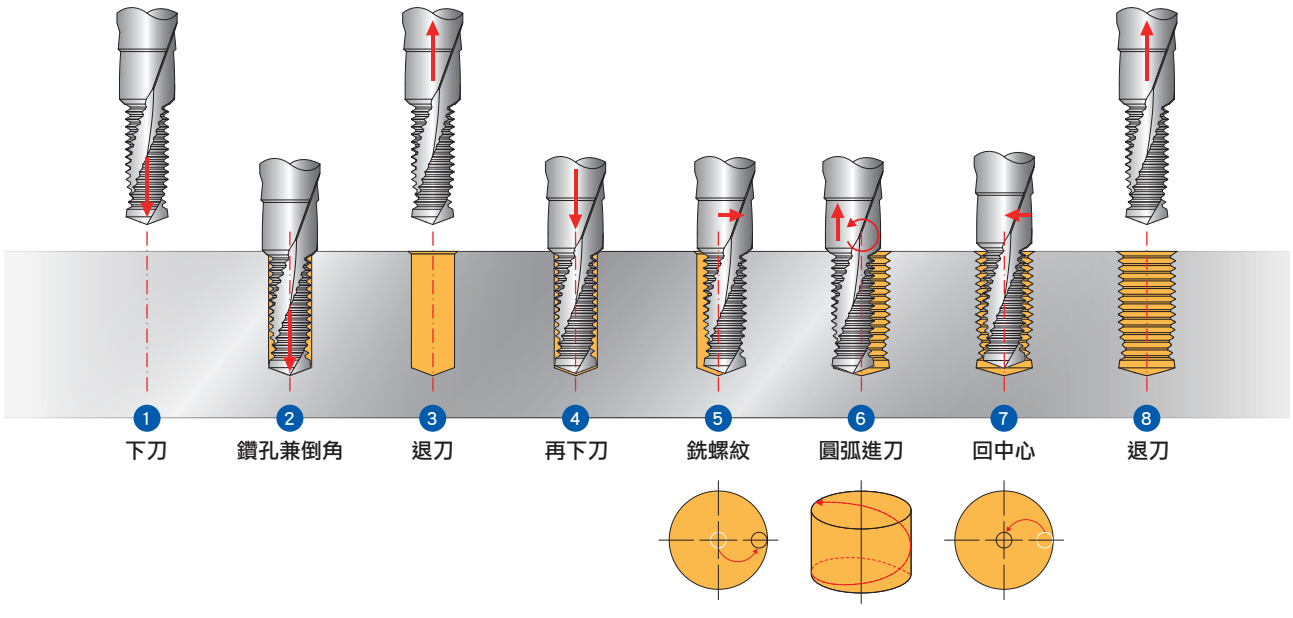




公差 Tolerance class
6g / 6H

MG TiAlN 26° Milling Table 60

螺紋 Thread 粗牙M	螺距 Pitch	d1	d2	L1	L2	Nd	NL	L	D	h (mm)	牙數 Teeth	刃數 Flute	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	0.58	11	2	CSHI205008-100A
M8	1.25	6.8	6.45	1.3	18.2	9.0	16.8	75	10	0.72	11	2	CSHI206810-125A
M10	1.50	8.5	8.08	1.5	23.4	11.0	11.6	80	12	0.87	12	2	CSHI208512-150A
M12	1.75	10.3	9.74	1.5	27.1	13.5	17.9	90	14	1.01	12	2	CSHI210314-175A

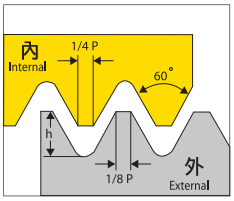


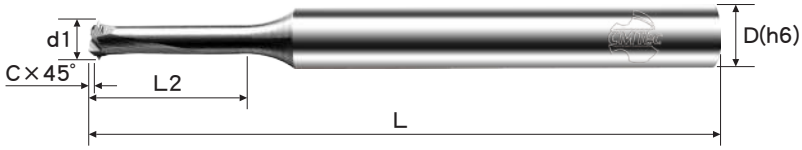
➡ 切削條件表 Cutting Condition P.565
➡ 下孔徑建議 Drill hole dia. P.652

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

CARBIDE MULTIPURPOSE THREAD MILLS- DRILL-CHAMFER-THREAD - Helix Flute- For Aluminum- Internal(ISO Metric)

· MSHIA1/2/300000-000



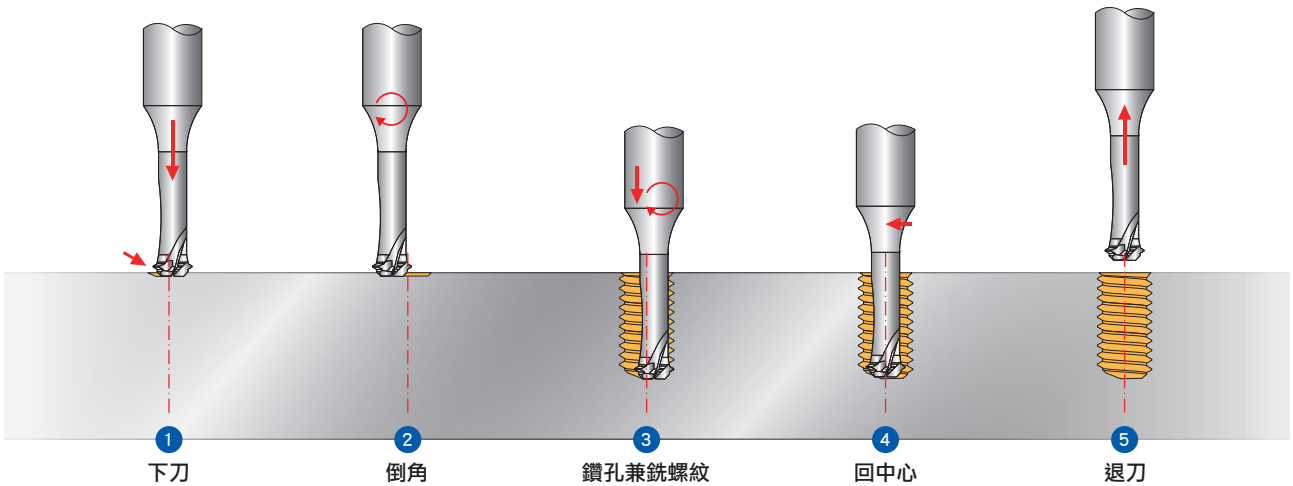


公差 Tolerance class
6g / 6H

UMG 15° Milling Table 77

切 削 實 例 CUT EXAMPLES

螺紋 Thread	螺距 Pitch	刃徑 d1	有效長 L2	全長 L	柄徑 D	倒角 Chamfer	牙數 Teeth	刃數 Flute	白刀訂購編號 Uncoated Order No.
M0.8	0.20	0.60	2.4	50	4	0.10	1	1	MSHIA100604-020
M0.9	0.225	0.66	2.7	50	4	0.12	1	1	MSHIA100604-022
M1.0	0.25	0.73	3.0	50	4	0.15	1	1	MSHIA100704-025
M1.2	0.25	0.92	3.6	50	4	0.15	1	1	MSHIA100904-025
M1.4	0.30	1.05	4.2	50	4	0.19	1	1	MSHIA101004-030
M1.6	0.35	1.21	4.8	50	4	0.22	1	1	MSHIA101204-035
M2.0	0.40	1.55	6.0	50	4	0.25	1	2	MSHIA201504-040
M2.5	0.45	2.00	7.5	50	4	0.29	1	2	MSHIA202004-045
M3.0	0.50	2.44	9.0	60	6	0.33	1	2	MSHIA202406-050
M4.0	0.70	3.20	12.0	60	6	0.45	1	2	MSHIA203206-070
M5.0	0.80	4.00	15.0	60	6	0.53	1	2	MSHIA204006-080
M6.0	1.00	4.85	18.0	75	6	0.65	2	3	MSHIA304806-100
M8.0	1.25	6.50	24.0	75	8	0.80	2	3	MSHIA306508-125
M10.0	1.50	7.90	30.0	75	8	1.00	2	3	MSHIA307908-150

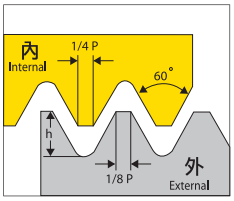


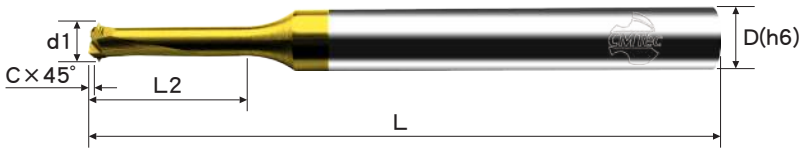
切削條件表 Cutting Condition P.576
下孔徑建議 Drill hole dia. P.652

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

CARBIDE MULTIPURPOSE THREAD MILLS- DRILL-CHAMFER-THREAD - Helix Flute- For Hard Materials- Internal(ISO Metric)

· MSHIDA1/2/300000-000A



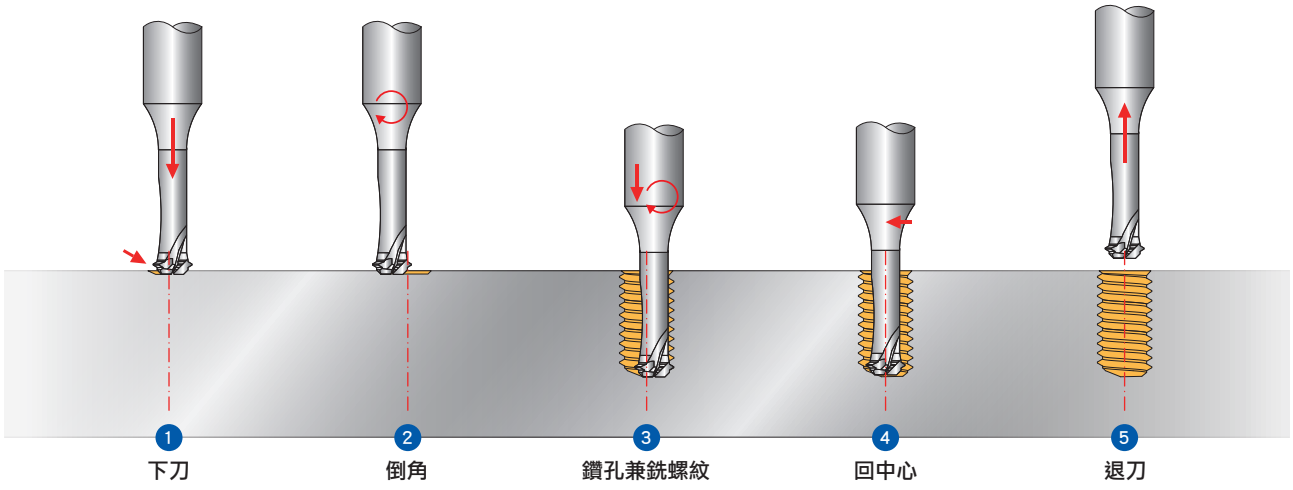


公差 Tolerance class
6g / 6H

UMG | TOP TiSiN | 15° | HRC 45 | Milling Table | 77

切削實例 CUT EXAMPLES

螺紋 Thread	螺距 Pitch	刃徑 d1	有效長 L2	全長 L	柄徑 D	倒角 Chamfer	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M0.8	0.20	0.60	2.4	50	4	0.10	1	1	MSHIDA100604-020A
M0.9	0.225	0.66	2.7	50	4	0.12	1	1	MSHIDA100604-022A
M1.0	0.25	0.73	3.0	50	4	0.15	1	1	MSHIDA100704-025A
M1.2	0.25	0.92	3.6	50	4	0.15	1	1	MSHIDA100904-025A
M1.4	0.30	1.05	4.2	50	4	0.19	1	1	MSHIDA101004-030A
M1.6	0.35	1.21	4.8	50	4	0.22	1	1	MSHIDA101204-035A
M2.0	0.40	1.55	6.0	50	4	0.25	1	2	MSHIDA201504-040A
M2.5	0.45	2.00	7.5	50	4	0.29	1	2	MSHIDA202004-045A
M3.0	0.50	2.44	9.0	60	6	0.33	1	2	MSHIDA202406-050A
M4.0	0.70	3.20	12.0	60	6	0.45	1	2	MSHIDA203206-070A
M5.0	0.80	4.00	15.0	60	6	0.53	1	2	MSHIDA204006-080A
M6.0	1.00	4.85	18.0	75	6	0.65	2	3	MSHIDA304806-100A
M8.0	1.25	6.50	24.0	75	8	0.80	2	3	MSHIDA306508-125A
M10.0	1.50	7.90	30.0	75	8	1.00	2	3	MSHIDA307908-150A

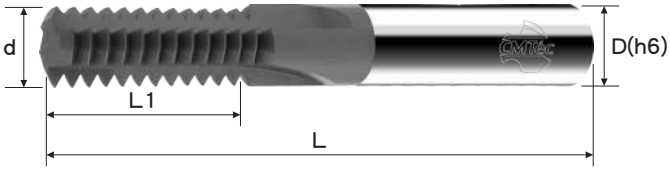


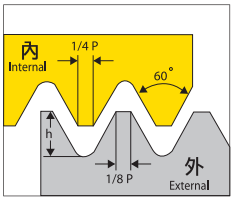
→ 切削條件表 Cutting Condition P.576
→ 下孔徑建議 Drill hole dia. P.652

鎢鋼直刃銑牙刀- 外螺紋用(ISO規格)

CARBIDE THREAD MILLS- Straight Flute- External(ISO Metric)

· CTSE000000-000A





公差 Tolerance class
6g / 6H

MG TiAlN Milling Table 61

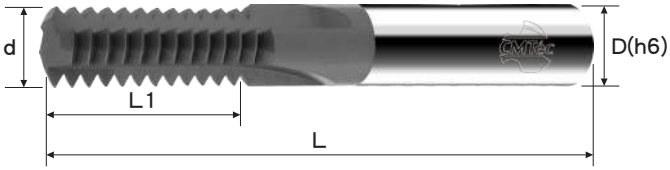
螺紋 Thread	螺距 Pitch	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M3	0.50	5.9	15.0	60	6	0.31	30	3	CTSE305906-050A
M4.5	0.75	7.9	19.5	60	8	0.46	26	3	CTSE307908-075A
M6	1.00	9.9	24.0	75	10	0.61	24	5	CTSE509910-100A
M10	1.50	11.9	30.0	100	12	0.92	20	5	CTSE511912-150A
M14	2.00	11.9	30.0	100	12	1.23	15	5	CTSE511912-200A
M24	3.00	15.9	36.0	100	16	1.84	12	5	CTSE515916-300A
M36	4.00	15.9	40.0	100	16	2.45	10	5	CTSE515916-400A
M64	6.00	19.9	36.0	100	20	3.68	6	5	CTSE519920-600A

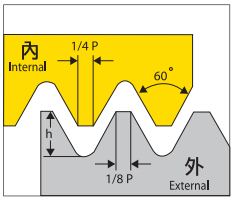
➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.652

鎢鋼直刃銑牙刀- 外/內螺紋用(ISO規格)

CARBIDE THREAD MILLS- Straight Flute- External / Internal(ISO Metric)

· CTSI000000-000A

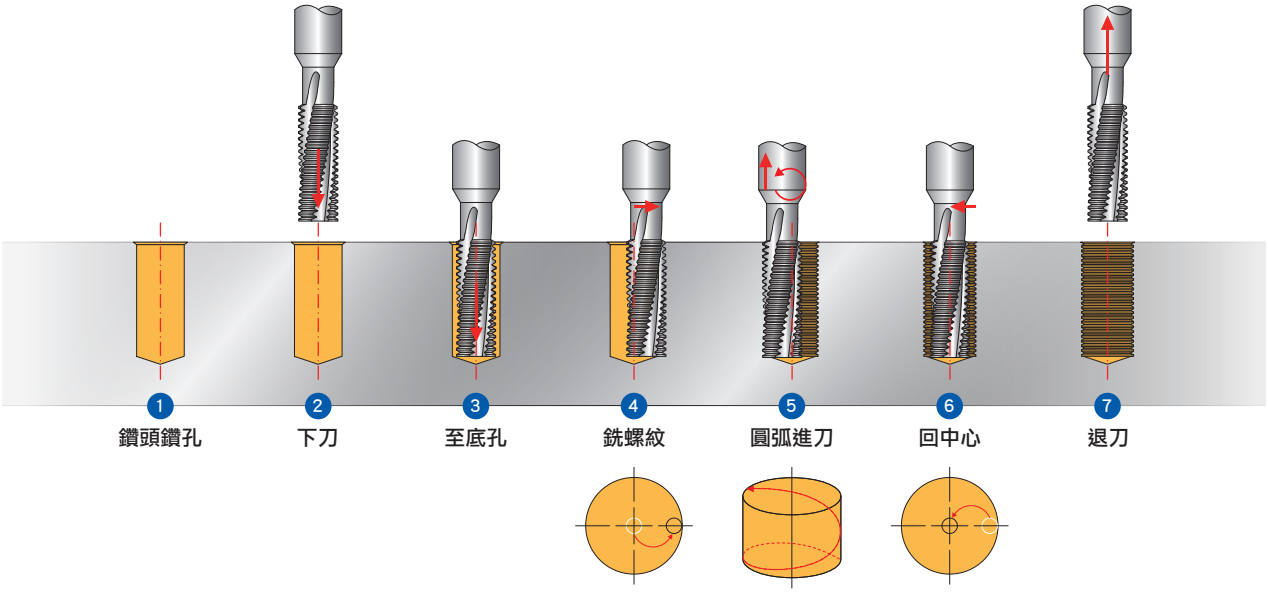




公差 Tolerance class
6g / 6H

MG TiAlN Milling Table 61

螺紋 Thread	螺距 Pitch	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M4.5	0.75	3.0	6.7	50	4	0.43	9	3	CTSI303004-075A
M8	0.75	5.9	15.0	60	6	0.43	20	3	CTSI305906-075A
M5	0.80	3.6	8.0	50	4	0.46	10	3	CTSI303604-080A
M6	1.00	4.0	9.0	60	6	0.58	9	3	CTSI304006-100A
M12	1.00	7.9	20.0	60	8	0.58	20	3	CTSI307908-100A
M8	1.25	5.0	12.5	60	6	0.72	10	3	CTSI305006-125A
M10	1.50	5.9	15.0	60	6	0.87	10	3	CTSI305906-150A
M14	1.50	9.9	24.0	75	10	0.87	16	5	CTSI509910-150A
M18	1.50	11.9	30.0	100	12	0.87	20	5	CTSI511912-150A
M12	1.75	7.9	19.2	60	8	1.01	11	3	CTSI307908-175A
M16	2.00	9.9	24.0	75	10	1.15	12	5	CTSI509910-200A
M18	2.00	11.9	30.0	100	12	1.15	15	5	CTSI511912-200A
M20	2.50	11.9	30.0	100	12	1.44	12	5	CTSI511912-250A
M24	3.00	15.9	36.0	100	16	1.73	12	5	CTSI515916-300A
M30	3.50	15.9	38.5	100	16	2.02	11	5	CTSI515916-350A
M36	4.00	15.9	40.0	100	16	2.31	10	5	CTSI515916-400A
M48	5.00	19.9	40.0	100	20	2.89	8	5	CTSI519920-500A
M64	6.00	19.9	36.0	100	20	3.46	6	5	CTSI519920-600A

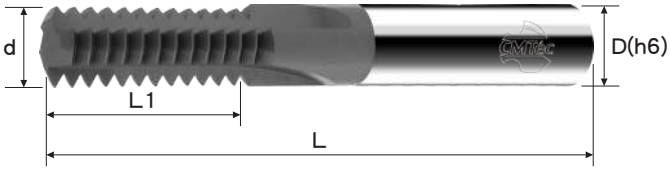


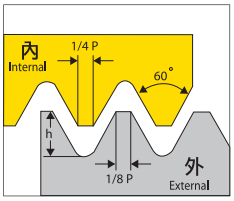
➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.652

鎢鋼直刃銑牙刀- 外螺紋用(UN美製規格)

CARBIDE THREAD MILLS- Straight Flute- External(American UN)

· CTSEU000000-000A





公差 Tolerance class
2A / 2B

61

螺紋 Thread	牙/吋 Tpi	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
No.6	32	5.9	14.3	60	6	0.49	18	3	CTSEU305906-320A
No.12	28	7.9	19.9	60	8	0.56	22	3	CTSEU307908-280A
1/4"	20	9.9	22.9	75	10	0.78	18	5	CTSEU509910-200A
5/16"	18	9.9	24.0	75	10	0.87	17	5	CTSEU509910-180A
3/8"	16	11.9	28.6	100	12	0.97	18	5	CTSEU511912-160A
9/16"	12	11.9	29.6	100	12	1.30	14	5	CTSEU511912-120A
1"	8	15.9	38.1	100	16	1.95	12	5	CTSEU515916-080A
1 3/8"	6	19.9	38.1	100	20	2.60	9	5	CTSEU519920-060A

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

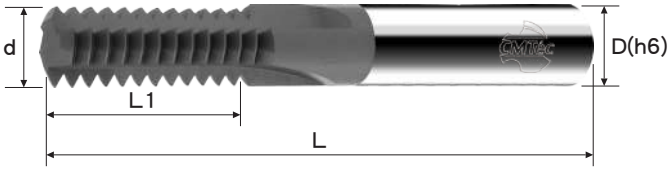
➡ 切削條件表 Cutting Condition P.566

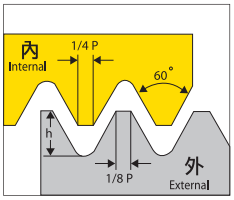
➡ 下孔徑建議 Drill hole dia. P.657

鎢鋼直刃銑牙刀- 外/內螺紋用(UN美製規格)

CARBIDE THREAD MILLS- Straight Flute- External / Internal(American UN)

· CTSIU000000-000A





公差 Tolerance class
2A / 2B

MG TiAlN Milling Table 61

螺紋 Thread	牙/吋 Tpi	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
No.8	36	3.0	6.3	50	4	0.41	9	3	CTSIU303004-360A
No.8	32	3.0	6.3	50	4	0.46	8	3	CTSIU303004-320A
5/16"	32	5.9	14.3	60	6	0.46	18	3	CTSIU305906-320A
No.12	28	3.6	8.2	50	4	0.52	9	3	CTSIU303604-280A
7/16"	28	7.9	19.9	60	8	0.52	22	3	CTSIU307908-280A
No.12	24	4.0	8.5	60	6	0.61	8	3	CTSIU304006-240A
1/4"	20	4.0	10.2	60	6	0.73	8	3	CTSIU304006-200A
9/16"	20	9.9	22.9	75	10	0.73	18	5	CTSIU509910-200A
5/16"	18	5.0	12.7	60	6	0.81	9	3	CTSIU305006-180A
9/16"	18	9.9	24.0	75	10	0.81	17	5	CTSIU509910-180A
3/8"	16	5.9	14.3	60	6	0.92	9	3	CTSIU305906-160A
3/4"	16	11.9	28.6	100	12	0.92	18	5	CTSIU511912-160A
7/16"	14	7.9	18.1	60	8	1.05	10	3	CTSIU307908-140A
1/2"	13	7.9	19.5	60	8	1.13	10	3	CTSIU307908-130A
9/16"	12	9.9	23.3	75	10	1.22	11	5	CTSIU509910-120A
1"	12	11.9	29.6	100	12	1.22	14	5	CTSIU511912-120A
5/8"	11	9.9	23.1	75	10	1.33	10	5	CTSIU509910-110A
3/4"	10	11.9	27.9	100	12	1.47	11	5	CTSIU511912-100A
7/8"	9	15.9	33.3	100	16	1.63	12	5	CTSIU515916-090A
1"	8	15.9	38.1	100	16	1.83	12	5	CTSIU515916-080A
1 1/8"	7	15.9	36.3	100	16	2.09	10	5	CTSIU515916-070A
1 3/8"	6	19.9	38.1	100	20	2.44	9	5	CTSIU519920-060A
1 3/4"	5	19.9	40.6	100	20	2.93	8	5	CTSIU519920-050A
2"	4.5	19.9	39.5	100	20	3.26	7	5	CTSIU519920-045A

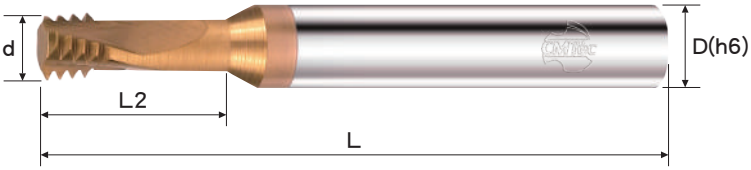
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

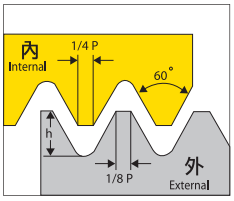
➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.657

鎢鋼螺旋銑牙刀- 外/內螺紋用(ISO規格)

CARBIDE THREAD MILLS- Helix Flute- External / Internal(ISO Metric)

· MTHIA000000-000A





公差 Tolerance class
6g / 6H

UMG | 15° | TOP TiSiN | Milling Table 61

螺紋加工深度可到2d ｜ 2d (L2 ≤ 2 x Thread Diameter)

螺紋 Thread		螺距 Pitch	刃徑 d	有效長 L2	全長 L	柄徑 D	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M 粗牙	Mx1 細牙								
M1.6		0.35	1.20	3.4	50	3	3	3	MTHIA301203-035A
M2.0		0.40	1.55	4.2	60	6	3	3	MTHIA301506-040A
M2.2		0.45	1.65	4.6	60	6	3	3	MTHIA301606-045A
M2.5		0.45	1.95	5.2	60	6	3	3	MTHIA301906-045A
M3.0	M3.5~M16	0.50	2.40	6.2	60	6	3	3	MTHIA302406-050A
M3.5		0.60	2.75	7.3	60	6	3	3	MTHIA302706-060A
M4.0		0.70	3.15	8.3	60	6	3	3	MTHIA303106-070A
M5.0		0.80	4.05	10.4	60	6	3	3	MTHIA304006-080A
M6.0	M8.0~M40	1.00	4.80	12.5	60	6	3	3	MTHIA304806-100A
M8.0		1.25	6.50	16.6	60	8	3	3	MTHIA306508-125A
M10	M12~M48	1.50	8.20	20.8	75	10	3	3	MTHIA308210-150A
M12		1.75	9.90	25.0	75	10	3	3	MTHIA309910-175A
M16		2.00	11.90	33.0	100	12	3	3	MTHIA311912-200A
M20		2.50	15.90	41.3	100	16	3	3	MTHIA315916-250A

螺紋加工深度可到3d ｜ 3d (L2 ≤ 3 x Thread Diameter)

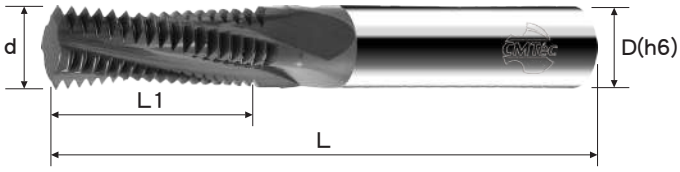
螺紋 Thread		螺距 Pitch	刃徑 d	有效長 L2	全長 L	柄徑 D	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M 粗牙	Mx1 細牙								
M1.6		0.35	1.20	5.0	50	3	3	3	MTHIA301203050-035A
M2.0		0.40	1.55	6.2	60	6	3	3	MTHIA301506062-040A
M2.5		0.45	1.95	7.7	60	6	3	3	MTHIA301906077-045A
M3.0	M3.5~M16	0.50	2.40	9.2	60	6	3	3	MTHIA302406092-050A
M4.0		0.70	3.15	12.3	60	6	3	3	MTHIA303106123-070A
M5.0		0.80	4.05	15.4	60	6	3	3	MTHIA304006154-080A
M6.0	M8.0~M40	1.00	4.80	18.5	60	6	3	3	MTHIA304806185-100A
M8.0		1.25	6.50	24.6	60	8	3	3	MTHIA306508246-125A

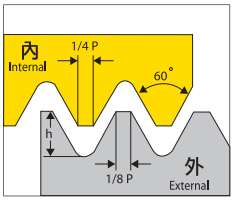
➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.652

鎢鋼螺旋銑牙刀- 外/內螺紋用(ISO規格)

CARBIDE THREAD MILLS- Helix Flute- External / Internal(ISO Metric)

· CTHI000000-000A





公差 Tolerance class
6g / 6H

MG TiAlN 15° Milling Table 61

NEW SIZE

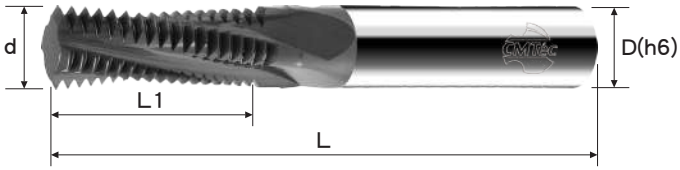
螺紋 Thread		螺距 Pitch	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
M粗牙	Mx1細牙									
		0.35	3.9	10.15	50	4	0.20	29	4	CTHI403904-035A
M3	M3.5~M16	0.50	2.2	6.00	50	4	0.29	12	3	CTHI302204-050A
	M4	0.50	3.0	8.00	50	4	0.29	16	3	CTHI303004-050A
	M5	0.50	3.9	10.00	50	4	0.29	20	3	CTHI303904-050A
M4		0.70	2.8	8.40	50	4	0.40	12	3	CTHI302804-070A
	M6	0.75	3.9	12.00	50	4	0.43	16	3	CTHI303904-075A
		0.793	6.0	15.00	60	6	0.46	19	3	CTHI306006-079A
		0.793	7.9	20.00	60	8	0.46	25	3	CTHI307908-079A
M5		0.80	3.5	10.40	50	4	0.46	13	3	CTHI303504-080A
M6	M8~M40	1.00	3.9	12.00	50	4	0.58	12	3	CTHI303904-100A
		1.00	3.9	15.00	50	4	0.58	15	3	CTHI303904-100150CA
	M8	1.00	5.9	16.00	60	6	0.58	16	3	CTHI305906-100A
	M10	1.00	7.9	20.00	60	8	0.58	20	3	CTHI307908-100A
	M12	1.00	9.9	24.00	75	10	0.58	24	4	CTHI409910-100A
		1.00	11.9	25.00	75	12	0.58	25	4	CTHI411912-100A
		1.058	5.9	15.00	60	6	0.61	15	3	CTHI305906-105A
M8		1.25	5.8	16.25	60	6	0.72	13	3	CTHI305806-125A
	M10	1.25	7.7	20.00	60	8	0.72	16	3	CTHI307708-125A
		1.27	9.9	25.00	75	10	0.73	20	4	CTHI409910-127A
		1.41	9.9	25.00	75	10	0.81	18	4	CTHI409910-141A
M10	M12~M48	1.50	7.7	21.00	60	8	0.87	14	3	CTHI307708-150A
	M12	1.50	9.4	24.00	75	10	0.87	16	4	CTHI409410-150A
	M14	1.50	11.2	28.50	100	12	0.87	19	4	CTHI411212-150A
	M16	1.50	11.9	33.00	100	12	0.87	22	4	CTHI411912-150A
		1.587	9.9	25.00	75	10	0.92	16	4	CTHI409910-158A
M12		1.75	8.7	24.50	75	10	1.01	14	4	CTHI408710-175A
M14	M17~M80	2.00	9.9	28.00	75	10	1.15	14	4	CTHI409910-200A
M16	M17~M80	2.00	11.9	32.00	100	12	1.15	16	4	CTHI411912-200A
M18~M22		2.50	13.9	40.00	100	16	1.44	16	5	CTHI513916-250A
M24		3.00	15.9	42.00	100	16	1.73	14	4	CTHI415916-300A

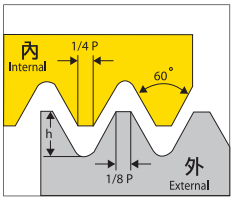
➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.652

鎢鋼螺旋銑牙刀- 外/內螺紋用(UN美製規格)

CARBIDE THREAD MILLS- Helix Flute- External / Internal(American UN)

· CTHIU000000-000A





公差 Tolerance class
2A / 2B

MG TiAlN 15° Milling Table 61

螺紋 Thread			牙/吋 Tpi	刃徑 d	刃長 L1	全長 L	柄徑 D	h (mm)	牙數 Teeth	刃數 Flute	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	0.41	12	3	CTHIU303004-360A
	No.10	No.12-3/8"	32	3.3	11.1	50	4	0.46	14	3	CTHIU303304-320A
	No.12，1/4"	7/16"，1/2"	28	3.8	11.8	50	4	0.52	13	3	CTHIU303804-280A
	1/4"	7/16"，1/2"	28	4.6	12.7	60	6	0.52	14	3	CTHIU304606-280A
		7/16"，1/2"	28	9.2	22.7	75	10	0.52	25	4	CTHIU409210-280A
No.10	5/16"，3/8"	9/16"-11/16"	24	2.9	10.6	50	4	0.61	10	3	CTHIU302904-240A
No.12	5/16"，3/8"	9/16"-11/16"	24	3.5	11.6	50	4	0.61	11	3	CTHIU303504-240A
	5/16"，3/8"	9/16"-11/16"	24	5.7	15.9	60	6	0.61	15	3	CTHIU305706-240A
	3/8"	9/16"-11/16"	24	7.4	19.1	60	8	0.61	18	3	CTHIU307408-240A
		9/16"-11/16"	24	11.9	28.6	100	12	0.61	27	4	CTHIU411912-240A
1/4"	7/16"，1/2"	3/4"-1"	20	3.9	12.7	50	4	0.73	10	3	CTHIU303904-200A
	7/16"，1/2"	3/4"-1"	20	8.5	22.9	75	10	0.73	18	4	CTHIU408510-200A
	1/2"	3/4"-1"	20	9.9	25.4	75	10	0.73	20	4	CTHIU409910-200A
		3/4"-1"	20	15.9	38.1	100	16	0.73	30	5	CTHIU515916-200A
5/16"	9/16"，5/8"	11/16"-1 11/16"	18	5.2	16.9	60	6	0.81	12	3	CTHIU305206-180A
	9/16"，5/8"	11/16"-1 11/16"	18	11.3	29.6	100	12	0.81	21	4	CTHIU411312-180A
	5/8"	11/16"-1 11/16"	18	11.9	32.5	100	12	0.81	23	4	CTHIU411912-180A
3/8"	3/4"		16	6.7	19.1	60	8	0.92	12	3	CTHIU306708-160A
	3/4"		16	15.9	38.1	100	16	0.92	24	4	CTHIU415916-160A
7/16"	7/8"		14	7.6	23.6	60	8	1.05	13	4	CTHIU407608-140A
	7/8"		14	18.7	44.4	100	20	1.05	24	4	CTHIU418720-140A
1/2"			13	8.9	25.4	75	10	1.13	13	4	CTHIU408910-130A
9/16"	1"-1 1/2"		12	10.3	29.6	100	12	1.22	14	4	CTHIU410312-120A
	1"-1 1/2"		12	19.9	50.8	100	20	1.22	24	5	CTHIU519920-120A
5/8"			11	11.0	32.3	100	12	1.33	14	4	CTHIU411012-110A
3/4"			10	13.5	38.1	100	16	1.47	15	5	CTHIU513516-100A
7/8"			9	15.2	45.2	100	16	1.63	16	4	CTHIU415216-090A
1"			8	17.0	50.8	100	20	1.83	16	4	CTHIU417020-080A

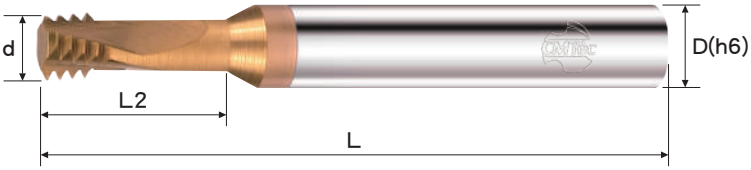
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

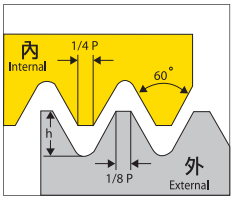
➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.657

鎢鋼螺旋銑牙刀- 外/內螺紋用(UN美製規格)

CARBIDE THREAD MILLS- Helix Flute- External / Internal(American UN)

· MTHUA000000-000A





公差 Tolerance class
2A / 2B

UMG | 15° | TOP TiSiN | Milling Table 61

NEW

螺紋加工深度可到2d ｜ 2d (L2 ≤ 2 x Thread Diameter)

螺紋 Thread		牙/吋 Tpi	刃徑 d	有效長 L2	全長 L	柄徑 D	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
UNC 粗牙	UNF 細牙								
	No.1	72	1.45	3.9	60	6	3	3	MTHUA301406-720A
No.1	No.2	64	1.40	4.2	60	6	3	3	MTHUA301406-640A
No.2	No.3	56	1.65	5.0	60	6	3	3	MTHUA301606-560A
No.3	No.4	48	1.90	6.0	60	6	3	3	MTHUA301906-480A
No.4，No.5	No.6	40	2.10	6.0	60	6	3	3	MTHUA302106-400A
No.5	No.6	40	2.45	7.2	60	6	3	3	MTHUA302406-400A
	No.8	36	3.30	8.7	60	6	3	3	MTHUA303306-360A
No.6，No.8	No.10	32	2.55	7.4	60	6	3	3	MTHUA302506-320A
No.8	No.10	32	3.20	10.0	60	6	3	3	MTHUA303206-320A
	No.10	32	3.80	10.3	60	6	3	3	MTHUA303806-320A
	1/4"	28	5.25	13.2	60	6	3	3	MTHUA305206-280A
No.10	5/16"	24	3.58	10.2	60	6	3	3	MTHUA303506-240A
	5/16"	24	6.68	16.5	60	8	3	3	MTHUA306608-240A
1/4"	7/16"	20	4.88	13.4	60	6	3	3	MTHUA304806-200A
	7/16"	20	9.55	23.0	75	10	3	3	MTHUA309510-200A
5/16"		18	6.15	16.9	60	8	3	3	MTHUA306108-180A
3/8"		16	6.70	19.1	60	8	3	3	MTHUA306708-160A
7/16"		14	9.00	23.3	75	10	3	3	MTHUA309010-140A

螺紋加工深度可到3d ｜ 3d (L2 ≤ 3 x Thread Diameter)

螺紋 Thread		牙/吋 Tpi	刃徑 d	有效長 L2	全長 L	柄徑 D	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
UNC 粗牙	UNF 細牙								
	No.1	72	1.45	5.75	60	6	3	3	MTHUA301406057-720A
No.2	No.3	56	1.65	7.00	50	3	3	3	MTHUA301603070-560A
No.4，No.5	No.6	40	2.10	9.00	50	3	3	3	MTHUA302103090-400A
No.4，No.5	No.6	40	2.10	9.00	60	6	3	3	MTHUA302106090-400A
No.5	No.6	40	2.45	10.0	60	6	3	3	MTHUA302406100-400A
No.6，No.8	No.10	32	2.55	11.0	60	6	3	3	MTHUA302506110-320A
No.8	No.10	32	3.20	13.0	60	6	3	3	MTHUA303206130-320A
	No.10	32	3.80	15.1	60	6	3	3	MTHUA303806151-320A
No.12	1/4"	28	4.40	17.0	60	6	3	3	MTHUA304406170-280A
	1/4"	28	5.25	19.6	60	6	3	3	MTHUA305206196-280A
	5/16"	24	6.68	24.5	60	8	3	3	MTHUA306608245-240A
1/4"	7/16"	20	4.88	19.8	60	6	3	3	MTHUA304806198-200A
5/16"		18	6.15	24.0	60	8	3	3	MTHUA306108240-180A

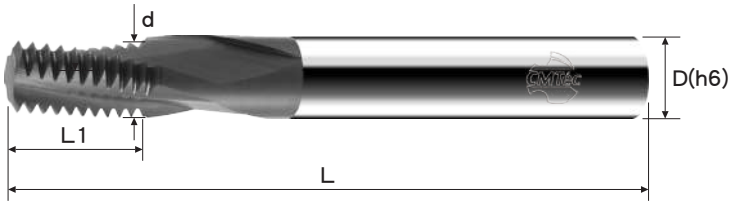
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

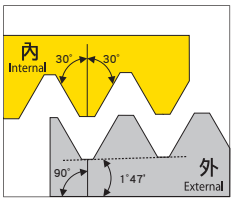
➡ 切削條件表 Cutting Condition P.566 ➡ 下孔徑建議 Drill hole dia. P.657

鎢鋼螺旋銑牙刀- 外/內螺紋用(NPT美製錐度管螺紋60˚)

CARBIDE THREAD MILLS- Helix Flute- External / Internal(NPT National American Taper Pipe Thread 60°)

· CTHPT000000-000A





Defined by: USA B2.1:1968
Tolerance class: Standard NPT

MG TiAlN 15° Milling Table 61

螺紋 Thread	牙/吋 Tpi	d	刃長 L1	全長 L	柄徑 D	牙數 Teeth	刃數 Flute	鍍膜訂購編號 Coated Order No.
1/16"	27	5.3	9.4	60	6	10	3	CTHPT305306-270A
1/8"	27	7.5	9.4	60	8	10	4	CTHPT407508-270A
1/4"	18	9.4	14.1	75	10	10	4	CTHPT409410-180A
3/8"	18	11.9	14.1	100	12	10	4	CTHPT411912-180A
1/2", 3/4"	14	15.5	25.4	100	16	14	5	CTHPT515516-140A
1"-2"	11.5	19.9	33.1	100	20	15	5	CTHPT519920-115A
2 1/2", 3"	8	19.9	38.1	100	20	12	4	CTHPT419920-080A

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

➡ 切削條件表 Cutting Condition P.566
➡ 下孔徑建議 Drill hole dia. P.658

MEMO

鋸片系列

Slitting Saws Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表 Product Selection Table

刀型 Type	齒數 Teeth	內徑 Inner Diameter	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
鋸片柄 Slitting Saw Arbors						
鋸片柄 Slitting Saw Arbors	—	5 / 6 / 8 / 12.7	右螺紋 Right Hand Thread. 材質為合金鋼 It is made by Alloy Steel.		Ø10 ~ Ø20	200
鎢鋼鋸片& 圓刀 Carbide Slitting Saws & Circular Knives						
鎢鋼鋸片 Carbide Slitting Saws	16/28	3.0	尖齒型 CCN Type 平齒型 CCF Type		Ø10	201
	28/40	5.0			Ø15	202
	36/56	5.0			Ø20	203
	36/56	6.0			Ø20	204
	40/72	6.0			Ø25	205
	56/90/120	6.0			Ø30	206
	56/90/120	8.0			Ø30	207
	56/90/120	12.7			Ø45	208
	72	12.7			Ø50	209
	56	25.4			Ø70	210
	72	25.4			Ø70	210
	100	25.4			Ø70	211
	120	25.4			Ø70	211
	56/72	25.4			Ø75	212
	56/72	25.4			Ø100	212
	72/100	25.4			Ø125	213
	100	25.4			Ø150	213
鎢鋼圓刀 Carbide Circular Knives		25.4	CB		Ø50 ~ Ø125	214
高速鋼鋸片 & 圓刀 HSS Slitting Saws & Circular Knives						
高速鋼鋸片 HSS Slitting Saws	90/120	6.0	尖齒型 HCN Type		Ø30	215
			平齒型 HCF Type			
	90	12.7	尖齒型 HCN Type		Ø45	215
			平齒型 HCF Type			
	56	25.4	尖齒型 HCN Type		Ø70	216
			平齒型 HCF Type			
	72	25.4	尖齒型 HCN Type			216
			平齒型 HCF Type			
	100	25.4	尖齒型 HCN Type			217
			平齒型 HCF Type			

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	◎	○	○	—	○	◎	◎	◎	—	◎	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)				
◎	○	—	—	—	○	—	◎	◎	—	—					
◎	○	—	—	—	○	—	◎	◎	—	—	濕式(Wet)				
◎	○	—	—	—	○	—	◎	◎	—	—					
◎	○	—	—	—	○	—	◎	◎	—	—	濕式(Wet)				
◎	○	—	—	—	○	—	◎	◎	—	—					
◎	○	—	—	—	○	—	◎	◎	—	—	濕式(Wet)				
◎	○	—	—	—	○	—	◎	◎	—	—					
◎	○	—	—	—	○	—	◎	◎	—	—	濕式(Wet)				
◎	○	—	—	—	○	—	◎	◎	—	—					

產品選擇表 Product Selection Table

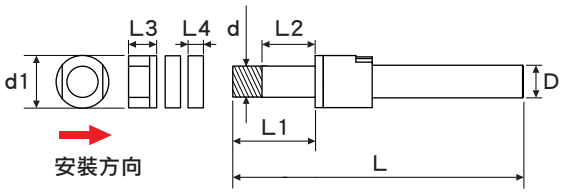
刀型 Type	齒數 Teeth	內徑 Inner Diameter	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
高速鋼鋸片 & 圓刀 HSS Slitting Saws & Circular Knives						
高速鋼鋸片 HSS Slitting Saws	56/72	25.4	尖齒型HCN Type		Ø75	217
			平齒型HCF Type			
	56/72	25.4	尖齒型HCN Type		Ø100	218
			平齒型HCF Type			
	72/100	25.4	尖齒型HCN Type		Ø125	218
			平齒型HCF Type			
	100	25.4	尖齒型HCN Type		Ø150	218
			平齒型HCF Type			
高速鋼圓刀 HSS Circular Knives		25.4	HB		Ø50 ~ Ø250	219
高鈷鋼鋸片 HSS-Co Slitting Saws						
高鈷鋼鋸片 HSS-Co Slitting Saws	90/120	6.0	尖齒型KCN Type		Ø30	220
			平齒型KCF Type			
	90	12.7	尖齒型KCN Type		Ø45	220
			平齒型KCF Type			
	56	25.4	尖齒型KCN Type		Ø70	221
			平齒型KCF Type			
	72	25.4	尖齒型KCN Type			221
			平齒型KCF Type			
	100	25.4	尖齒型KCN Type			222
			平齒型KCF Type			
	56/72	25.4	尖齒型KCN Type		Ø75	222
			平齒型KCF Type			
	56/72	25.4	尖齒型KCN Type		Ø100	223
			平齒型KCF Type			
	72/100	25.4	尖齒型KCN Type		Ø125	223
			平齒型KCF Type			
	100	25.4	尖齒型KCN Type		Ø150	223
			平齒型KCF Type			

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	○	—	—	—	○	—	◎	◎	—	—	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(Dry)				
◎	○	○	—	—	○	○	◎	◎	—	—	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)				
◎	○	○	—	—	○	○	◎	◎	—	—					

鋸片柄- 右螺紋

SLITTING SAW ARBORS- Right Hand Thread

· SAFR00000



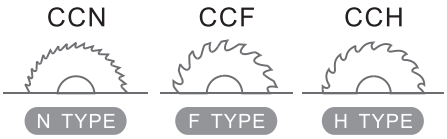
※ 材質是合金鋼
It is made by alloy steels.

軸徑(鋸片內徑) d	螺帽 / 墊片外徑 d1	軸徑長 L1	墊片安裝長 L2	全長 L	螺帽厚度 L3	墊片厚度 L4	柄徑 D	訂購編號 Order No.
5.0	10	12	5.2	50	5.0	3.0	6	SAFR05006
5.0	13	16	7.5	60	8.8	4.0	7	SAFR05007
6.0	13	16	7.5	60	8.8	4.0	7	SAFR06007
6.0	10	12	5.2	50	5.1	3.2	6	SAFR06006
6.0	16	11	5.2	60	5.5	1.5 / 3.0	10	SAFR06010
6.0	13	16	7.5	90	8.2	4.2	10	SAFR06010090L
8.0	13	16	7.5	60	7.5	4.2	10	SAFR08010
12.7	20	28	14.0	70	14.5	6.2	10	SAFR12710

鎢鋼小徑鋸片- 粗齒數(16/28T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Large Teeth(16/28T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
10	0.15	3	16	CCN-01000-0015-016-0300	CCF-01000-0015-016-0300
10	0.20	3	16	CCN-01000-0020-016-0300	CCF-01000-0020-016-0300
10	0.25	3	16	CCN-01000-0025-016-0300	CCF-01000-0025-016-0300
10	0.30	3	16	CCN-01000-0030-016-0300	CCF-01000-0030-016-0300
10	0.40	3	16	CCN-01000-0040-016-0300	CCF-01000-0040-016-0300
10	0.50	3	16	CCN-01000-0050-016-0300	CCF-01000-0050-016-0300
10	0.60	3	16	CCN-01000-0060-016-0300	CCF-01000-0060-016-0300
10	0.70	3	16	CCN-01000-0070-016-0300	CCF-01000-0070-016-0300
10	0.80	3	16	CCN-01000-0080-016-0300	CCF-01000-0080-016-0300
10	0.90	3	16	CCN-01000-0090-016-0300	CCF-01000-0090-016-0300
10	1.00	3	16	CCN-01000-0100-016-0300	CCF-01000-0100-016-0300

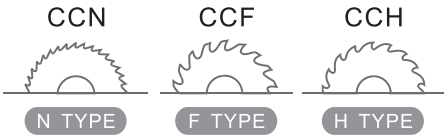
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
10	0.15	3	28	CCN-01000-0015-028-0300	CCF-01000-0015-028-0300
10	0.20	3	28	CCN-01000-0020-028-0300	CCF-01000-0020-028-0300
10	0.25	3	28	CCN-01000-0025-028-0300	CCF-01000-0025-028-0300
10	0.30	3	28	CCN-01000-0030-028-0300	CCF-01000-0030-028-0300
10	0.40	3	28	CCN-01000-0040-028-0300	CCF-01000-0040-028-0300
10	0.50	3	28	CCN-01000-0050-028-0300	CCF-01000-0050-028-0300
10	0.60	3	28	CCN-01000-0060-028-0300	CCF-01000-0060-028-0300
10	0.70	3	28	CCN-01000-0070-028-0300	CCF-01000-0070-028-0300
10	0.80	3	28	CCN-01000-0080-028-0300	CCF-01000-0080-028-0300
10	0.90	3	28	CCN-01000-0090-028-0300	CCF-01000-0090-028-0300
10	1.00	3	28	CCN-01000-0100-028-0300	CCF-01000-0100-028-0300

➡ 切削條件表 Cutting Condition P.567
➡ 技術資料 Technical Data P.639

鎢鋼小徑鋸片- 粗齒數(28T)/中齒數(40T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Large Teeth(28T)/Middle Teeth(40T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
15	0.15	5	28	CCN-01500-0015-028-0500	CCF-01500-0015-028-0500
15	0.20	5	28	CCN-01500-0020-028-0500	CCF-01500-0020-028-0500
15	0.25	5	28	CCN-01500-0025-028-0500	CCF-01500-0025-028-0500
15	0.30	5	28	CCN-01500-0030-028-0500	CCF-01500-0030-028-0500
15	0.40	5	28	CCN-01500-0040-028-0500	CCF-01500-0040-028-0500
15	0.50	5	28	CCN-01500-0050-028-0500	CCF-01500-0050-028-0500
15	0.60	5	28	CCN-01500-0060-028-0500	CCF-01500-0060-028-0500
15	0.70	5	28	CCN-01500-0070-028-0500	CCF-01500-0070-028-0500
15	0.80	5	28	CCN-01500-0080-028-0500	CCF-01500-0080-028-0500
15	0.90	5	28	CCN-01500-0090-028-0500	CCF-01500-0090-028-0500
15	1.00	5	28	CCN-01500-0100-028-0500	CCF-01500-0100-028-0500

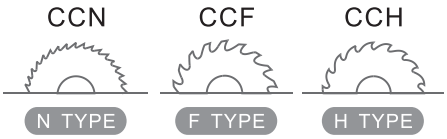
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
15	0.15	5	40	CCN-01500-0015-040-0500	CCF-01500-0015-040-0500
15	0.20	5	40	CCN-01500-0020-040-0500	CCF-01500-0020-040-0500
15	0.25	5	40	CCN-01500-0025-040-0500	CCF-01500-0025-040-0500
15	0.30	5	40	CCN-01500-0030-040-0500	CCF-01500-0030-040-0500
15	0.40	5	40	CCN-01500-0040-040-0500	CCF-01500-0040-040-0500
15	0.50	5	40	CCN-01500-0050-040-0500	CCF-01500-0050-040-0500
15	0.60	5	40	CCN-01500-0060-040-0500	CCF-01500-0060-040-0500
15	0.70	5	40	CCN-01500-0070-040-0500	CCF-01500-0070-040-0500
15	0.80	5	40	CCN-01500-0080-040-0500	CCF-01500-0080-040-0500
15	0.90	5	40	CCN-01500-0090-040-0500	CCF-01500-0090-040-0500
15	1.00	5	40	CCN-01500-0100-040-0500	CCF-01500-0100-040-0500

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼小徑鋸片- 粗齒數(36T)/中齒數(56T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Large Teeth(36T)/Middle Teeth(56T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

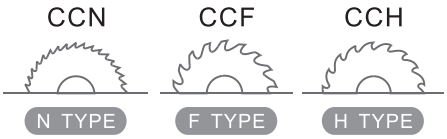
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
20	0.15	5	36	CCN-02000-0015-036-0500	CCF-02000-0015-036-0500
20	0.20	5	36	CCN-02000-0020-036-0500	CCF-02000-0020-036-0500
20	0.25	5	36	CCN-02000-0025-036-0500	CCF-02000-0025-036-0500
20	0.30	5	36	CCN-02000-0030-036-0500	CCF-02000-0030-036-0500
20	0.40	5	36	CCN-02000-0040-036-0500	CCF-02000-0040-036-0500
20	0.50	5	36	CCN-02000-0050-036-0500	CCF-02000-0050-036-0500
20	0.60	5	36	CCN-02000-0060-036-0500	CCF-02000-0060-036-0500
20	0.70	5	36	CCN-02000-0070-036-0500	CCF-02000-0070-036-0500
20	0.80	5	36	CCN-02000-0080-036-0500	CCF-02000-0080-036-0500
20	0.90	5	36	CCN-02000-0090-036-0500	CCF-02000-0090-036-0500
20	1.00	5	36	CCN-02000-0100-036-0500	CCF-02000-0100-036-0500
20	1.20	5	36	CCN-02000-0120-036-0500	CCF-02000-0120-036-0500
20	1.50	5	36	CCN-02000-0150-036-0500	CCF-02000-0150-036-0500

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
20	0.15	5	56	CCN-02000-0015-056-0500	CCF-02000-0015-056-0500
20	0.20	5	56	CCN-02000-0020-056-0500	CCF-02000-0020-056-0500
20	0.25	5	56	CCN-02000-0025-056-0500	CCF-02000-0025-056-0500
20	0.30	5	56	CCN-02000-0030-056-0500	CCF-02000-0030-056-0500
20	0.40	5	56	CCN-02000-0040-056-0500	CCF-02000-0040-056-0500
20	0.50	5	56	CCN-02000-0050-056-0500	CCF-02000-0050-056-0500
20	0.60	5	56	CCN-02000-0060-056-0500	CCF-02000-0060-056-0500
20	0.70	5	56	CCN-02000-0070-056-0500	CCF-02000-0070-056-0500
20	0.80	5	56	CCN-02000-0080-056-0500	CCF-02000-0080-056-0500
20	0.90	5	56	CCN-02000-0090-056-0500	CCF-02000-0090-056-0500
20	1.00	5	56	CCN-02000-0100-056-0500	CCF-02000-0100-056-0500
20	1.20	5	56	CCN-02000-0120-056-0500	CCF-02000-0120-056-0500
20	1.50	5	56	CCN-02000-0150-056-0500	CCF-02000-0150-056-0500

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼小徑鋸片- 粗齒數(36T)/中齒數(56T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Large Teeth(36T)/Middle Teeth(56T)



※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.

Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
20	0.15	6	36	CCN-02000-0015-036-0600	CCF-02000-0015-036-0600
20	0.20	6	36	CCN-02000-0020-036-0600	CCF-02000-0020-036-0600
20	0.25	6	36	CCN-02000-0025-036-0600	CCF-02000-0025-036-0600
20	0.30	6	36	CCN-02000-0030-036-0600	CCF-02000-0030-036-0600
20	0.40	6	36	CCN-02000-0040-036-0600	CCF-02000-0040-036-0600
20	0.50	6	36	CCN-02000-0050-036-0600	CCF-02000-0050-036-0600
20	0.60	6	36	CCN-02000-0060-036-0600	CCF-02000-0060-036-0600
20	0.70	6	36	CCN-02000-0070-036-0600	CCF-02000-0070-036-0600
20	0.80	6	36	CCN-02000-0080-036-0600	CCF-02000-0080-036-0600
20	0.90	6	36	CCN-02000-0090-036-0600	CCF-02000-0090-036-0600
20	1.00	6	36	CCN-02000-0100-036-0600	CCF-02000-0100-036-0600
20	1.20	6	36	CCN-02000-0120-036-0600	CCF-02000-0120-036-0600
20	1.50	6	36	CCN-02000-0150-036-0600	CCF-02000-0150-036-0600

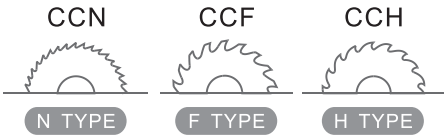
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
20	0.15	6	56	CCN-02000-0015-056-0600	CCF-02000-0015-056-0600
20	0.20	6	56	CCN-02000-0020-056-0600	CCF-02000-0020-056-0600
20	0.25	6	56	CCN-02000-0025-056-0600	CCF-02000-0025-056-0600
20	0.30	6	56	CCN-02000-0030-056-0600	CCF-02000-0030-056-0600
20	0.40	6	56	CCN-02000-0040-056-0600	CCF-02000-0040-056-0600
20	0.50	6	56	CCN-02000-0050-056-0600	CCF-02000-0050-056-0600
20	0.60	6	56	CCN-02000-0060-056-0600	CCF-02000-0060-056-0600
20	0.70	6	56	CCN-02000-0070-056-0600	CCF-02000-0070-056-0600
20	0.80	6	56	CCN-02000-0080-056-0600	CCF-02000-0080-056-0600
20	0.90	6	56	CCN-02000-0090-056-0600	CCF-02000-0090-056-0600
20	1.00	6	56	CCN-02000-0100-056-0600	CCF-02000-0100-056-0600
20	1.20	6	56	CCN-02000-0120-056-0600	CCF-02000-0120-056-0600
20	1.50	6	56	CCN-02000-0150-056-0600	CCF-02000-0150-056-0600

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼小徑鋸片- 中齒數(40/72T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Middle Teeth(40/72T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
25	0.15	6	40	CCN-02500-0015-040-0600	CCF-02500-0015-040-0600
25	0.20	6	40	CCN-02500-0020-040-0600	CCF-02500-0020-040-0600
25	0.25	6	40	CCN-02500-0025-040-0600	CCF-02500-0025-040-0600
25	0.30	6	40	CCN-02500-0030-040-0600	CCF-02500-0030-040-0600
25	0.40	6	40	CCN-02500-0040-040-0600	CCF-02500-0040-040-0600
25	0.50	6	40	CCN-02500-0050-040-0600	CCF-02500-0050-040-0600
25	0.60	6	40	CCN-02500-0060-040-0600	CCF-02500-0060-040-0600
25	0.70	6	40	CCN-02500-0070-040-0600	CCF-02500-0070-040-0600
25	0.80	6	40	CCN-02500-0080-040-0600	CCF-02500-0080-040-0600
25	0.90	6	40	CCN-02500-0090-040-0600	CCF-02500-0090-040-0600
25	1.00	6	40	CCN-02500-0100-040-0600	CCF-02500-0100-040-0600
25	1.20	6	40	CCN-02500-0120-040-0600	CCF-02500-0120-040-0600
25	1.50	6	40	CCN-02500-0150-040-0600	CCF-02500-0150-040-0600

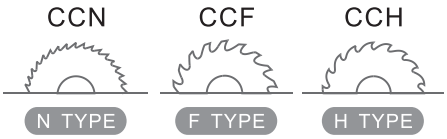
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
25	0.15	6	72	CCN-02500-0015-072-0600	CCF-02500-0015-072-0600
25	0.20	6	72	CCN-02500-0020-072-0600	CCF-02500-0020-072-0600
25	0.25	6	72	CCN-02500-0025-072-0600	CCF-02500-0025-072-0600
25	0.30	6	72	CCN-02500-0030-072-0600	CCF-02500-0030-072-0600
25	0.40	6	72	CCN-02500-0040-072-0600	CCF-02500-0040-072-0600
25	0.50	6	72	CCN-02500-0050-072-0600	CCF-02500-0050-072-0600
25	0.60	6	72	CCN-02500-0060-072-0600	CCF-02500-0060-072-0600
25	0.70	6	72	CCN-02500-0070-072-0600	CCF-02500-0070-072-0600
25	0.80	6	72	CCN-02500-0080-072-0600	CCF-02500-0080-072-0600
25	0.90	6	72	CCN-02500-0090-072-0600	CCF-02500-0090-072-0600
25	1.00	6	72	CCN-02500-0100-072-0600	CCF-02500-0100-072-0600
25	1.20	6	72	CCN-02500-0120-072-0600	CCF-02500-0120-072-0600
25	1.50	6	72	CCN-02500-0150-072-0600	CCF-02500-0150-072-0600

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼小徑鋸片- 中齒數(56T)/細齒數(90/120T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Middle Teeth(56T)/Fine Teeth(90/120T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
30	0.20	6	56	CCN-03000-0020-056-0600	CCF-03000-0020-056-0600
30	0.25	6	56	CCN-03000-0025-056-0600	CCF-03000-0025-056-0600
30	0.30	6	56	CCN-03000-0030-056-0600	CCF-03000-0030-056-0600
30	0.40	6	56	CCN-03000-0040-056-0600	CCF-03000-0040-056-0600
30	0.50	6	56	CCN-03000-0050-056-0600	CCF-03000-0050-056-0600
30	0.60	6	56	CCN-03000-0060-056-0600	CCF-03000-0060-056-0600
30	0.70	6	56	CCN-03000-0070-056-0600	CCF-03000-0070-056-0600
30	0.80	6	56	CCN-03000-0080-056-0600	CCF-03000-0080-056-0600
30	0.90	6	56	CCN-03000-0090-056-0600	CCF-03000-0090-056-0600
30	1.00	6	56	CCN-03000-0100-056-0600	CCF-03000-0100-056-0600
30	1.10	6	56	CCN-03000-0110-056-0600	CCF-03000-0110-056-0600
30	1.20	6	56	CCN-03000-0120-056-0600	CCF-03000-0120-056-0600
30	1.50	6	56	CCN-03000-0150-056-0600	CCF-03000-0150-056-0600
30	2.00	6	56	CCN-03000-0200-056-0600	CCF-03000-0200-056-0600

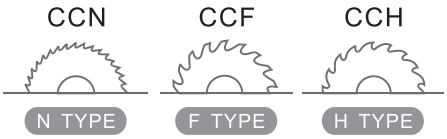
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
30	0.20	6	120	CCN-03000-0020-120-0600	CCF-03000-0020-120-0600
30	0.25	6	120	CCN-03000-0025-120-0600	CCF-03000-0025-120-0600
30	0.30	6	120	CCN-03000-0030-120-0600	CCF-03000-0030-120-0600
30	0.40	6	120	CCN-03000-0040-120-0600	CCF-03000-0040-120-0600
30	0.50	6	120	CCN-03000-0050-120-0600	CCF-03000-0050-120-0600
30	0.60	6	120	CCN-03000-0060-120-0600	CCF-03000-0060-120-0600
30	0.70	6	120	CCN-03000-0070-120-0600	CCF-03000-0070-120-0600
30	0.80	6	120	CCN-03000-0080-120-0600	CCF-03000-0080-120-0600
30	0.90	6	120	CCN-03000-0090-120-0600	CCF-03000-0090-120-0600
30	1.00	6	120	CCN-03000-0100-120-0600	CCF-03000-0100-120-0600
30	1.10	6	90	CCN-03000-0110-090-0600	CCF-03000-0110-090-0600
30	1.20	6	90	CCN-03000-0120-090-0600	CCF-03000-0120-090-0600
30	1.50	6	90	CCN-03000-0150-090-0600	CCF-03000-0150-090-0600
30	2.00	6	90	CCN-03000-0200-090-0600	CCF-03000-0200-090-0600

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼小徑鋸片- 中齒數(56T)/細齒數(90/120T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Middle Teeth(56T)/Fine Teeth(90/120T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
30	0.20	8	56	CCN-03000-0020-056-0800	CCF-03000-0020-056-0800
30	0.25	8	56	CCN-03000-0025-056-0800	CCF-03000-0025-056-0800
30	0.30	8	56	CCN-03000-0030-056-0800	CCF-03000-0030-056-0800
30	0.40	8	56	CCN-03000-0040-056-0800	CCF-03000-0040-056-0800
30	0.50	8	56	CCN-03000-0050-056-0800	CCF-03000-0050-056-0800
30	0.60	8	56	CCN-03000-0060-056-0800	CCF-03000-0060-056-0800
30	0.70	8	56	CCN-03000-0070-056-0800	CCF-03000-0070-056-0800
30	0.80	8	56	CCN-03000-0080-056-0800	CCF-03000-0080-056-0800
30	0.90	8	56	CCN-03000-0090-056-0800	CCF-03000-0090-056-0800
30	1.00	8	56	CCN-03000-0100-056-0800	CCF-03000-0100-056-0800
30	1.10	8	56	CCN-03000-0110-056-0800	CCF-03000-0110-056-0800
30	1.20	8	56	CCN-03000-0120-056-0800	CCF-03000-0120-056-0800
30	1.50	8	56	CCN-03000-0150-056-0800	CCF-03000-0150-056-0800
30	2.00	8	56	CCN-03000-0200-056-0800	CCF-03000-0200-056-0800

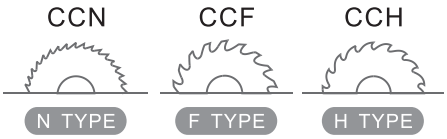
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
30	0.20	8	120	CCN-03000-0020-120-0800	CCF-03000-0020-120-0800
30	0.25	8	120	CCN-03000-0025-120-0800	CCF-03000-0025-120-0800
30	0.30	8	120	CCN-03000-0030-120-0800	CCF-03000-0030-120-0800
30	0.40	8	120	CCN-03000-0040-120-0800	CCF-03000-0040-120-0800
30	0.50	8	120	CCN-03000-0050-120-0800	CCF-03000-0050-120-0800
30	0.60	8	120	CCN-03000-0060-120-0800	CCF-03000-0060-120-0800
30	0.70	8	120	CCN-03000-0070-120-0800	CCF-03000-0070-120-0800
30	0.80	8	120	CCN-03000-0080-120-0800	CCF-03000-0080-120-0800
30	0.90	8	120	CCN-03000-0090-120-0800	CCF-03000-0090-120-0800
30	1.00	8	120	CCN-03000-0100-120-0800	CCF-03000-0100-120-0800
30	1.10	8	90	CCN-03000-0110-090-0800	CCF-03000-0110-090-0800
30	1.20	8	90	CCN-03000-0120-090-0800	CCF-03000-0120-090-0800
30	1.50	8	90	CCN-03000-0150-090-0800	CCF-03000-0150-090-0800
30	2.00	8	90	CCN-03000-0200-090-0800	CCF-03000-0200-090-0800

→ 搭配鋸片柄 Slitting Saw Arbors P.200
→ 切削條件表 Cutting Condition P.567
→ 技術資料 Technical Data P.639

鎢鋼小徑鋸片- 中齒數(56T)/細齒數(90/120T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Middle Teeth(56T)/Fine Teeth(90/120T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
45	0.50	12.7	56	CCN-04500-0050-056-1270	CCF-04500-0050-056-1270
45	0.60	12.7	56	CCN-04500-0060-056-1270	CCF-04500-0060-056-1270
45	0.70	12.7	56	CCN-04500-0070-056-1270	CCF-04500-0070-056-1270
45	0.80	12.7	56	CCN-04500-0080-056-1270	CCF-04500-0080-056-1270
45	0.90	12.7	56	CCN-04500-0090-056-1270	CCF-04500-0090-056-1270
45	1.00	12.7	56	CCN-04500-0100-056-1270	CCF-04500-0100-056-1270
45	1.10	12.7	56	CCN-04500-0110-056-1270	CCF-04500-0110-056-1270
45	1.50	12.7	56	CCN-04500-0150-056-1270	CCF-04500-0150-056-1270
45	2.00	12.7	56	CCN-04500-0200-056-1270	CCF-04500-0200-056-1270
45	2.50	12.7	56	CCN-04500-0250-056-1270	CCF-04500-0250-056-1270
45	3.00	12.7	56	CCN-04500-0300-056-1270	CCF-04500-0300-056-1270

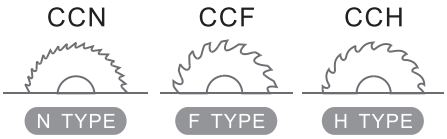
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
45	0.20	12.7	90	CCN-04500-0020-090-1270	CCF-04500-0020-090-1270
45	0.25	12.7	90	CCN-04500-0025-090-1270	CCF-04500-0025-090-1270
45	0.30	12.7	90	CCN-04500-0030-090-1270	CCF-04500-0030-090-1270
45	0.40	12.7	90	CCN-04500-0040-090-1270	CCF-04500-0040-090-1270
45	0.50	12.7	90	CCN-04500-0050-090-1270	CCF-04500-0050-090-1270
45	0.60	12.7	90	CCN-04500-0060-090-1270	CCF-04500-0060-090-1270
45	0.70	12.7	90	CCN-04500-0070-090-1270	CCF-04500-0070-090-1270
45	0.80	12.7	90	CCN-04500-0080-090-1270	CCF-04500-0080-090-1270
45	0.90	12.7	90	CCN-04500-0090-090-1270	CCF-04500-0090-090-1270
45	1.00	12.7	90	CCN-04500-0100-090-1270	CCF-04500-0100-090-1270
45	1.10	12.7	90	CCN-04500-0110-090-1270	CCF-04500-0110-090-1270
45	1.50	12.7	90	CCN-04500-0150-090-1270	CCF-04500-0150-090-1270
45	2.00	12.7	90	CCN-04500-0200-090-1270	CCF-04500-0200-090-1270
45	2.50	12.7	90	CCN-04500-0250-090-1270	CCF-04500-0250-090-1270
45	3.00	12.7	90	CCN-04500-0300-090-1270	CCF-04500-0300-090-1270
45	0.20	12.7	120	CCN-04500-0020-120-1270	CCF-04500-0020-120-1270
45	0.25	12.7	120	CCN-04500-0025-120-1270	CCF-04500-0025-120-1270
45	0.30	12.7	120	CCN-04500-0030-120-1270	CCF-04500-0030-120-1270
45	0.40	12.7	120	CCN-04500-0040-120-1270	CCF-04500-0040-120-1270
45	0.50	12.7	120	CCN-04500-0050-120-1270	CCF-04500-0050-120-1270

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼小徑鋸片- 中齒數(72T)

SOLID CARBIDE SLITTING SAWS- Small Diameter- Middle Teeth(72T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

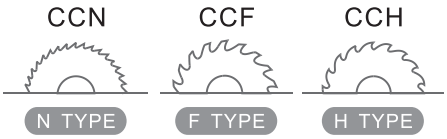
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
50	0.20	12.7	72	CCN-05000-0020-072-1270	CCF-05000-0020-072-1270
50	0.30	12.7	72	CCN-05000-0030-072-1270	CCF-05000-0030-072-1270
50	0.40	12.7	72	CCN-05000-0040-072-1270	CCF-05000-0040-072-1270
50	0.50	12.7	72	CCN-05000-0050-072-1270	CCF-05000-0050-072-1270
50	0.60	12.7	72	CCN-05000-0060-072-1270	CCF-05000-0060-072-1270
50	0.70	12.7	72	CCN-05000-0070-072-1270	CCF-05000-0070-072-1270
50	0.80	12.7	72	CCN-05000-0080-072-1270	CCF-05000-0080-072-1270
50	0.90	12.7	72	CCN-05000-0090-072-1270	CCF-05000-0090-072-1270
50	1.00	12.7	72	CCN-05000-0100-072-1270	CCF-05000-0100-072-1270
50	1.10	12.7	72	CCN-05000-0110-072-1270	CCF-05000-0110-072-1270
50	1.50	12.7	72	CCN-05000-0150-072-1270	CCF-05000-0150-072-1270
50	2.00	12.7	72	CCN-05000-0200-072-1270	CCF-05000-0200-072-1270
50	2.50	12.7	72	CCN-05000-0250-072-1270	CCF-05000-0250-072-1270
50	3.00	12.7	72	CCN-05000-0300-072-1270	CCF-05000-0300-072-1270

搭配鋸片柄 Slitting Saw Arbors P.200
切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼鋸片- 中齒數(56/72T)

SOLID CARBIDE SLITTING SAWS- Middle Teeth(56/72T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
70#28	0.32	25.4	56	CCN-07000-0032-056-2540	CCF-07000-0032-056-2540
70#27	0.36	25.4	56	CCN-07000-0036-056-2540	CCF-07000-0036-056-2540
70#26	0.40	25.4	56	CCN-07000-0040-056-2540	CCF-07000-0040-056-2540
70#25	0.45	25.4	56	CCN-07000-0045-056-2540	CCF-07000-0045-056-2540
70#24	0.51	25.4	56	CCN-07000-0051-056-2540	CCF-07000-0051-056-2540
70#23	0.57	25.4	56	CCN-07000-0057-056-2540	CCF-07000-0057-056-2540
70#22	0.64	25.4	56	CCN-07000-0064-056-2540	CCF-07000-0064-056-2540
70#21	0.72	25.4	56	CCN-07000-0072-056-2540	CCF-07000-0072-056-2540
70#20	0.81	25.4	56	CCN-07000-0081-056-2540	CCF-07000-0081-056-2540
70#19	0.91	25.4	56	CCN-07000-0091-056-2540	CCF-07000-0091-056-2540
70#18	1.02	25.4	56	CCN-07000-0102-056-2540	CCF-07000-0102-056-2540
70#17	1.15	25.4	56	CCN-07000-0115-056-2540	CCF-07000-0115-056-2540
70#16	1.29	25.4	56	CCN-07000-0129-056-2540	CCF-07000-0129-056-2540
70#15	1.45	25.4	56	CCN-07000-0145-056-2540	CCF-07000-0145-056-2540
70#14	1.63	25.4	56	CCN-07000-0163-056-2540	CCF-07000-0163-056-2540
70#13	1.83	25.4	56	CCN-07000-0183-056-2540	CCF-07000-0183-056-2540
70#12	2.05	25.4	56	CCN-07000-0205-056-2540	CCF-07000-0205-056-2540
70#11	2.30	25.4	56	CCN-07000-0230-056-2540	CCF-07000-0230-056-2540
70#10	2.59	25.4	56	CCN-07000-0259-056-2540	CCF-07000-0259-056-2540
70#9	2.91	25.4	56	CCN-07000-0291-056-2540	CCF-07000-0291-056-2540
70#8	3.26	25.4	56	CCN-07000-0326-056-2540	CCF-07000-0326-056-2540
70#7	3.67	25.4	56	CCN-07000-0367-056-2540	CCF-07000-0367-056-2540
70#6	4.12	25.4	56	CCN-07000-0412-056-2540	CCF-07000-0412-056-2540
70#5	4.62	25.4	56	CCN-07000-0462-056-2540	CCF-07000-0462-056-2540
70#4	5.19	25.4	56	CCN-07000-0519-056-2540	CCF-07000-0519-056-2540
70#30	0.25	25.4	72	CCN-07000-0025-072-2540	CCF-07000-0025-072-2540
70#29	0.29	25.4	72	CCN-07000-0029-072-2540	CCF-07000-0029-072-2540
70#28	0.32	25.4	72	CCN-07000-0032-072-2540	CCF-07000-0032-072-2540
70#27	0.36	25.4	72	CCN-07000-0036-072-2540	CCF-07000-0036-072-2540
70#26	0.40	25.4	72	CCN-07000-0040-072-2540	CCF-07000-0040-072-2540
70#25	0.45	25.4	72	CCN-07000-0045-072-2540	CCF-07000-0045-072-2540
70#24	0.51	25.4	72	CCN-07000-0051-072-2540	CCF-07000-0051-072-2540
70#23	0.57	25.4	72	CCN-07000-0057-072-2540	CCF-07000-0057-072-2540
70#22	0.64	25.4	72	CCN-07000-0064-072-2540	CCF-07000-0064-072-2540
70#21	0.72	25.4	72	CCN-07000-0072-072-2540	CCF-07000-0072-072-2540
70#20	0.81	25.4	72	CCN-07000-0081-072-2540	CCF-07000-0081-072-2540
70#19	0.91	25.4	72	CCN-07000-0091-072-2540	CCF-07000-0091-072-2540
70#18	1.02	25.4	72	CCN-07000-0102-072-2540	CCF-07000-0102-072-2540
70#17	1.15	25.4	72	CCN-07000-0115-072-2540	CCF-07000-0115-072-2540
70#16	1.29	25.4	72	CCN-07000-0129-072-2540	CCF-07000-0129-072-2540
70#15	1.45	25.4	72	CCN-07000-0145-072-2540	CCF-07000-0145-072-2540
70#14	1.63	25.4	72	CCN-07000-0163-072-2540	CCF-07000-0163-072-2540
70#13	1.83	25.4	72	CCN-07000-0183-072-2540	CCF-07000-0183-072-2540
70#12	2.05	25.4	72	CCN-07000-0205-072-2540	CCF-07000-0205-072-2540
70#11	2.30	25.4	72	CCN-07000-0230-072-2540	CCF-07000-0230-072-2540
70#10	2.59	25.4	72	CCN-07000-0259-072-2540	CCF-07000-0259-072-2540
70#9	2.91	25.4	72	CCN-07000-0291-072-2540	CCF-07000-0291-072-2540
70#8	3.26	25.4	72	CCN-07000-0326-072-2540	CCF-07000-0326-072-2540

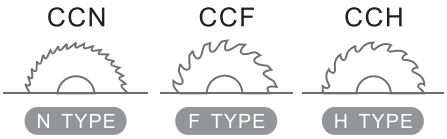
※ 說明: 70#28, 70 = 鋸片外徑 ; #28 = 鋸片厚度(日規番數)。

切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼鋸片- 細齒數(100/120T)

SOLID CARBIDE SLITTING SAWS- Fine Teeth(100/120T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
70#30	0.25	25.4	100	CCN-07000-0025-100-2540	CCF-07000-0025-100-2540
70#29	0.29	25.4	100	CCN-07000-0029-100-2540	CCF-07000-0029-100-2540
70#28	0.32	25.4	100	CCN-07000-0032-100-2540	CCF-07000-0032-100-2540
70#27	0.36	25.4	100	CCN-07000-0036-100-2540	CCF-07000-0036-100-2540
70#26	0.40	25.4	100	CCN-07000-0040-100-2540	CCF-07000-0040-100-2540
70#25	0.45	25.4	100	CCN-07000-0045-100-2540	CCF-07000-0045-100-2540
70#24	0.51	25.4	100	CCN-07000-0051-100-2540	CCF-07000-0051-100-2540
70#23	0.57	25.4	100	CCN-07000-0057-100-2540	CCF-07000-0057-100-2540
70#22	0.64	25.4	100	CCN-07000-0064-100-2540	CCF-07000-0064-100-2540
70#21	0.72	25.4	100	CCN-07000-0072-100-2540	CCF-07000-0072-100-2540
70#20	0.81	25.4	100	CCN-07000-0081-100-2540	CCF-07000-0081-100-2540
70#19	0.91	25.4	100	CCN-07000-0091-100-2540	CCF-07000-0091-100-2540
70#18	1.02	25.4	100	CCN-07000-0102-100-2540	CCF-07000-0102-100-2540
70#17	1.15	25.4	100	CCN-07000-0115-100-2540	CCF-07000-0115-100-2540
70#16	1.29	25.4	100	CCN-07000-0129-100-2540	CCF-07000-0129-100-2540
70#15	1.45	25.4	100	CCN-07000-0145-100-2540	CCF-07000-0145-100-2540
70#14	1.63	25.4	100	CCN-07000-0163-100-2540	CCF-07000-0163-100-2540
70#13	1.83	25.4	100	CCN-07000-0183-100-2540	CCF-07000-0183-100-2540
70#12	2.05	25.4	100	CCN-07000-0205-100-2540	CCF-07000-0205-100-2540
70#30	0.25	25.4	120	CCN-07000-0025-120-2540	CCF-07000-0025-120-2540
70#29	0.29	25.4	120	CCN-07000-0029-120-2540	CCF-07000-0029-120-2540
70#28	0.32	25.4	120	CCN-07000-0032-120-2540	CCF-07000-0032-120-2540
70#27	0.36	25.4	120	CCN-07000-0036-120-2540	CCF-07000-0036-120-2540
70#26	0.40	25.4	120	CCN-07000-0040-120-2540	CCF-07000-0040-120-2540
70#25	0.45	25.4	120	CCN-07000-0045-120-2540	CCF-07000-0045-120-2540
70#24	0.51	25.4	120	CCN-07000-0051-120-2540	CCF-07000-0051-120-2540
70#23	0.57	25.4	120	CCN-07000-0057-120-2540	CCF-07000-0057-120-2540
70#22	0.64	25.4	120	CCN-07000-0064-120-2540	CCF-07000-0064-120-2540
70#21	0.72	25.4	120	CCN-07000-0072-120-2540	CCF-07000-0072-120-2540
70#20	0.81	25.4	120	CCN-07000-0081-120-2540	CCF-07000-0081-120-2540
70#19	0.91	25.4	120	CCN-07000-0091-120-2540	CCF-07000-0091-120-2540
70#18	1.02	25.4	120	CCN-07000-0102-120-2540	CCF-07000-0102-120-2540
70#17	1.15	25.4	120	CCN-07000-0115-120-2540	CCF-07000-0115-120-2540
70#16	1.29	25.4	120	CCN-07000-0129-120-2540	CCF-07000-0129-120-2540
70#15	1.45	25.4	120	CCN-07000-0145-120-2540	CCF-07000-0145-120-2540
70#14	1.63	25.4	120	CCN-07000-0163-120-2540	CCF-07000-0163-120-2540
70#13	1.83	25.4	120	CCN-07000-0183-120-2540	CCF-07000-0183-120-2540
70#12	2.05	25.4	120	CCN-07000-0205-120-2540	CCF-07000-0205-120-2540

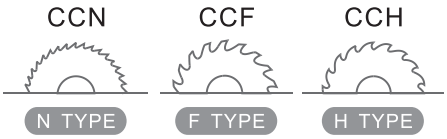
※ 說明: 70#28, 70 = 鋸片外徑 ; #28 = 鋸片厚度(日規番數)。

切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼鋸片- 中齒數(56/72T)

SOLID CARBIDE SLITTING SAWS- Middle Teeth(56/72T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

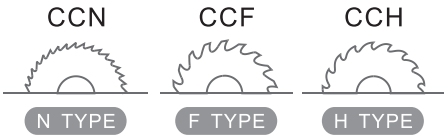
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
75	0.3	25.4	72	CCN-07500-0030-072-2540	CCF-07500-0030-072-2540
75	0.4	25.4	72	CCN-07500-0040-072-2540	CCF-07500-0040-072-2540
75	0.5	25.4	72	CCN-07500-0050-072-2540	CCF-07500-0050-072-2540
75	0.6	25.4	72	CCN-07500-0060-072-2540	CCF-07500-0060-072-2540
75	0.7	25.4	72	CCN-07500-0070-072-2540	CCF-07500-0070-072-2540
75	0.8	25.4	72	CCN-07500-0080-072-2540	CCF-07500-0080-072-2540
75	0.9	25.4	72	CCN-07500-0090-072-2540	CCF-07500-0090-072-2540
75	1.0	25.4	72	CCN-07500-0100-072-2540	CCF-07500-0100-072-2540
75	1.1	25.4	56	CCN-07500-0110-056-2540	CCF-07500-0110-056-2540
75	1.2	25.4	56	CCN-07500-0120-056-2540	CCF-07500-0120-056-2540
75	1.3	25.4	56	CCN-07500-0130-056-2540	CCF-07500-0130-056-2540
75	1.4	25.4	56	CCN-07500-0140-056-2540	CCF-07500-0140-056-2540
75	1.5	25.4	56	CCN-07500-0150-056-2540	CCF-07500-0150-056-2540
75	1.6	25.4	56	CCN-07500-0160-056-2540	CCF-07500-0160-056-2540
75	1.7	25.4	56	CCN-07500-0170-056-2540	CCF-07500-0170-056-2540
75	1.8	25.4	56	CCN-07500-0180-056-2540	CCF-07500-0180-056-2540
75	1.9	25.4	56	CCN-07500-0190-056-2540	CCF-07500-0190-056-2540
75	2.0	25.4	56	CCN-07500-0200-056-2540	CCF-07500-0200-056-2540
75	2.5	25.4	56	CCN-07500-0250-056-2540	CCF-07500-0250-056-2540
75	3.0	25.4	56	CCN-07500-0300-056-2540	CCF-07500-0300-056-2540
100	0.5	25.4	72	CCN-10000-0050-072-2540	CCF-10000-0050-072-2540
100	0.6	25.4	72	CCN-10000-0060-072-2540	CCF-10000-0060-072-2540
100	0.7	25.4	72	CCN-10000-0070-072-2540	CCF-10000-0070-072-2540
100	0.8	25.4	72	CCN-10000-0080-072-2540	CCF-10000-0080-072-2540
100	0.9	25.4	72	CCN-10000-0090-072-2540	CCF-10000-0090-072-2540
100	1.0	25.4	72	CCN-10000-0100-072-2540	CCF-10000-0100-072-2540
100	1.1	25.4	56	CCN-10000-0110-056-2540	CCF-10000-0110-056-2540
100	1.2	25.4	56	CCN-10000-0120-056-2540	CCF-10000-0120-056-2540
100	1.3	25.4	56	CCN-10000-0130-056-2540	CCF-10000-0130-056-2540
100	1.4	25.4	56	CCN-10000-0140-056-2540	CCF-10000-0140-056-2540
100	1.5	25.4	56	CCN-10000-0150-056-2540	CCF-10000-0150-056-2540
100	1.6	25.4	56	CCN-10000-0160-056-2540	CCF-10000-0160-056-2540
100	1.7	25.4	56	CCN-10000-0170-056-2540	CCF-10000-0170-056-2540
100	1.8	25.4	56	CCN-10000-0180-056-2540	CCF-10000-0180-056-2540
100	1.9	25.4	56	CCN-10000-0190-056-2540	CCF-10000-0190-056-2540
100	2.0	25.4	56	CCN-10000-0200-056-2540	CCF-10000-0200-056-2540
100	2.5	25.4	56	CCN-10000-0250-056-2540	CCF-10000-0250-056-2540
100	3.0	25.4	56	CCN-10000-0300-056-2540	CCF-10000-0300-056-2540

切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼鋸片- 中齒數(72T)細齒數(100T)

SOLID CARBIDE SLITTING SAWS- Middle Teeth(72T)/Fine Teeth(100T)

※CCH：鉤齒型鋸片→依需求生產
※CCH Type is on request.



Milling Table 62

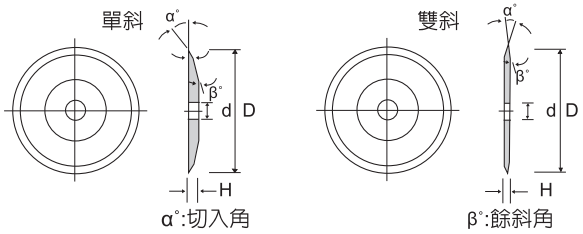
外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
125	0.8	25.4	100	CCN-12500-0080-100-2540	CCF-12500-0080-100-2540
125	1.0	25.4	100	CCN-12500-0100-100-2540	CCF-12500-0100-100-2540
125	1.2	25.4	72	CCN-12500-0120-072-2540	CCF-12500-0120-072-2540
125	1.5	25.4	72	CCN-12500-0150-072-2540	CCF-12500-0150-072-2540
125	2.0	25.4	72	CCN-12500-0200-072-2540	CCF-12500-0200-072-2540
125	2.5	25.4	72	CCN-12500-0250-072-2540	CCF-12500-0250-072-2540
125	3.0	25.4	72	CCN-12500-0300-072-2540	CCF-12500-0300-072-2540

外徑 D	厚度 H	內徑 d	齒數 T	CCN 訂購編號 CCN Order No.	CCF 訂購編號 CCF Order No.
150	1.0	25.4	100	CCN-15000-0100-100-2540	CCF-15000-0100-100-2540
150	1.2	25.4	100	CCN-15000-0120-100-2540	CCF-15000-0120-100-2540
150	1.6	25.4	100	CCN-15000-0160-100-2540	CCF-15000-0160-100-2540
150	2.0	25.4	100	CCN-15000-0200-100-2540	CCF-15000-0200-100-2540
150	2.5	25.4	100	CCN-15000-0250-100-2540	CCF-15000-0250-100-2540
150	3.0	25.4	100	CCN-15000-0300-100-2540	CCF-15000-0300-100-2540
150	4.0	25.4	100	CCN-15000-0400-100-2540	CCF-15000-0400-100-2540
150	5.0	25.4	100	CCN-15000-0500-100-2540	CCF-15000-0500-100-2540

切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

鎢鋼圓刀

SOLID CARBIDE CIRCULAR KNIVES



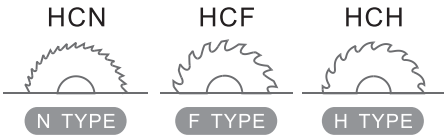
α°:切入角　　β°:餘斜角

外徑 D	厚度 H	內徑 d	CB(單斜雙角)訂 購 編 號 CB(Single Bevel With Top Bevel) Order No.	CB(雙斜單角)訂 購 編 號 CB(Double Bevel) Order No.
50	0.5	25.4	CB2-05000-0050-2540	CB3-05000-0050-2540
50	1.0	25.4	CB2-05000-0100-2540	CB3-05000-0100-2540
50	1.5	25.4	CB2-05000-0150-2540	CB3-05000-0150-2540
50	2.0	25.4	CB2-05000-0200-2540	CB3-05000-0200-2540
60	0.5	25.4	CB2-06000-0050-2540	CB3-06000-0050-2540
60	1.0	25.4	CB2-06000-0100-2540	CB3-06000-0100-2540
60	1.5	25.4	CB2-06000-0150-2540	CB3-06000-0150-2540
60	2.0	25.4	CB2-06000-0200-2540	CB3-06000-0200-2540
75	0.5	25.4	CB2-07500-0050-2540	CB3-07500-0050-2540
75	1.0	25.4	CB2-07500-0100-2540	CB3-07500-0100-2540
75	1.5	25.4	CB2-07500-0150-2540	CB3-07500-0150-2540
75	2.0	25.4	CB2-07500-0200-2540	CB3-07500-0200-2540
90	1.0	25.4	CB2-09000-0100-2540	CB3-09000-0100-2540
90	1.5	25.4	CB2-09000-0150-2540	CB3-09000-0150-2540
90	2.0	25.4	CB2-09000-0200-2540	CB3-09000-0200-2540
100	1.0	25.4	CB2-10000-0100-2540	CB3-10000-0100-2540
100	1.5	25.4	CB2-10000-0150-2540	CB3-10000-0150-2540
100	2.0	25.4	CB2-10000-0200-2540	CB3-10000-0200-2540
125	1.5	25.4	CB2-12500-0150-2540	CB3-12500-0150-2540
125	2.0	25.4	CB2-12500-0200-2540	CB3-12500-0200-2540

高速鋼小徑鋸片- 細齒數(90/120T)

HIGH SPEED STEEL SLITTING SAWS- Small Diameter- Fine Teeth(90/120T)

※HCH：鉤齒型鋸片→依需求生產！
※HCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
30	0.20	6	120	HCN-03000-0020-120-0600	HCF-03000-0020-120-0600
30	0.25	6	120	HCN-03000-0025-120-0600	HCF-03000-0025-120-0600
30	0.30	6	120	HCN-03000-0030-120-0600	HCF-03000-0030-120-0600
30	0.40	6	120	HCN-03000-0040-120-0600	HCF-03000-0040-120-0600
30	0.50	6	120	HCN-03000-0050-120-0600	HCF-03000-0050-120-0600
30	0.60	6	120	HCN-03000-0060-120-0600	HCF-03000-0060-120-0600
30	0.70	6	120	HCN-03000-0070-120-0600	HCF-03000-0070-120-0600
30	0.80	6	120	HCN-03000-0080-120-0600	HCF-03000-0080-120-0600
30	0.90	6	120	HCN-03000-0090-120-0600	HCF-03000-0090-120-0600
30	1.00	6	120	HCN-03000-0100-120-0600	HCF-03000-0100-120-0600
30	1.20	6	90	HCN-03000-0120-090-0600	HCF-03000-0120-090-0600
30	1.50	6	90	HCN-03000-0150-090-0600	HCF-03000-0150-090-0600
30	2.00	6	90	HCN-03000-0200-090-0600	HCF-03000-0200-090-0600

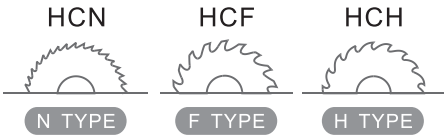
外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
45	0.20	12.7	90	HCN-04500-0020-090-1270	HCF-04500-0020-090-1270
45	0.25	12.7	90	HCN-04500-0025-090-1270	HCF-04500-0025-090-1270
45	0.30	12.7	90	HCN-04500-0030-090-1270	HCF-04500-0030-090-1270
45	0.40	12.7	90	HCN-04500-0040-090-1270	HCF-04500-0040-090-1270
45	0.50	12.7	90	HCN-04500-0050-090-1270	HCF-04500-0050-090-1270
45	0.60	12.7	90	HCN-04500-0060-090-1270	HCF-04500-0060-090-1270
45	0.70	12.7	90	HCN-04500-0070-090-1270	HCF-04500-0070-090-1270
45	0.80	12.7	90	HCN-04500-0080-090-1270	HCF-04500-0080-090-1270
45	0.90	12.7	90	HCN-04500-0090-090-1270	HCF-04500-0090-090-1270
45	1.00	12.7	90	HCN-04500-0100-090-1270	HCF-04500-0100-090-1270
45	1.50	12.7	90	HCN-04500-0150-090-1270	HCF-04500-0150-090-1270
45	2.00	12.7	90	HCN-04500-0200-090-1270	HCF-04500-0200-090-1270
45	2.50	12.7	90	HCN-04500-0250-090-1270	HCF-04500-0250-090-1270
45	3.00	12.7	90	HCN-04500-0300-090-1270	HCF-04500-0300-090-1270

→ 搭配鋸片柄 Slitting Saw Arbors P.200
→ 切削條件表 Cutting Condition P.567
→ 技術資料 Technical Data P.639

高速鋼鋸片- 中齒數(56T/72T)

HIGH SPEED STEEL SLITTING SAWS- Middle Teeth(56/72T)

※HCH：鉤齒型鋸片→依需求生產！
※HCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
70#28	0.32	25.4	56	HCN-07000-0032-056-2540	HCF-07000-0032-056-2540
70#27	0.36	25.4	56	HCN-07000-0036-056-2540	HCF-07000-0036-056-2540
70#26	0.40	25.4	56	HCN-07000-0040-056-2540	HCF-07000-0040-056-2540
70#25	0.45	25.4	56	HCN-07000-0045-056-2540	HCF-07000-0045-056-2540
70#24	0.51	25.4	56	HCN-07000-0051-056-2540	HCF-07000-0051-056-2540
70#23	0.57	25.4	56	HCN-07000-0057-056-2540	HCF-07000-0057-056-2540
70#22	0.64	25.4	56	HCN-07000-0064-056-2540	HCF-07000-0064-056-2540
70#21	0.72	25.4	56	HCN-07000-0072-056-2540	HCF-07000-0072-056-2540
70#20	0.81	25.4	56	HCN-07000-0081-056-2540	HCF-07000-0081-056-2540
70#19	0.91	25.4	56	HCN-07000-0091-056-2540	HCF-07000-0091-056-2540
70#18	1.02	25.4	56	HCN-07000-0102-056-2540	HCF-07000-0102-056-2540
70#17	1.15	25.4	56	HCN-07000-0115-056-2540	HCF-07000-0115-056-2540
70#16	1.29	25.4	56	HCN-07000-0129-056-2540	HCF-07000-0129-056-2540
70#15	1.45	25.4	56	HCN-07000-0145-056-2540	HCF-07000-0145-056-2540
70#14	1.63	25.4	56	HCN-07000-0163-056-2540	HCF-07000-0163-056-2540
70#13	1.83	25.4	56	HCN-07000-0183-056-2540	HCF-07000-0183-056-2540
70#12	2.05	25.4	56	HCN-07000-0205-056-2540	HCF-07000-0205-056-2540
70#11	2.30	25.4	56	HCN-07000-0230-056-2540	HCF-07000-0230-056-2540
70#10	2.59	25.4	56	HCN-07000-0259-056-2540	HCF-07000-0259-056-2540
70#9	2.91	25.4	56	HCN-07000-0291-056-2540	HCF-07000-0291-056-2540
70#8	3.26	25.4	56	HCN-07000-0326-056-2540	HCF-07000-0326-056-2540
70#7	3.67	25.4	56	HCN-07000-0367-056-2540	HCF-07000-0367-056-2540
70#6	4.12	25.4	56	HCN-07000-0412-056-2540	HCF-07000-0412-056-2540
70#5	4.62	25.4	56	HCN-07000-0462-056-2540	HCF-07000-0462-056-2540
70#4	5.19	25.4	56	HCN-07000-0519-056-2540	HCF-07000-0519-056-2540
外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
70#30	0.25	25.4	72	HCN-07000-0025-072-2540	HCF-07000-0025-072-2540
70#29	0.29	25.4	72	HCN-07000-0029-072-2540	HCF-07000-0029-072-2540
70#28	0.32	25.4	72	HCN-07000-0032-072-2540	HCF-07000-0032-072-2540
70#27	0.36	25.4	72	HCN-07000-0036-072-2540	HCF-07000-0036-072-2540
70#26	0.40	25.4	72	HCN-07000-0040-072-2540	HCF-07000-0040-072-2540
70#25	0.45	25.4	72	HCN-07000-0045-072-2540	HCF-07000-0045-072-2540
70#24	0.51	25.4	72	HCN-07000-0051-072-2540	HCF-07000-0051-072-2540
70#23	0.57	25.4	72	HCN-07000-0057-072-2540	HCF-07000-0057-072-2540
70#22	0.64	25.4	72	HCN-07000-0064-072-2540	HCF-07000-0064-072-2540
70#21	0.72	25.4	72	HCN-07000-0072-072-2540	HCF-07000-0072-072-2540
70#20	0.81	25.4	72	HCN-07000-0081-072-2540	HCF-07000-0081-072-2540
70#19	0.91	25.4	72	HCN-07000-0091-072-2540	HCF-07000-0091-072-2540
70#18	1.02	25.4	72	HCN-07000-0102-072-2540	HCF-07000-0102-072-2540
70#17	1.15	25.4	72	HCN-07000-0115-072-2540	HCF-07000-0115-072-2540
70#16	1.29	25.4	72	HCN-07000-0129-072-2540	HCF-07000-0129-072-2540
70#15	1.45	25.4	72	HCN-07000-0145-072-2540	HCF-07000-0145-072-2540
70#14	1.63	25.4	72	HCN-07000-0163-072-2540	HCF-07000-0163-072-2540
70#13	1.83	25.4	72	HCN-07000-0183-072-2540	HCF-07000-0183-072-2540
70#12	2.05	25.4	72	HCN-07000-0205-072-2540	HCF-07000-0205-072-2540
70#11	2.30	25.4	72	HCN-07000-0230-072-2540	HCF-07000-0230-072-2540
70#10	2.59	25.4	72	HCN-07000-0259-072-2540	HCF-07000-0259-072-2540
70#9	2.91	25.4	72	HCN-07000-0291-072-2540	HCF-07000-0291-072-2540
70#8	3.26	25.4	72	HCN-07000-0326-072-2540	HCF-07000-0326-072-2540

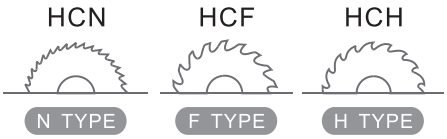
※ 說明: 70#28, 70 = 鋸片外徑 ; #28 = 鋸片厚度(日規番數)。

切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

高速鋼鋸片- 中齒數(56/72T)細齒數(100T)

HIGH SPEED STEEL SLITTINGSAW- Middle Teeth(56/72T)/Fine Teeth(100T)

※HCH：鉤齒型鋸片→依需求生產！
※HCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
70#30	0.25	25.4	100	HCN-07000-0025-100-2540	HCF-07000-0025-100-2540
70#29	0.29	25.4	100	HCN-07000-0029-100-2540	HCF-07000-0029-100-2540
70#28	0.32	25.4	100	HCN-07000-0032-100-2540	HCF-07000-0032-100-2540
70#27	0.36	25.4	100	HCN-07000-0036-100-2540	HCF-07000-0036-100-2540
70#26	0.40	25.4	100	HCN-07000-0040-100-2540	HCF-07000-0040-100-2540
70#25	0.45	25.4	100	HCN-07000-0045-100-2540	HCF-07000-0045-100-2540
70#24	0.51	25.4	100	HCN-07000-0051-100-2540	HCF-07000-0051-100-2540
70#23	0.57	25.4	100	HCN-07000-0057-100-2540	HCF-07000-0057-100-2540
70#22	0.64	25.4	100	HCN-07000-0064-100-2540	HCF-07000-0064-100-2540
70#21	0.72	25.4	100	HCN-07000-0072-100-2540	HCF-07000-0072-100-2540
70#20	0.81	25.4	100	HCN-07000-0081-100-2540	HCF-07000-0081-100-2540
70#19	0.91	25.4	100	HCN-07000-0091-100-2540	HCF-07000-0091-100-2540
70#18	1.02	25.4	100	HCN-07000-0102-100-2540	HCF-07000-0102-100-2540
70#17	1.15	25.4	100	HCN-07000-0115-100-2540	HCF-07000-0115-100-2540
70#16	1.29	25.4	100	HCN-07000-0129-100-2540	HCF-07000-0129-100-2540
70#15	1.45	25.4	100	HCN-07000-0145-100-2540	HCF-07000-0145-100-2540
70#14	1.63	25.4	100	HCN-07000-0163-100-2540	HCF-07000-0163-100-2540
70#13	1.83	25.4	100	HCN-07000-0183-100-2540	HCF-07000-0183-100-2540
70#12	2.05	25.4	100	HCN-07000-0205-100-2540	HCF-07000-0205-100-2540

外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
75	0.3	25.4	72	HCN-07500-0030-072-2540	HCF-07500-0030-072-2540
75	0.4	25.4	72	HCN-07500-0040-072-2540	HCF-07500-0040-072-2540
75	0.5	25.4	72	HCN-07500-0050-072-2540	HCF-07500-0050-072-2540
75	0.6	25.4	72	HCN-07500-0060-072-2540	HCF-07500-0060-072-2540
75	0.7	25.4	72	HCN-07500-0070-072-2540	HCF-07500-0070-072-2540
75	0.8	25.4	72	HCN-07500-0080-072-2540	HCF-07500-0080-072-2540
75	0.9	25.4	72	HCN-07500-0090-072-2540	HCF-07500-0090-072-2540
75	1.0	25.4	72	HCN-07500-0100-072-2540	HCF-07500-0100-072-2540
75	1.1	25.4	56	HCN-07500-0110-056-2540	HCF-07500-0110-056-2540
75	1.2	25.4	56	HCN-07500-0120-056-2540	HCF-07500-0120-056-2540
75	1.3	25.4	56	HCN-07500-0130-056-2540	HCF-07500-0130-056-2540
75	1.4	25.4	56	HCN-07500-0140-056-2540	HCF-07500-0140-056-2540
75	1.5	25.4	56	HCN-07500-0150-056-2540	HCF-07500-0150-056-2540
75	1.6	25.4	56	HCN-07500-0160-056-2540	HCF-07500-0160-056-2540
75	1.7	25.4	56	HCN-07500-0170-056-2540	HCF-07500-0170-056-2540
75	1.8	25.4	56	HCN-07500-0180-056-2540	HCF-07500-0180-056-2540
75	1.9	25.4	56	HCN-07500-0190-056-2540	HCF-07500-0190-056-2540
75	2.0	25.4	56	HCN-07500-0200-056-2540	HCF-07500-0200-056-2540
75	2.5	25.4	56	HCN-07500-0250-056-2540	HCF-07500-0250-056-2540
75	3.0	25.4	56	HCN-07500-0300-056-2540	HCF-07500-0300-056-2540

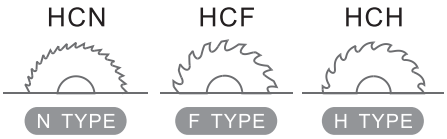
※ 說明: 70#28, 70 = 鋸片外徑 ; #28 = 鋸片厚度(日規番數)。

➡ 切削條件表 Cutting Condition P.567
➡ 技術資料 Technical Data P.639

高速鋼鋸片- 中齒數(56/72T)/細齒數(100T)

HIGH SPEED STEEL SLITTING SAWS- Middle Teeth(56/72T)/Fine Teeth(100T)

※HCH：鉤齒型鋸片→依需求生產！
※HCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	HCN訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
100	0.5	25.4	72	HCN-10000-0050-072-2540	HCF-10000-0050-072-2540
100	0.6	25.4	72	HCN-10000-0060-072-2540	HCF-10000-0060-072-2540
100	0.7	25.4	72	HCN-10000-0070-072-2540	HCF-10000-0070-072-2540
100	0.8	25.4	72	HCN-10000-0080-072-2540	HCF-10000-0080-072-2540
100	0.9	25.4	72	HCN-10000-0090-072-2540	HCF-10000-0090-072-2540
100	1.0	25.4	72	HCN-10000-0100-072-2540	HCF-10000-0100-072-2540
100	1.1	25.4	56	HCN-10000-0110-056-2540	HCF-10000-0110-056-2540
100	1.2	25.4	56	HCN-10000-0120-056-2540	HCF-10000-0120-056-2540
100	1.3	25.4	56	HCN-10000-0130-056-2540	HCF-10000-0130-056-2540
100	1.4	25.4	56	HCN-10000-0140-056-2540	HCF-10000-0140-056-2540
100	1.5	25.4	56	HCN-10000-0150-056-2540	HCF-10000-0150-056-2540
100	1.6	25.4	56	HCN-10000-0160-056-2540	HCF-10000-0160-056-2540
100	1.7	25.4	56	HCN-10000-0170-056-2540	HCF-10000-0170-056-2540
100	1.8	25.4	56	HCN-10000-0180-056-2540	HCF-10000-0180-056-2540
100	1.9	25.4	56	HCN-10000-0190-056-2540	HCF-10000-0190-056-2540
100	2.0	25.4	56	HCN-10000-0200-056-2540	HCF-10000-0200-056-2540
100	2.5	25.4	56	HCN-10000-0250-056-2540	HCF-10000-0250-056-2540
100	3.0	25.4	56	HCN-10000-0300-056-2540	HCF-10000-0300-056-2540

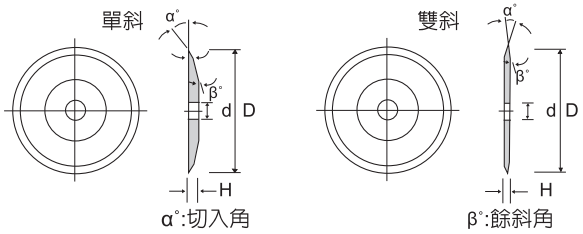
外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
125	0.8	25.4	100	HCN-12500-0080-100-2540	HCF-12500-0080-100-2540
125	1.0	25.4	100	HCN-12500-0100-100-2540	HCF-12500-0100-100-2540
125	1.2	25.4	72	HCN-12500-0120-072-2540	HCF-12500-0120-072-2540
125	1.5	25.4	72	HCN-12500-0150-072-2540	HCF-12500-0150-072-2540
125	2.0	25.4	72	HCN-12500-0200-072-2540	HCF-12500-0200-072-2540
125	2.5	25.4	72	HCN-12500-0250-072-2540	HCF-12500-0250-072-2540
125	3.0	25.4	72	HCN-12500-0300-072-2540	HCF-12500-0300-072-2540

外徑 D	厚度 H	內徑 d	齒數 T	HCN 訂購編號 HCN Order No.	HCF 訂購編號 HCF Order No.
150	1.0	25.4	100	HCN-15000-0100-100-2540	HCF-15000-0100-100-2540
150	1.2	25.4	100	HCN-15000-0120-100-2540	HCF-15000-0120-100-2540
150	1.6	25.4	100	HCN-15000-0160-100-2540	HCF-15000-0160-100-2540
150	2.0	25.4	100	HCN-15000-0200-100-2540	HCF-15000-0200-100-2540
150	2.5	25.4	100	HCN-15000-0250-100-2540	HCF-15000-0250-100-2540
150	3.0	25.4	100	HCN-15000-0300-100-2540	HCF-15000-0300-100-2540
150	4.0	25.4	100	HCN-15000-0400-100-2540	HCF-15000-0400-100-2540
150	5.0	25.4	100	HCN-15000-0500-100-2540	HCF-15000-0500-100-2540

➡ 切削條件表 Cutting Condition P.567 ➡ 技術資料 Technical Data P.639

高速鋼圓刀

HIGH SPEED STEEL CIRCULAR KNIVES



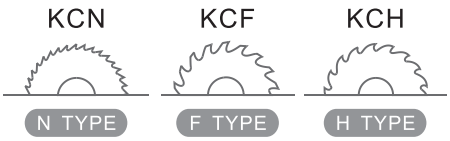
α°:切入角　　β°:餘斜角

外徑 D	厚度 H	內徑 d	HB(單斜雙角)訂 購 編 號 HB(Single Bevel With Top Bevel) Order No.	HB(雙斜單角)訂 購 編 號 HB(Double Bevel) Order No.
50	0.5	25.4	HB2-05000-0050-2540	HB3-05000-0050-2540
50	1.0	25.4	HB2-05000-0100-2540	HB3-05000-0100-2540
50	1.5	25.4	HB2-05000-0150-2540	HB3-05000-0150-2540
50	2.0	25.4	HB2-05000-0200-2540	HB3-05000-0200-2540
60	0.5	25.4	HB2-06000-0050-2540	HB3-06000-0050-2540
60	1.0	25.4	HB2-06000-0100-2540	HB3-06000-0100-2540
60	1.5	25.4	HB2-06000-0150-2540	HB3-06000-0150-2540
60	2.0	25.4	HB2-06000-0200-2540	HB3-06000-0200-2540
75	0.5	25.4	HB2-07500-0050-2540	HB3-07500-0050-2540
75	1.0	25.4	HB2-07500-0100-2540	HB3-07500-0100-2540
75	1.5	25.4	HB2-07500-0150-2540	HB3-07500-0150-2540
75	2.0	25.4	HB2-07500-0200-2540	HB3-07500-0200-2540
90	1.0	25.4	HB2-09000-0100-2540	HB3-09000-0100-2540
90	1.5	25.4	HB2-09000-0150-2540	HB3-09000-0150-2540
90	2.0	25.4	HB2-09000-0200-2540	HB3-09000-0200-2540
100	1.0	25.4	HB2-10000-0100-2540	HB3-10000-0100-2540
100	1.5	25.4	HB2-10000-0150-2540	HB3-10000-0150-2540
100	2.0	25.4	HB2-10000-0200-2540	HB3-10000-0200-2540
125	1.5	25.4	HB2-12500-0150-2540	HB3-12500-0150-2540
125	2.0	25.4	HB2-12500-0200-2540	HB3-12500-0200-2540
150	2.0	25.4	HB2-15000-0200-2540	HB3-15000-0200-2540
150	2.5	25.4	HB2-15000-0250-2540	HB3-15000-0250-2540
200	2.0	25.4	HB2-20000-0200-2540	HB3-20000-0200-2540
200	2.5	25.4	HB2-20000-0250-2540	HB3-20000-0250-2540
200	3.0	25.4	HB2-20000-0300-2540	HB3-20000-0300-2540
250	2.0	25.4	HB2-25000-0200-2540	HB3-25000-0200-2540
250	3.0	25.4	HB2-25000-0300-2540	HB3-25000-0300-2540

高鈷鋼小徑鋸片- 細齒數(90/120T)

HIGH SPEED STEEL WITH COBALT SLITTING SAWS- Small Diameter- Fine Teeth(90/120T)

※KCH：鉤齒型鋸片→依需求生產！
※KCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
30	0.20	6	120	KCN-03000-0020-120-0600	KCF-03000-0020-120-0600
30	0.25	6	120	KCN-03000-0025-120-0600	KCF-03000-0025-120-0600
30	0.30	6	120	KCN-03000-0030-120-0600	KCF-03000-0030-120-0600
30	0.40	6	120	KCN-03000-0040-120-0600	KCF-03000-0040-120-0600
30	0.50	6	120	KCN-03000-0050-120-0600	KCF-03000-0050-120-0600
30	0.60	6	120	KCN-03000-0060-120-0600	KCF-03000-0060-120-0600
30	0.70	6	120	KCN-03000-0070-120-0600	KCF-03000-0070-120-0600
30	0.80	6	120	KCN-03000-0080-120-0600	KCF-03000-0080-120-0600
30	0.90	6	120	KCN-03000-0090-120-0600	KCF-03000-0090-120-0600
30	1.00	6	120	KCN-03000-0100-120-0600	KCF-03000-0100-120-0600
30	1.20	6	90	KCN-03000-0120-090-0600	KCF-03000-0120-090-0600
30	1.50	6	90	KCN-03000-0150-090-0600	KCF-03000-0150-090-0600
30	2.00	6	90	KCN-03000-0200-090-0600	KCF-03000-0200-090-0600

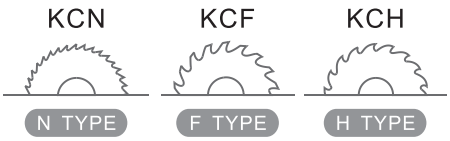
外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
45	0.20	12.7	90	KCN-04500-0020-090-1270	KCF-04500-0020-090-1270
45	0.25	12.7	90	KCN-04500-0025-090-1270	KCF-04500-0025-090-1270
45	0.30	12.7	90	KCN-04500-0030-090-1270	KCF-04500-0030-090-1270
45	0.40	12.7	90	KCN-04500-0040-090-1270	KCF-04500-0040-090-1270
45	0.50	12.7	90	KCN-04500-0050-090-1270	KCF-04500-0050-090-1270
45	0.60	12.7	90	KCN-04500-0060-090-1270	KCF-04500-0060-090-1270
45	0.70	12.7	90	KCN-04500-0070-090-1270	KCF-04500-0070-090-1270
45	0.80	12.7	90	KCN-04500-0080-090-1270	KCF-04500-0080-090-1270
45	0.90	12.7	90	KCN-04500-0090-090-1270	KCF-04500-0090-090-1270
45	1.00	12.7	90	KCN-04500-0100-090-1270	KCF-04500-0100-090-1270
45	1.50	12.7	90	KCN-04500-0150-090-1270	KCF-04500-0150-090-1270
45	2.00	12.7	90	KCN-04500-0200-090-1270	KCF-04500-0200-090-1270
45	2.50	12.7	90	KCN-04500-0250-090-1270	KCF-04500-0250-090-1270
45	3.00	12.7	90	KCN-04500-0300-090-1270	KCF-04500-0300-090-1270

→ 搭配鋸片柄 Slitting Saw Arbors P.200
→ 切削條件表 Cutting Condition P.567
→ 技術資料 Technical Data P.639

高鈷鋼鋸片- 中齒數(56/72T)

HIGH SPEED STELL WITH COBALT SLITTING SAWS-Middle Teeth(56/72T)

※KCH：鉤齒型鋸片→依需求生產！
※KCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
70#28	0.32	25.4	56	KCN-07000-0032-056-2540	KCF-07000-0032-056-2540
70#27	0.36	25.4	56	KCN-07000-0036-056-2540	KCF-07000-0036-056-2540
70#26	0.40	25.4	56	KCN-07000-0040-056-2540	KCF-07000-0040-056-2540
70#25	0.45	25.4	56	KCN-07000-0045-056-2540	KCF-07000-0045-056-2540
70#24	0.51	25.4	56	KCN-07000-0051-056-2540	KCF-07000-0051-056-2540
70#23	0.57	25.4	56	KCN-07000-0057-056-2540	KCF-07000-0057-056-2540
70#22	0.64	25.4	56	KCN-07000-0064-056-2540	KCF-07000-0064-056-2540
70#21	0.72	25.4	56	KCN-07000-0072-056-2540	KCF-07000-0072-056-2540
70#20	0.81	25.4	56	KCN-07000-0081-056-2540	KCF-07000-0081-056-2540
70#19	0.91	25.4	56	KCN-07000-0091-056-2540	KCF-07000-0091-056-2540
70#18	1.02	25.4	56	KCN-07000-0102-056-2540	KCF-07000-0102-056-2540
70#17	1.15	25.4	56	KCN-07000-0115-056-2540	KCF-07000-0115-056-2540
70#16	1.29	25.4	56	KCN-07000-0129-056-2540	KCF-07000-0129-056-2540
70#15	1.45	25.4	56	KCN-07000-0145-056-2540	KCF-07000-0145-056-2540
70#14	1.63	25.4	56	KCN-07000-0163-056-2540	KCF-07000-0163-056-2540
70#13	1.83	25.4	56	KCN-07000-0183-056-2540	KCF-07000-0183-056-2540
70#12	2.05	25.4	56	KCN-07000-0205-056-2540	KCF-07000-0205-056-2540
70#11	2.30	25.4	56	KCN-07000-0230-056-2540	KCF-07000-0230-056-2540
70#10	2.59	25.4	56	KCN-07000-0259-056-2540	KCF-07000-0259-056-2540
70#9	2.91	25.4	56	KCN-07000-0291-056-2540	KCF-07000-0291-056-2540
70#8	3.26	25.4	56	KCN-07000-0326-056-2540	KCF-07000-0326-056-2540
70#7	3.67	25.4	56	KCN-07000-0367-056-2540	KCF-07000-0367-056-2540
70#6	4.12	25.4	56	KCN-07000-0412-056-2540	KCF-07000-0412-056-2540
70#5	4.62	25.4	56	KCN-07000-0462-056-2540	KCF-07000-0462-056-2540
70#4	5.19	25.4	56	KCN-07000-0519-056-2540	KCF-07000-0519-056-2540
外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
70#30	0.25	25.4	72	KCN-07000-0025-072-2540	KCF-07000-0025-072-2540
70#29	0.29	25.4	72	KCN-07000-0029-072-2540	KCF-07000-0029-072-2540
70#28	0.32	25.4	72	KCN-07000-0032-072-2540	KCF-07000-0032-072-2540
70#27	0.36	25.4	72	KCN-07000-0036-072-2540	KCF-07000-0036-072-2540
70#26	0.40	25.4	72	KCN-07000-0040-072-2540	KCF-07000-0040-072-2540
70#25	0.45	25.4	72	KCN-07000-0045-072-2540	KCF-07000-0045-072-2540
70#24	0.51	25.4	72	KCN-07000-0051-072-2540	KCF-07000-0051-072-2540
70#23	0.57	25.4	72	KCN-07000-0057-072-2540	KCF-07000-0057-072-2540
70#22	0.64	25.4	72	KCN-07000-0064-072-2540	KCF-07000-0064-072-2540
70#21	0.72	25.4	72	KCN-07000-0072-072-2540	KCF-07000-0072-072-2540
70#20	0.81	25.4	72	KCN-07000-0081-072-2540	KCF-07000-0081-072-2540
70#19	0.91	25.4	72	KCN-07000-0091-072-2540	KCF-07000-0091-072-2540
70#18	1.02	25.4	72	KCN-07000-0102-072-2540	KCF-07000-0102-072-2540
70#17	1.15	25.4	72	KCN-07000-0115-072-2540	KCF-07000-0115-072-2540
70#16	1.29	25.4	72	KCN-07000-0129-072-2540	KCF-07000-0129-072-2540
70#15	1.45	25.4	72	KCN-07000-0145-072-2540	KCF-07000-0145-072-2540
70#14	1.63	25.4	72	KCN-07000-0163-072-2540	KCF-07000-0163-072-2540
70#13	1.83	25.4	72	KCN-07000-0183-072-2540	KCF-07000-0183-072-2540
70#12	2.05	25.4	72	KCN-07000-0205-072-2540	KCF-07000-0205-072-2540
70#11	2.30	25.4	72	KCN-07000-0230-072-2540	KCF-07000-0230-072-2540
70#10	2.59	25.4	72	KCN-07000-0259-072-2540	KCF-07000-0259-072-2540
70#9	2.91	25.4	72	KCN-07000-0291-072-2540	KCF-07000-0291-072-2540
70#8	3.26	25.4	72	KCN-07000-0326-072-2540	KCF-07000-0326-072-2540

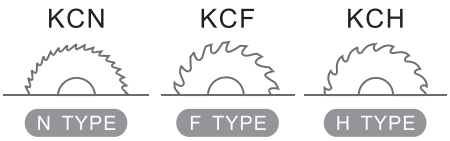
※ 說明: 70#28, 70 = 鋸片外徑 ; #28 = 鋸片厚度(日規番數)。

➡ 切削條件表 Cutting Condition P.567
➡ 技術資料 Technical Data P.639

高鈷鋼鋸片- 中齒數(56/72T)細齒數(100T)

HIGH SPEED STEEL WITH COBALT SLITTING SAWS- Middle Teeth(56/72T)/Fine Teeth(100T)

※KCH：鉤齒型鋸片→依需求生產！
※KCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
70#30	0.25	25.4	100	KCN-07000-0025-100-2540	KCF-07000-0025-100-2540
70#29	0.29	25.4	100	KCN-07000-0029-100-2540	KCF-07000-0029-100-2540
70#28	0.32	25.4	100	KCN-07000-0032-100-2540	KCF-07000-0032-100-2540
70#27	0.36	25.4	100	KCN-07000-0036-100-2540	KCF-07000-0036-100-2540
70#26	0.40	25.4	100	KCN-07000-0040-100-2540	KCF-07000-0040-100-2540
70#25	0.45	25.4	100	KCN-07000-0045-100-2540	KCF-07000-0045-100-2540
70#24	0.51	25.4	100	KCN-07000-0051-100-2540	KCF-07000-0051-100-2540
70#23	0.57	25.4	100	KCN-07000-0057-100-2540	KCF-07000-0057-100-2540
70#22	0.64	25.4	100	KCN-07000-0064-100-2540	KCF-07000-0064-100-2540
70#21	0.72	25.4	100	KCN-07000-0072-100-2540	KCF-07000-0072-100-2540
70#20	0.81	25.4	100	KCN-07000-0081-100-2540	KCF-07000-0081-100-2540
70#19	0.91	25.4	100	KCN-07000-0091-100-2540	KCF-07000-0091-100-2540
70#18	1.02	25.4	100	KCN-07000-0102-100-2540	KCF-07000-0102-100-2540
70#17	1.15	25.4	100	KCN-07000-0115-100-2540	KCF-07000-0115-100-2540
70#16	1.29	25.4	100	KCN-07000-0129-100-2540	KCF-07000-0129-100-2540
70#15	1.45	25.4	100	KCN-07000-0145-100-2540	KCF-07000-0145-100-2540
70#14	1.63	25.4	100	KCN-07000-0163-100-2540	KCF-07000-0163-100-2540
70#13	1.83	25.4	100	KCN-07000-0183-100-2540	KCF-07000-0183-100-2540
70#12	2.05	25.4	100	KCN-07000-0205-100-2540	KCF-07000-0205-100-2540

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
75	0.3	25.4	72	KCN-07500-0030-072-2540	KCF-07500-0030-072-2540
75	0.4	25.4	72	KCN-07500-0040-072-2540	KCF-07500-0040-072-2540
75	0.5	25.4	72	KCN-07500-0050-072-2540	KCF-07500-0050-072-2540
75	0.6	25.4	72	KCN-07500-0060-072-2540	KCF-07500-0060-072-2540
75	0.7	25.4	72	KCN-07500-0070-072-2540	KCF-07500-0070-072-2540
75	0.8	25.4	72	KCN-07500-0080-072-2540	KCF-07500-0080-072-2540
75	0.9	25.4	72	KCN-07500-0090-072-2540	KCF-07500-0090-072-2540
75	1.0	25.4	72	KCN-07500-0100-072-2540	KCF-07500-0100-072-2540
75	1.1	25.4	56	KCN-07500-0110-056-2540	KCF-07500-0110-056-2540
75	1.2	25.4	56	KCN-07500-0120-056-2540	KCF-07500-0120-056-2540
75	1.3	25.4	56	KCN-07500-0130-056-2540	KCF-07500-0130-056-2540
75	1.4	25.4	56	KCN-07500-0140-056-2540	KCF-07500-0140-056-2540
75	1.5	25.4	56	KCN-07500-0150-056-2540	KCF-07500-0150-056-2540
75	1.6	25.4	56	KCN-07500-0160-056-2540	KCF-07500-0160-056-2540
75	1.7	25.4	56	KCN-07500-0170-056-2540	KCF-07500-0170-056-2540
75	1.8	25.4	56	KCN-07500-0180-056-2540	KCF-07500-0180-056-2540
75	1.9	25.4	56	KCN-07500-0190-056-2540	KCF-07500-0190-056-2540
75	2.0	25.4	56	KCN-07500-0200-056-2540	KCF-07500-0200-056-2540
75	2.5	25.4	56	KCN-07500-0250-056-2540	KCF-07500-0250-056-2540
75	3.0	25.4	56	KCN-07500-0300-056-2540	KCF-07500-0300-056-2540

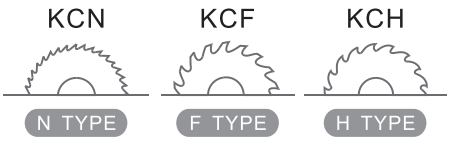
※ 說明: 70#28, 70 = 鋸片外徑 ; #28 = 鋸片厚度(日規番數)。

切削條件表 Cutting Condition P.567
技術資料 Technical Data P.639

高鈷鋼鋸片- 中齒數(56/72T)/細齒數(100T)

HIGH SPEED STEEL WITH COBALT SLITTING SAWS- Middle Teeth(56/72T)/Fine Teeth(100T)

※KCH：鉤齒型鋸片→依需求生產！
※KCH Type is dependent on demand.



Milling Table 63

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
100	0.5	25.4	72	KCN-10000-0050-072-2540	KCF-10000-0050-072-2540
100	0.6	25.4	72	KCN-10000-0060-072-2540	KCF-10000-0060-072-2540
100	0.7	25.4	72	KCN-10000-0070-072-2540	KCF-10000-0070-072-2540
100	0.8	25.4	72	KCN-10000-0080-072-2540	KCF-10000-0080-072-2540
100	0.9	25.4	72	KCN-10000-0090-072-2540	KCF-10000-0090-072-2540
100	1.0	25.4	72	KCN-10000-0100-072-2540	KCF-10000-0100-072-2540
100	1.1	25.4	56	KCN-10000-0110-056-2540	KCF-10000-0110-056-2540
100	1.2	25.4	56	KCN-10000-0120-056-2540	KCF-10000-0120-056-2540
100	1.3	25.4	56	KCN-10000-0130-056-2540	KCF-10000-0130-056-2540
100	1.4	25.4	56	KCN-10000-0140-056-2540	KCF-10000-0140-056-2540
100	1.5	25.4	56	KCN-10000-0150-056-2540	KCF-10000-0150-056-2540
100	1.6	25.4	56	KCN-10000-0160-056-2540	KCF-10000-0160-056-2540
100	1.7	25.4	56	KCN-10000-0170-056-2540	KCF-10000-0170-056-2540
100	1.8	25.4	56	KCN-10000-0180-056-2540	KCF-10000-0180-056-2540
100	1.9	25.4	56	KCN-10000-0190-056-2540	KCF-10000-0190-056-2540
100	2.0	25.4	56	KCN-10000-0200-056-2540	KCF-10000-0200-056-2540
100	2.5	25.4	56	KCN-10000-0250-056-2540	KCF-10000-0250-056-2540
100	3.0	25.4	56	KCN-10000-0300-056-2540	KCF-10000-0300-056-2540

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
125	0.8	25.4	100	KCN-12500-0080-100-2540	KCF-12500-0080-100-2540
125	1.0	25.4	100	KCN-12500-0100-100-2540	KCF-12500-0100-100-2540
125	1.2	25.4	72	KCN-12500-0120-072-2540	KCF-12500-0120-072-2540
125	1.5	25.4	72	KCN-12500-0150-072-2540	KCF-12500-0150-072-2540
125	2.0	25.4	72	KCN-12500-0200-072-2540	KCF-12500-0200-072-2540
125	2.5	25.4	72	KCN-12500-0250-072-2540	KCF-12500-0250-072-2540
125	3.0	25.4	72	KCN-12500-0300-072-2540	KCF-12500-0300-072-2540

外徑 D	厚度 H	內徑 d	齒數 T	KCN 訂購編號 KCN Order No.	KCF 訂購編號 KCF Order No.
150	1.0	25.4	100	KCN-15000-0100-100-2540	KCF-15000-0100-100-2540
150	1.2	25.4	100	KCN-15000-0120-100-2540	KCF-15000-0120-100-2540
150	1.6	25.4	100	KCN-15000-0160-100-2540	KCF-15000-0160-100-2540
150	2.0	25.4	100	KCN-15000-0200-100-2540	KCF-15000-0200-100-2540
150	2.5	25.4	100	KCN-15000-0250-100-2540	KCF-15000-0250-100-2540
150	3.0	25.4	100	KCN-15000-0300-100-2540	KCF-15000-0300-100-2540
150	4.0	25.4	100	KCN-15000-0400-100-2540	KCF-15000-0400-100-2540
150	5.0	25.4	100	KCN-15000-0500-100-2540	KCF-15000-0500-100-2540

➡ 切削條件表 Cutting Condition P.567 ➡ 技術資料 Technical Data P.639

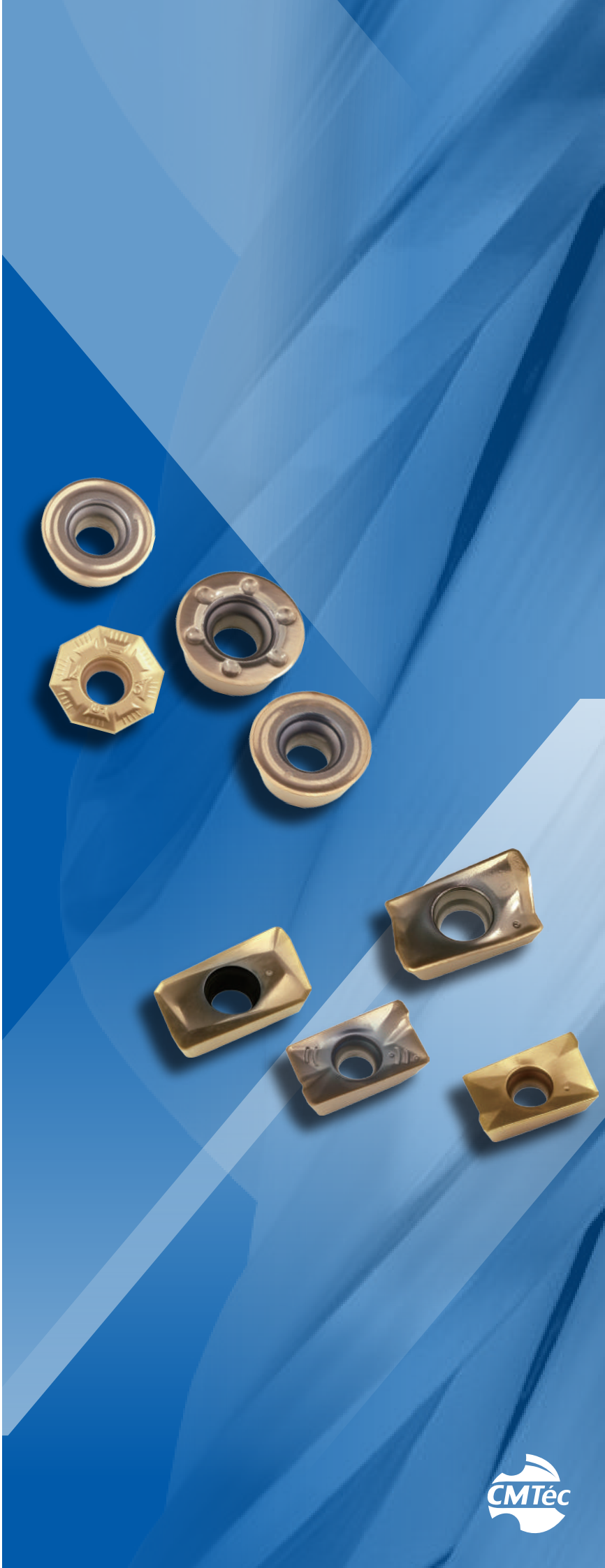
MEMO

銑削刀片系列

Milling Inserts Series

合金鋼	調質鋼≦55HRC
不銹鋼	鋁合金 / 銅合金
鈦合金	鑄鐵

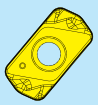
For alloy steel, hardened steel (≦55HRC), stainless stee, lcast iron, aluminum alloy and high-temp alloy machining.



產品選擇表
Product Selection Table

高進給加工【高效型】High Feed Milling- Performance

刀片可雙面使用 Double-Sided Inserts



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P.233

P.233

P.233

P.233~234

刀片單面使用 Single-Sided Inserts

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P.234

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P.235

P.235

P.235

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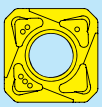
面銑加工 Face Milling

刀片可雙面使用 Double-Sided Inserts

P.235

P.236



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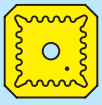
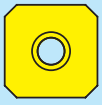
刀片單面使用 Single-Sided Inserts

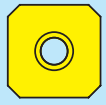
P.236



P.236



P.236



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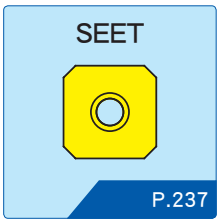
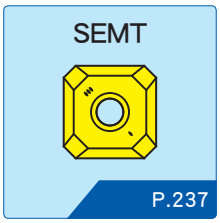
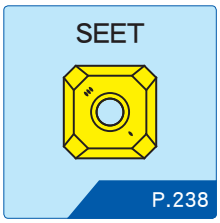
產品選擇表
Product Selection Table

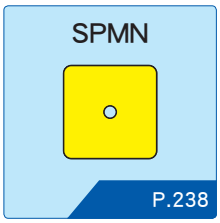
面銑加工 Face Milling

刀片單面使用
Single-Sided
Inserts



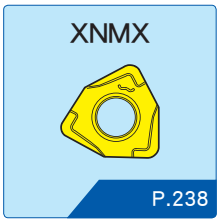


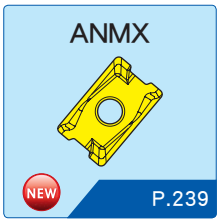




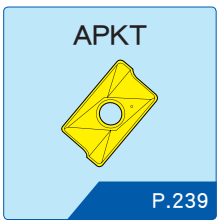
面銑加工、側銑加工 Face Milling & Side Milling

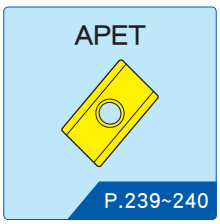
刀片可雙面使用
Double-Sided
Inserts

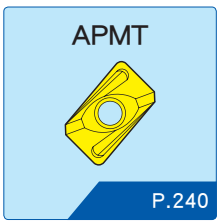


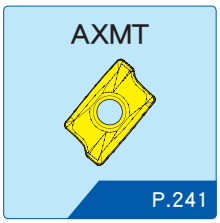


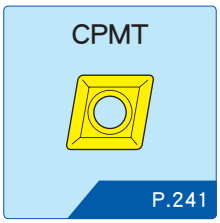
刀片單面使用
Single-Sided
Inserts

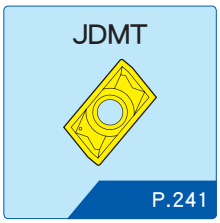


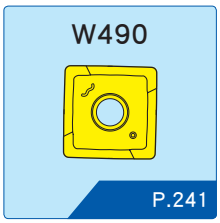


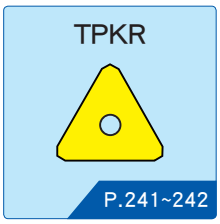


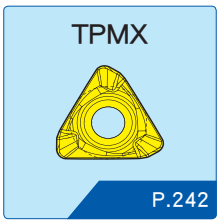


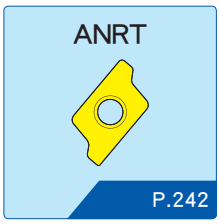


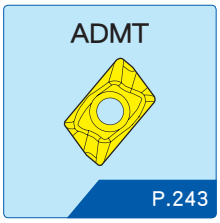












產品選擇表
Product Selection Table

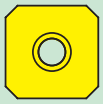
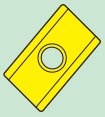
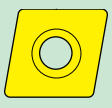
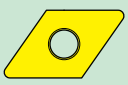
仿形加工 Profile Milling

高精度型 Profile Milling-High Precision	刀片單面使用 Single-Sided Inserts	CMP P.244
粗加工應用 Profile Milling-Roughing	刀片單面使用 Single-Sided Inserts	WP26 P.244

仿形加工、面銑加工 Profile Milling & Face Milling

刀片單面使用 Single-Sided Inserts	WPBC NEW P.244	RDKW / RDMT P.245~247	RDMX / RDMW P.245~247	RPMT / RPMW P.248~249	

鋁合金專用 - 鎢鋼銑刀片 Carbide Milling Inserts For Aluminum Alloy

刀片單面使用 Single-Sided Inserts	SEET  P.237	SEET P.238	APKT P.239	APET  P.239	
	APGT P.240	CCGT  P.440	DCGT  P.442		

產品選擇表
Product Selection Table

銑刀片 ISO 編碼規範
ISO Designation For Milling Inserts
P.230~232

銑刀片斷屑槽
Milling Chip Breaker Design
P.231

銑刀片材質碼
Milling Insert Grades
P.232

銑刀桿
Milling Toolholders
P.254

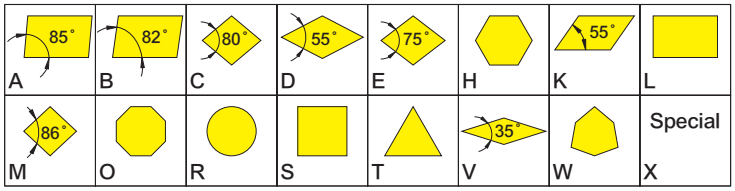
銑刀片斷屑槽幾何對照表
Milling Insert Chip Breaker Comparison Table
P.250

銑刀片材質碼對照表
Milling Insert Grade Comparison Table
P.251~252

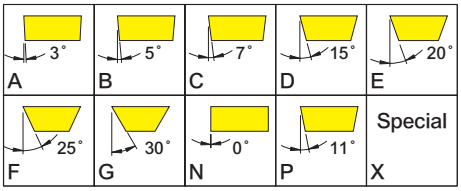
銑刀片 ISO 編碼規範
ISO Designation For Milling Inserts

A	P	M	T		16	04	08	P	D	E	R
1	2	3	4		5	6	7	8	9	10	11

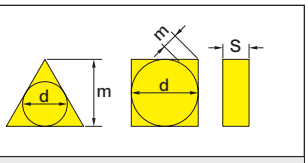
1 刀片形狀 Insert Shape



2 刀片離隙角 Clearance Angle



3 刀片公差 Tolerances Class

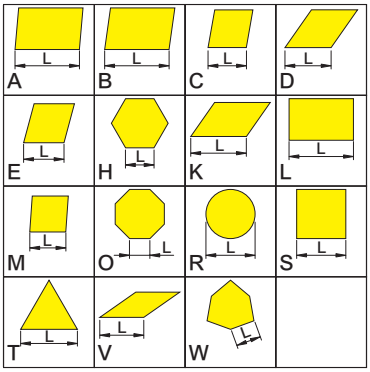


Range of Tolerance			
代號	m±	d±	S±
A	0.005	0.025	0.025
F	0.005	0.013	0.025
C	0.013	0.025	0.025
H	0.013	0.013	0.025
E	0.025	0.025	0.025
G	0.025	0.025	0.130
J	0.005	0.05~0.15	0.025
K	0.013	0.05~0.15	0.025
L	0.025	0.05~0.15	0.025
M	0.08~0.18	0.05~0.15	0.130
N	0.08~0.18	0.05~0.15	0.025
U	0.13~0.38	0.08~0.25	0.130

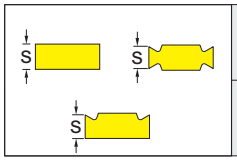
4 刀片溝孔 Chipbreaker and Hole

代號 Code	孔 Hole	斷屑槽 Chip Breaker Design	溝孔形狀 Hole Type
N	無孔	無	
R		單面	
F		雙面	
A	有孔	無	
M		單面	
G		雙面	
W	有孔單面 40~60°	無	
T		單面	
Q	有孔雙面 40~60°	無	
U		雙面	
B	有孔單面 70~90°	無	
H		單面	
C	有孔雙面 70~90°	無	
J		雙面	
X	特殊溝孔 Special Shape		

5 刀片邊長 Insert Length

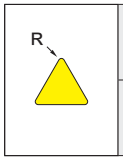


6 刀片厚度 Insert Thickness



代號 Code	01	T1	02	T2	03	T3	04	05	06	07	08
S (mm)	1.59	1.98	2.38	2.78	3.18	3.97	4.76	5.56	6.35	7.94	9.52

7 刀尖 R 角 Corner Radius

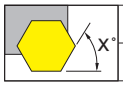


代號 Code	00	01	015	018	02	035	04	08	10	12	16	24	MO
R (mm)	尖刃	0.1	0.15	0.18	0.2	0.35	0.4	0.8	1.0	1.2	1.6	2.4	圓形 Round

銑刀片 ISO 編碼規範
ISO Designation For Milling Inserts

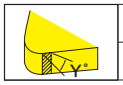
–	RG	–	CM6032
	12		13

8 主偏角 Entering Angle



A	D	E	F	H	P	X			
45°	60°	75°	85°	87°	90°	特殊			

9 修光刃 Wiper Angle

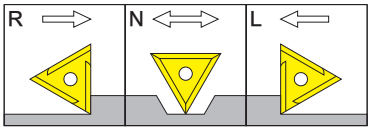


A	B	C	D	E	F	G	N	P	X
3°	5°	7°	15°	20°	25°	30°	0°	11°	特殊

10 刀口種類 Cutting Edge

F	E	T	S
尖角 Sharp	圓角 Rounded	倒角 Chamfer	倒角 + 圓角 Chamfer+Rounded

11 切削方向 Cutting Direction



12 銑刀片斷屑槽 Chip Breaker Design

斷屑槽 Chip Breaker		應 用 Application
AL	適合鋁合金加工 For Aluminum	・鋒利的大正前角刀口設計，適合非鐵系金屬加工之應用。 Large positive rake angle with sharp cutting edge for Non-ferrous metal.
FG	精加工 Finishing	・鋒利的大正前角刀口設計，適合鋼材精加工之應用。 Large positive rake angle with sharp cutting edge for finishing cutting in steel.
SM SG	半精加工 Semi Finishing	・鋒利的刀口設計，適合鋼材、不銹鋼和難切削材質的半精加工之應用。 Sharp geometry design for semi finishing cutting in steel, stainless and difficult-to-cut material.

斷屑槽 Chip Breaker		應 用 Application
MM MG	中加工 Medium	・低切削阻力的刀口設計，適合鋼材、不銹鋼和鑄鐵的中加工之應用。 Low cutting force for medium cutting in steel, stainless and cast iron.
RG	粗加工 Roughing	・高剛性的刀口設計，適合鋼材、合金鋼和調質鋼的粗加工之應用。 Strong geometry design for rough cutting in steel, alloy steel and hardened steel.
HG	重粗加工 Heavy Roughing	・強力的刀口設計，適合鑄件和鍛造件的重粗加工之應用。 Strong negative and big chamfering cutting edge for roughing forging and cast skin.

銑刀片 ISO 編碼規範
ISO Designation For Milling Inserts

13 銑刀片材質碼 Milling Insert Grades

材質碼 Grade Type		塗層種類 Coating Type	特色 Features	加工特性 Application	加工材質 Work Material						產業應用範圍 Industry Area
					P	M	K	N	S	H	
CM10 (銀白色)		無塗層 Uncoated	・耐磨性。 Wear resistance.	・適合精，中加工。 Finishing and medium cutting. ・適合鋁合金加工。 For aluminum alloy.	–	–	–	◎	–	–	・自行車零件。 Bike parts. ・汽車零件。 Auto parts. ・電子零件。 Electronic.
CM6213 (金色)	↑ 硬 Hard	PVD (物理)	・高耐磨性。 High wear resistance. ・高硬度。 High hardness.	・適合連續加工。 Continuous cutting. ・適合超精加工。 Fine finishing cutting.	○	○	○	–	○	◎	・硬質零件。 Hardened parts.
CM6223 (金色)		PVD (物理)	・耐磨性。 Wear resistance.	・適合連續加工。 Continuous cutting. ・適合精加工。 Finishing cutting. ・加工高硬調質鋼第一推薦。 For hardened steel is 1st recommended.	○	○	○	–	○	◎	・模具產業。 Mold & die. ・硬質零件。 Hardened parts.
CM6233 高階版 (金色) CM6032 經濟版 (金色)	泛用 General	PVD (物理)	・耐磨性。 Wear resistance. ・耐腐蝕性。 Anti-corrosion.	・適合一般加工。 General cutting. ・適合中加工，粗加工。 Medium and roughing cutting. ・加工碳素鋼，合金鋼第一推薦。 For carbon steel and alloy steel is 1st recommended.	◎	◎	◎	–	◎	◎	・模具產業。 Mold & die. ・汽車零件。 Auto parts. ・機械零件。 Machinery parts. ・航太零件。 Aircraft parts.
CM6337 (黑金色)		CVD (化學)	・耐磨性。 Wear resistance. ・耐衝擊性。 Impact resistance.	・適合一般加工。 General cutting. ・適合中加工，粗加工。 Medium and roughing cutting. ・加工鑄鐵第一推薦。 For cast iron is 1st recommended.	○	○	◎	–	○	○	・汽車零件。 Auto parts. ・機械零件。 Machinery parts.
CM6243 (金色)	韌 Soft	PVD (物理)	・耐衝擊性。 Impact resistance. ・耐腐蝕性。 Anti-corrosion.	・適合斷續加工。 Interrupted cutting. ・適合中加工，粗加工。 Medium and roughing cutting. ・加工不銹鋼第一推薦。 For stainless steel is 1st recommended.	◎	◎	◎	–	◎	–	・電子零件。 Electronics. ・醫療產業。 Medical. ・航太零件。 Aircraft parts.
CM6347 (黑金色)	↓	CVD (化學)	・高耐衝擊性。 High impact resistance. ・高韌性。 High toughness.	・適合斷續加工。 Interrupted cutting. ・適合粗加工。 Roughing cutting. ・適合合金鋼，高溫合金加工。 For alloy steel and high temperature alloy.	◎	◎	○	–	◎	○	・機械零件。 Machinery parts. ・航太零件。 Aircraft parts. ・能源產業。 Energy.

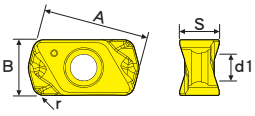
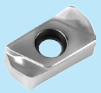
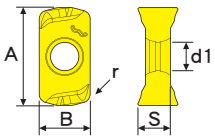
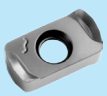
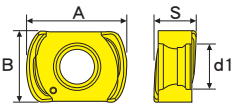
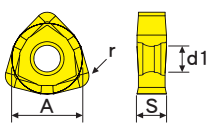
◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　–：不推薦 NO Recommend

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

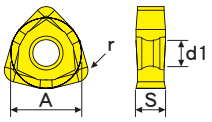
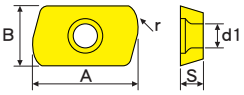
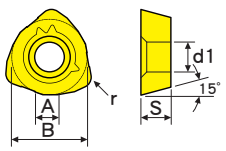
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於高進給面銑加工、仿形加工【刀片可雙面使用】。 High Feed Face Milling & Profile Milling【Double-Sided Inserts】.																
T F S M R	LNMX0303-SG					●	●	●	●	11.59	6.00	4.29	—	2.85		259 260 261
 T F S M R	LNMX0303-MG					●	●	●	●	11.59	6.00	4.29	—	2.85		
K F S M R	LOGX030310-SG						●	●	●	11.9	6.20	3.96	—	3.45		262 263 264
 K F S M R	LOGX030310-MG						●	●	●	11.9	6.20	3.96	—	3.45		
T F S M R	BNMX0603-SG					●	●	●	●	9.00	6.38	3.75	—	3.20		265 266 267
T F S M R	BNMX0603-MG		●	●		●	●	●	●	9.00	6.38	3.75	—	3.20		
T F S M R	BNMX0603-RG		●	●		●	●	●	●	9.00	6.38	3.75	—	3.20		
T F S M R	BNMX0904-MG		●	●		●	●	●	●	11.9	9.18	4.80	—	4.20		
K F S M R	WNMX09T316-MG		●			●	●	●	●	9.52	—	3.97	1.6	3.60		268 269
K F S M R	WNMX09T316-RG		●			●	●	●	●	9.52	—	3.97	1.6	3.60		

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於高進給面銑加工、仿形加工【刀片可雙面使用】。 High Feed Face Milling & Profile Milling【Double-Sided Inserts】.																
S	WNMX130516-MG		●	●		●	●	●	●	12.7	—	6.02	1.60	4.70		269
F S M R																
應用於高進給面銑加工、仿形加工【刀片單面使用】。 High Feed Face Milling & Profile Milling【Single-Sided Inserts】.																
K	LPGX0102-SG							●	●	6.26	4.19	2.19	1.00	2.20		270
F S M R																
K	LPGX0102-MG							●	●	6.26	4.19	2.19	1.00	2.20		
F S M R																
S	ISR145						●	●	●	12.0	7.0	3.00	1.45	3.40		—
F S M R																
S	ISR145-F						●	●	●	12.0	7.0	3.00	1.45	3.40		
F S M R																
M	JDMW120420ZDSR-MG					●	●	●	●	2.5	12.0	4.76	2.00	4.75		271
F S M R																
M	JDMW120420ZDSR-RG		●			●	●	●	●	2.5	12.0	4.76	2.00	4.75		
F S M R																
M	JDMW140520ZDSR-MG						●	●		2.8	14.0	5.56	2.00	5.75		
F S M R																
M	JDMW140520ZDSR-RG		●				●	●		2.8	14.0	5.56	2.00	5.75		
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	—

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F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
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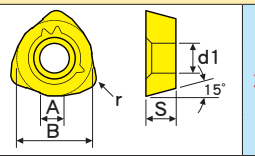
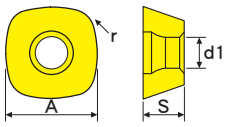
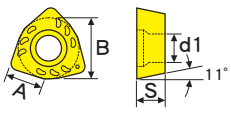
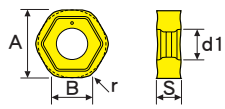
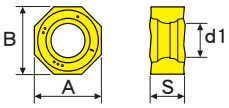
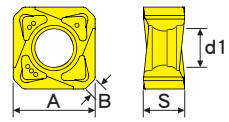
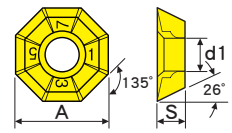
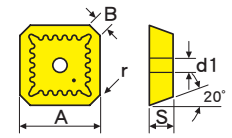
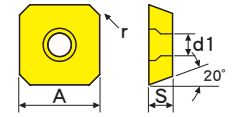
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於高進給面銑加工、仿形加工【刀片單面使用】。 High Feed Face Milling & Profile Milling【Single-Sided Inserts】.																
M	JDMT140520ZDSR-MG						●	●	●	2.8	14.0	5.56	2.00	5.75		271
F S M R																
H	SDMT1205ZDSN-MG					●	●	●	●	12.7	—	5.56	15.0	4.60		272
F S M R																
H	SDMT1205ZDTN-MG					●	●	●	●	12.7	—	5.56	15.0	4.6		
F S M R																
H	SDMT1205ZDTN-RG					●	●	●	●	12.7	—	5.56	15.0	4.6		
F S M R																
H	SDNW1205ZDSN-MG						●	●		12.7	—	5.56	15.0	4.6		
F S M R																
H	SDNW1205ZDTN-RG		●			●	●	●	●	12.7	—	5.56	15.0	4.6		
F S M R																
T	WPMW080615ZPSR-MG						●	●		8.0	12.87	6.35	1.5	5.5		—
F S M R																
T	WPMW080615ZPSR-RG		●				●	●		8.0	12.87	6.35	1.5	5.5		
F S M R																
應用於面銑加工【刀片可雙面使用】。 Face Milling【Double-Sided Inserts】.																
W	HNMX0704-SG			●			●	●	●	12.7	6.8	4.45	1.2	4.9		273
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質			CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

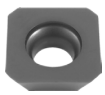
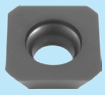
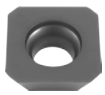
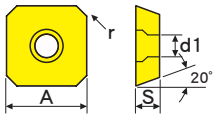
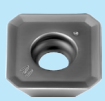
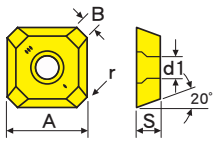
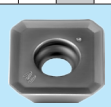
刀 片 Insert	訂購編號 Order No.	CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1	刀片 2D 圖 Drawing	刀桿頁數 Tool Page
材質碼 Grade			CVD			PVD				尺寸 Dimension (mm)						
應用於面銑加工【刀片可雙面使用】。 Face Milling【Double-Sided Inserts】.																
W	ONMX0505-RG		●			●	●	●	●	12.7	12.7	6.40	—	6.0		275
F S M R																
W	SNMX1205-MG		●	●		●	●	●	●	12.7	1.50	6.40	—	6.0		274 275
F S M R																
W	SNMX1205-RG		●	●		●	●	●	●	12.7	1.50	6.40	—	6.0		
F S M R																
應用於面銑加工【刀片單面使用】。 Face Milling【Single-Sided Inserts】.																
T	OFMT05T3TN-SG						●	●		12.7	—	3.80	0.6	4.6		276
F S M R																
T	OFMT05T3TN-MG						●	●		12.7	—	3.80	0.6	4.6		
F S M R																
T	OFMT05T3TN-RG						●	●	●	12.7	—	3.80	0.6	4.6		
F S M R																
T	SEMR1203AFSN-RG						●	●		12.7	1.60	3.18	1.0	2.0		—
F S M R																
K	SEKT1204AFEN-MG						●	●		12.7	—	4.76	0.8	5.5		277
F S M R																
K	SEKT1204AFTN-RG						●	●	●	12.7	—	4.76	0.8	5.5		
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels	—	○			○	◎	◎	◎
	M	不銹鋼 Stainless Steels	—	○			○	◎	◎	◎
	K	鑄鐵 Cast Iron	—	◎			○	◎	◎	◎
	N	鋁合金 Aluminum Alloys	◎	—			—	—	—	—
	S	高溫合金 High-Temp Alloys	—	○			○	◎	◎	◎
	H	調質鋼 Hardened Steels	—	○			◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

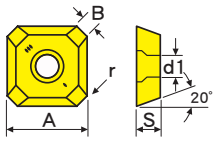
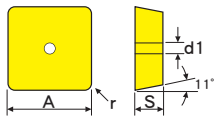
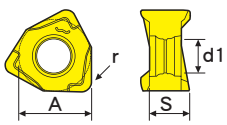
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑加工【刀片單面使用】。 Face Milling【Single-Sided Inserts】.																
 K F S M R	SEKW1204AFEN						●	●	●	12.7	—	4.76	0.8	5.5		
 K F S M R	SEKW1204AFSN-F						●	●		12.7	—	4.76	0.8	5.5		
 K F S M R	SEKW1204AFTN		●				●	●		12.7	—	4.76	0.8	5.5		277
K F S M R	SEET1204AFFN-AL	●								12.7	—	4.76	0.8	5.5		
K F S M R	SEET1204AFFN-FG					●				12.7	—	4.76	0.8	5.5		
 M F S M R	SEMT13T3AGEN-MG					●	●	●	●	13.4	1.9	3.97	1.5	4.2		
M F S M R	SEMT13T3AGSN-MG						●	●	●	13.4	1.9	3.97	1.5	4.2		278
 M F S M R	SEMT13T3AGEN-MG						●	●	●	13.4	1.9	3.97	1.5	4.2		
M F S M R	SEMT13T3AGTN-MG					●	●	●	●	13.4	1.9	3.97	1.5	4.2		

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels	—	○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels	—	○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron	—	◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys	◎	—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys	—	○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels	—	○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

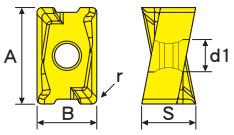
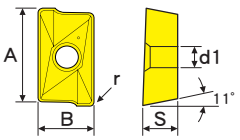
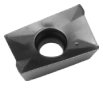
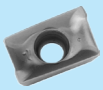
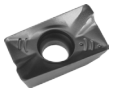
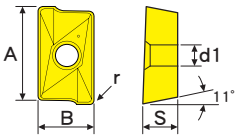
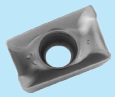
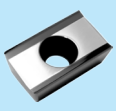
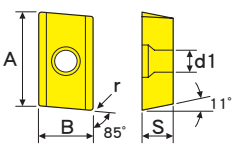
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑加工【刀片單面使用】。 Face Milling【Single-Sided Inserts】.																
M	SEMT13T3AGTN-RG						●	●	●	13.4	1.9	3.97	1.5	4.2		
F S M R																
M	SEMT13T3AGTN-HG						●	●	●	13.4	1.9	3.97	1.5	4.2		
F S M R																
M	SEET13T3AGFN-AL	●								13.4	1.9	3.97	1.5	4.2		278
F S M R																
M	SEET13T3AGFN-FG					●				13.4	1.9	3.97	1.5	4.2		
F S M R																
	SPMN120308						●			12.7	—	3.18	0.8	2.00		279
F S M R																
應用於面銑、側銑加工【刀片可雙面使用】。 Face Milling & Side Milling【Double-Sided Inserts】.																
S	XNMX040304-SG					●	●	●		6.7	—	3.28	0.4	3.15		
F S M R																280
S	XNMX040304-MG					●	●	●		6.7	—	3.28	0.4	3.15		281
	XNMX040308-MG					●	●	●	●	6.7	—	3.28	0.8	3.15		282
F S M R																
S	XNMX080608-MG		●	●		●	●	●	●	12.53	—	6.50	0.8	4.50		
F S M R																
S	XNMX080608-RG		●	●			●	●	●	12.53	—	6.50	0.8	4.50		282
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels	—	○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels	—	○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron	—	◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys	◎	—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys	—	○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels	—	○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

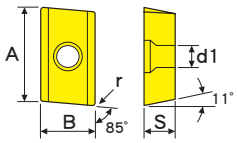
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑、側銑加工【刀片可雙面使用】。 Face Milling & Side Milling【Double-Sided Inserts】.																
W NEW	ANMX15T608-MG		●	●			●	●	●	16.1	10	6.88	0.8	4.65		283
F S M R																
應用於面銑、側銑加工【刀片單面使用】。 Face Milling & Side Milling【Single-Sided Inserts】.																
I 	APKT100304PDER-AL	●								10.5	6.7	3.50	0.4	2.80		284
F S M R																
I 	APKT100304PDER-SG					●				10.5	6.7	3.50	0.4	2.80		
F S M R																
I 	APKT100304PDER-MG					●	●	●	●	10.5	6.7	3.50	0.4	2.80		
	APKT100308PDER-MG					●	●	●	●	10.5	6.7	3.50	0.8	2.80		
F S M R																
I 	APKT100304PDER-RG						●	●		10.5	6.7	3.50	0.4	2.80		
F S M R																
T 	APKT160408PDER-MG					●	●	●	●	16.3	9.52	5.25	0.8	4.5		285
F S M R																
I 	APKT160408PDER-RG					●	●	●	●	16.3	9.52	5.25	0.8	4.5		
F S M R																
I 	APKT170516PEER-RG					●	●	●	●	18.5	10.7	5.56	1.6	4.5		
F S M R																
I 	APET160402PDFR-AL	●								16.3	9.52	5.25	0.2	4.5		285
	APET160404PDFR-AL	●								16.3	9.52	5.25	0.4	4.5		
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels	—		◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels	—		◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron	—		○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys	◎		—		—	—	—	—
	S	高溫合金 High-Temp Alloys	—		◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels	—		○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑、側銑加工【刀片單面使用】。 Face Milling & Side Milling【Single-Sided Inserts】.																
I	APET160402PDFR-FG					●				16.3	9.52	5.25	0.2	4.5		285
	APET160404PDFR-FG					●				16.3	9.52	5.25	0.4	4.5		
F S M R																
S	APMT103508PDER-RG					●	●	●	●	10.64	6.50	3.50	0.8	3.0		286
F S M R																
M	APMT113508PDER-MG					●	●	●	●	11.0	6.35	3.50	0.8	2.8		287 288 290 292
	APMT113516PDER-MG					●	●	●	●	11.0	6.35	3.50	1.6	2.8		
F S M R																
M	APMT113508PDER-RG					●	●	●	●	11.0	6.35	3.50	0.8	2.8		
F S M R																
M	APMT113508PDER-HG					●	●	●	●	11.0	6.35	3.50	0.8	2.8		
F S M R																
M	APMT160408PDER-MG			●		●	●	●	●	16.5	9.52	4.76	0.8	4.4		289 291 293
	APMT160416PDER-MG						●	●	●	16.5	9.52	4.76	1.6	4.4		
F S M R																
M	APMT160408PDER-RG					●	●	●	●	16.5	9.52	4.76	0.8	4.4		
	APMT160508PDER-RG						●	●		16.0	9.52	5.56	0.8	4.4		
F S M R																
M	APMT160408PDER-HG					●	●	●	●	16.5	9.52	4.76	0.8	4.4		
F S M R																
M	APGT160408PDER-AL	●								16.5	9.52	4.76	0.8	4.4		
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑、側銑加工【刀片單面使用】。 Face Milling & Side Milling【Single-Sided Inserts】.																
M F S M R	APGT160408PDER-FG					●				16.5	9.52	4.76	0.8	4.4		289 291 293
S F S M R	AXMT123508PEER-RG		●			●	●	●	●	12.18	6.93	3.58	0.8	3.4		294
S F S M R	AXMT170508PEER-RG		●			●	●	●	●	17.5	10.2	5.56	0.8	4.6		295 296 297
	AXMT170516PEER-RG		●				●	●	●	17.5	10.2	5.56	1.6	4.6		
H F S M R	CPMT090308-MG						●			9.52	—	3.18	0.8	4.4		—
H F S M R	CPMT120408-MG						●			12.7	—	4.76	0.8	5.5		—
H F S M R	JDMT150508R-MG						●	●	●	15.1	9.12	5.00	0.8	4.5		298
S F S M R	SOMT08T308-SG					●	●	●	●	8.5	5.6	3.30	0.8	2.8		299
	SOMT140408-SG						●	●	●	13.8	10.3	3.90	0.8	4.1		
S F S M R	SOMT140408-MG		●	●			●	●	●	13.8	10.3	3.90	0.8	4.1		
I F S M R	TPKR1603PPR-MG						●	●		16.5	9.52	3.10	—	2.20		—

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—	—		—	—	—	—
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
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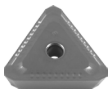
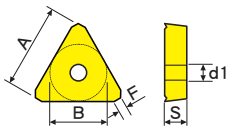
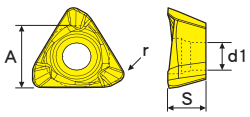
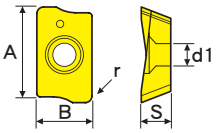
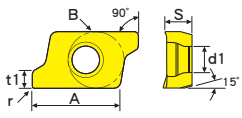
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑、側銑加工【刀片單面使用】。 Face Milling & Side Milling【Single-Sided Inserts】.																
 I F S M R	TPKR1603PPR-RG						●	●	●	16.5	9.52	3.10	—	2.20		—
T F S M R	TPMX100404-SG						●	●		6.90	—	4.00	0.4	3.00		300 301 302
	TPMX100408-SG						●	●		6.90	—	4.00	0.8	3.00		
T F S M R	TPMX100408-MG					●	●	●	●	6.90	—	4.00	0.8	3.00		
T F S M R	TPMX150508-MG					●	●	●	●	10.7	—	5.00	0.8	4.85		300 302
S F S M R	W39011T308-SG					●	●	●	●	11.0	6.90	3.59	0.8	2.80		303
S F S M R	W39011T308-MG		●	●		●	●	●	●	11.0	6.90	3.59	0.8	2.80		
	W39011T320-MG		●	●		●	●	●	●	11.0	6.90	3.59	2.0	2.80		
S F S M R	W390180612-SG		●	●			●	●	●	15.4	11.0	6.33	1.2	4.20		—
S F S M R	ANRT100308-MG					●	●	●	●	9.30	6.35	3.40	0.8	2.90		304 ~ 308
S F S M R	ANRT070204-RG					●	●	●	●	6.40	4.30	2.38	0.4	2.20		
	ANRT100308-RG					●	●	●	●	9.30	6.35	3.40	0.8	2.90		

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○	◎		○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○	◎		○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎	○		○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		–	–		–	–	–	–
	S	高溫合金 High-Temp Alloys		○	◎		○	◎	◎	◎
	H	調質鋼 Hardened Steels		○	○		◎	◎	◎	–

◎：第一推薦 First Recommend
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–：不推薦 NO Recommend

F：精加工 Finishing
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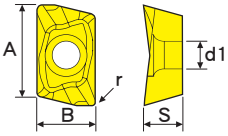
M：中加工 Medium
R：粗加工 Roughing

刀片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑、側銑加工【刀片單面使用】。 Face Milling & Side Milling【Single-Sided Inserts】.																
S	ADMT060208-SG						●	●		7.00	4.09	2.45	0.8	2.00		309 310
F S M R																
S	ADMT060204-MG					●	●	●		7.00	4.09	2.45	0.4	2.00		
	ADMT060208-MG					●	●	●	●	7.00	4.09	2.45	0.8	2.00		
	ADMT060216-MG					●	●	●	●	7.00	4.09	2.45	1.6	2.00		
F S M R																
S	ADMT10T308-SG						●	●	●	11.08	6.86	3.80	0.8	3.00		–
F S M R																
S	ADMT10T308-MG		●	●			●	●	●	11.08	6.86	3.80	0.8	3.00		
	ADMT120408-MG		●	●			●	●	●	11.6	8.20	5.07	0.8	3.90		
F S M R																

加工材質										
	P	鋼材 Alloy Steels		○					◎	
	M	不銹鋼 Stainless Steels		○					◎	
	K	鑄鐵 Cast Iron		◎					◎	
	N	鋁合金 Aluminum Alloys		–					–	
	S	高溫合金 High-Temp Alloys		○					◎	
	H	調質鋼 Hardened Steels		○					◎	

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–：不推薦 NO Recommend

F：精加工 Finishing
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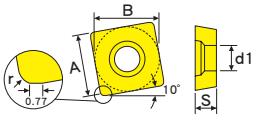
刀片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於面銑加工【刀片單面使用】。 Face Milling【Single-Sided Inserts】.																
S	W210140512		●					●		11.3	14.5	4.76	1.0	5.7		–
	W210140512		●					●								
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels				○	○	◎	◎	◎
	M	不銹鋼 Stainless Steels				○	○	◎	◎	◎
	K	鑄鐵 Cast Iron				○	○	◎	◎	◎
	N	鋁合金 Aluminum Alloys				—	—	—	—	—
	S	高溫合金 High-Temp Alloys				○	○	◎	◎	◎
	H	調質鋼 Hardened Steels				◎	◎	◎	◎	—

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—：不推薦 NO Recommend

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S：半精加工 Semi Finishing
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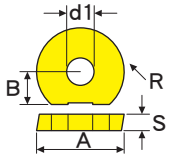
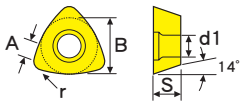
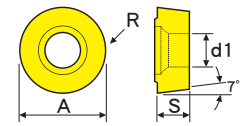
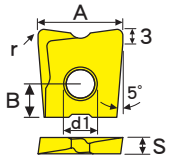
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	R 角	d1		
應用於仿形加工 - 高精度型【刀片單面使用】。 Profile Milling- High Precision【Single-Sided Inserts】.																
W	CMP32D10-SM				●	●				10	5.00	2.50	5R	4.0		311 312
	CMP32D12-SM				●	●				12	6.00	2.50	6R	5.0		
	CMP32D16-SM				●	●				16	6.00	3.00	8R	5.0		
	CMP32D20-SM				●	●				20	6.00	3.00	10R	5.0		
	CMP32D25-SM				●	●				25	9.00	4.00	12.5R	6.0		
F S M R	CMP32D32-SM				●	●				32	10.0	5.00	16R	8.0		
W	CMP32D10-MM				●	●				10	5.00	2.50	5R	4.0		
	CMP32D12-MM				●	●				12	6.00	2.50	6R	5.0		
	CMP32D16-MM				●	●				16	6.00	3.00	8R	5.0		
	CMP32D20-MM				●	●				20	6.00	3.00	10R	5.0		
	CMP32D25-MM				●	●				25	9.00	4.00	12.5R	6.0		
F S M R	CMP32D32-MM				●	●				32	10.0	5.00	16R	8.0		
應用於仿形加工 - 粗加工用【刀片單面使用】。 Profile Milling- Roughing【Single-Sided Inserts】.																
W	WP26339R14-RG					●	●	●	●	—	9.52	3.97	1.2	4.4		313 315
F S M R																
W	WP26379R25-RG					●	●	●	●	1.1	13.0	5.56	2.0	5.5		313 315 316
F S M R																
應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																
S	RCMT1204MOE-FG					●	●			12.0	—	4.76	6R	4.2		—
	RCMT1204MOT-FG					●	●			12.0	—	4.76	6R	4.2		
F S M R																
應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																
W	WPBC1605-MM							●	●	16	6.00	3.00	0.5	5.0		314
	WPBC1610-MM							●	●	16	6.00	3.00	1.0	5.0		
	WPBC1613-MM							●	●	16	6.00	3.00	1.3	5.0		
	WPBC1620-MM							●	●	16	6.00	3.00	2.0	5.0		
F S M R	WPBC1630-MM							●	●	16	6.00	3.00	3.0	5.0		

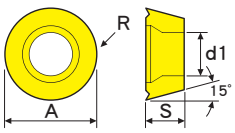
鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質			CVD			PVD				
			CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243
	P	鋼材 Alloy Steels					○	◎	◎	◎
	M	不銹鋼 Stainless Steels					○	◎	◎	◎
	K	鑄鐵 Cast Iron					○	◎	◎	◎
	N	鋁合金 Aluminum Alloys					—	—	—	—
	S	高溫合金 High-Temp Alloys					○	◎	◎	◎
	H	調質鋼 Hardened Steels					◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

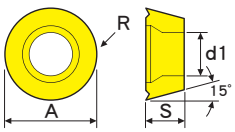
F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD			PVD										
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	R 角	S	d1	—		
RD 銑刀片系列 RD Insert Series： 應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																
S	RDKW0501MOE					●	●	●		5	2.5R	1.59	2.20	—		317 321
F S M R																
S	RDKW0501MOT					●	●	●		5	2.5R	1.59	2.20	—		
F S M R																
S	RDKW0702MOE					●	●	●	●	7	3.5R	2.38	2.80	—		318 321
F S M R																
S NEW SIZE	RDKW0702MOE-F							●	●	7	3.5R	2.38	2.80	—		
F S M R																
S	RDKW0702MOT					●	●	●	●	7	3.5R	2.38	2.80	—		
F S M R																
T	RDMT1003MOE					●	●	●	●	10	5.0R	3.18	3.90	—		319 321 323
F S M R																
T	RDMT1003MOT					●	●	●	●	10	5.0R	3.18	3.90	—		
F S M R																
K	RDMX1003MOE					●	●	●	●	10	5.0R	3.18	4.15	—		
F S M R																
K	RDMX1003MOT					●	●	●	●	10	5.0R	3.18	4.15	—		
F S M R																



鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質			CVD			PVD				
	P	鋼材 Alloy Steels	○			○	◎	◎	◎	◎：第一推薦 First Recommend ○：第二推薦 Second Recommend －：不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	○			○	◎	◎	◎	
	K	鑄鐵 Cast Iron	◎			○	◎	◎	◎	
	N	鋁合金 Aluminum Alloys	－			－	－	－	－	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	S	高溫合金 High-Temp Alloys	○			○	◎	◎	◎	
	H	調質鋼 Hardened Steels	○			◎	◎	◎	－	

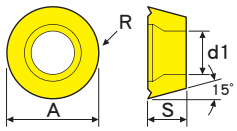
刀片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	R 角	S	d1	－		
RD 銑刀片系列 RD Insert Series： 應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																
H	RDMT10T3MOE					●	●	●	●	10	5.0R	3.97	4.50	－		320 322 324
F S M R																
H	RDMT10T3MOT					●	●	●	●	10	5R	3.97	4.5	－		
F S M R																
H	RDMW10T3MOE						●	●		10	5R	3.97	4.5	－		
F S M R																
H	RDMW10T3MOT						●	●		10	5R	3.97	4.5	－		
F S M R																
T	RDMT12T3MOE		●			●	●	●		12	6R	3.97	4.1	－		－
F S M R																
T	RDMT12T3MOT					●	●	●		12	6R	3.97	4.1	－		
F S M R																
L	RDMX12T3MOE					●	●	●	●	12	6R	3.97	4.1	－		
F S M R																
L	RDMX12T3MOT					●	●	●	●	12	6R	3.97	4.1	－		
F S M R																
H	RDHT1204MOE						●	●		12	6R	4.76	4.4	－		320
F S M R																

鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels		○			○	◎	◎	◎
	M	不銹鋼 Stainless Steels		○			○	◎	◎	◎
	K	鑄鐵 Cast Iron		◎			○	◎	◎	◎
	N	鋁合金 Aluminum Alloys		—			—	—	—	—
	S	高溫合金 High-Temp Alloys		○			○	◎	◎	◎
	H	調質鋼 Hardened Steels		○			◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert		訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD		PVD											
			CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	R 角	S	d1	—		
RD 銑刀片系列 RD Insert Series： 應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																	
	H	RDHT1204MOT						●	●		12	6R	4.76	4.4	—		320
	F S M R																
	H	RDMT1204MOE					●	●	●	●	12	6R	4.76	4.4	—		
	F S M R																
	H	RDMT1204MOT					●	●	●	●	12	6R	4.76	4.4	—		
	F S M R																
	W	RDMW1204MOE						●	●	●	12	6R	4.76	4.4	—		
	F S M R																
	W	RDMW1204MOS-F							●	●	12	6R	4.76	4.4	—		
	F S M R																
	W	RDMW1204MOT		●			●	●	●	●	12	6R	4.76	4.4	—		
	F S M R																
	H	RDMT1604MOT					●	●	●	●	16	8R	4.76	5.5	—		325
	F S M R																
	H	RDMW1604MOE		●			●	●	●	●	16	8R	4.76	5.5	—		
	F S M R																
	H	RDMW1604MOS-F						●	●	●	16	8R	4.76	5.5	—		
	F S M R																
	H	RDMW1604MOT		●			●	●	●	●	16	8R	4.76	5.5	—		
	F S M R																

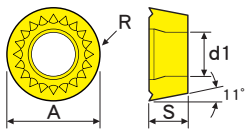
鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
	P	鋼材 Alloy Steels					○	◎	◎	◎
	M	不銹鋼 Stainless Steels					○	◎	◎	◎
	K	鑄鐵 Cast Iron					○	◎	◎	◎
	N	鋁合金 Aluminum Alloys					—	—	—	—
	S	高溫合金 High-Temp Alloys					○	◎	◎	◎
	H	調質鋼 Hardened Steels					◎	◎	◎	—

◎：第一推薦 First Recommend
○：第二推薦 Second Recommend
—：不推薦 NO Recommend

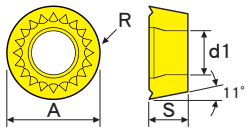
F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	R 角	S	d1	—		
RP 銑刀片系列 RP Insert Series： 應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																
M	RPMT08T2MOE						●	●	●	8	4R	2.78	3.2	—		326
F S M R																
M	RPMT08T2MOT						●	●	●	8	4R	2.78	3.2	—		
F S M R																
M	RPMW1003MOE						●	●	●	10	5R	3.18	4.6	—		326 327
F S M R																
M	RPMW1003MOS-F							●		10	5R	3.18	4.6	—		
F S M R																
M	RPMW1003MOT					●	●	●	●	10	5R	3.18	4.6	—		
F S M R																
M	RPHT10T3MOE								●	10	5R	3.97	4.5	—		326
F S M R																
M	RPMT10T3MOE						●	●	●	10	5R	3.97	4.5	—		
F S M R																
M	RPMT10T3MOT						●	●	●	10	5R	3.97	4.5	—		
F S M R																
M	RPHT1204MOE							●	●	12	6R	4.76	4.3	—		326 327 328
F S M R																



鎢鋼銑刀片
CARBIDE MILLING INSERTS

加工材質										
P	鋼材 Alloy Steels					○	◎	◎	◎	◎：第一推薦 First Recommend ○：第二推薦 Second Recommend －：不推薦 NO Recommend
M	不銹鋼 Stainless Steels					○	◎	◎	◎	
K	鑄鐵 Cast Iron					○	◎	◎	◎	
N	鋁合金 Aluminum Alloys					－	－	－	－	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
S	高溫合金 High-Temp Alloys					○	◎	◎	◎	
H	調質鋼 Hardened Steels					◎	◎	◎	－	

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	R 角	S	d1	－		
RP 銑刀片系列 RP Insert Series： 應用於仿形加工、面銑加工【刀片單面使用】。 Profile Milling & Face Milling【Single-Sided Inserts】.																
M	RPHT1204MOT							●	●	12	6R	4.76	4.3	－		326 327 328
F S M R																
M	RPMT1204MOE					●	●	●	●	12	6R	4.76	4.3	－		
F S M R																
M	RPMT1204MOT					●	●	●	●	12	6R	4.76	4.3	－		
F S M R																
M	RPMW1204MOE						●	●	●	12	6R	4.76	4.3	－		
F S M R																
M	RPMW1204MOT						●	●	●	12	6R	4.76	4.3	－		
F S M R																

銑刀片斷屑槽幾何對照表
Milling Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	山特維克 Sandvik	肯納 Kennametal	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	特固克 TaeguTec
P 鋼 Alloy Steels	精加工		QF	FF	FA	GP	TF	FH		FA
					FL	XP	NS, ZF	FS, FY	FE	EA, SF, FC
	半精加工	SM, SG	PF		SU	HQ	TS, AS, TSF	SH, C	CE, B	FG
				FN	LU	XQ, CQ	NM, ZF, 11	SA, SY	BE	FC, ML
			WF	FW	LUW	WP, WQ	ASW, AFW	SW		WS
				LF	SX	XS	ZM, 27		AB, CT	
	中加工		PM, QM	MP, MG	GU	HS, PS	TM, 37, 38	MA, MV	AH	MT, PC
		MM, MG	SM	MN	UX	CS, GS ,PT	DM	MH	AE, AY	RT
			WM	MW	GUW			MW		WT
	粗加工	RG	MG, PR	RP, RN	MU	HT, GT	TH, 51	GH	RE, AR	
					MX			MT		MT
	重加工	HG	MM, PR, QR	RM, MR	HG	HX	TU, 57	HA, HZ, HX, HBS	TE, UE	RH
			HR	RH	HP		65	HH, HXD	H	RH, HZ
					HU			HV	HE	HY
					HW			HCS	HX	
M 不銹鋼 Stainless Steels	精加工		MF	FP	SU	GU	SS	SH, C	SE	FG
	中加工	MM	23	MS	EX	SU	SA	MS	DE	EM
			MM, PR, QR	MP	GU	HU	SM			
	粗加工				HM	ST	S	ES		VF
		HG	HR		MU		CM, 33	GH		RT
K 鑄鐵 Cast Iron	泛用加工		KF	UN	UZ	GC			V	
		HG	KM, KR	UM	UX	ZS		GH	RE	RT

銑刀片材質碼對照表
Milling Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	住友 Sumitomo	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	克勞伊 Korloy	特固克 TaeguTec
P 鋼 Alloy Steels	↑ 硬 Hard	P10		ACP100			JP4115	PC2005 PC2010	TT2510
		P20	CM6223	ACP200	AH725 AH120 AH330	MP6120 VP15TF	JP4020 JP4120 CP9020 CY150	PC3600 PC3700 PC2510	TT7080 TT7030
		P30	CM6233 CM6032	ACP300 ACP3000	AH725 AH130 AH140 AH730	VP15TF MP6120 MP6130 VP30RT	JS4045 CY250 CY25	PC5300	TT9080 TT9030
	軟 Soft ↓	P40	CM6243		AH140 AH3035	VP30RT	JS4060 JS4160 JX1060	PC5400	TT8080 TT8020
M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10		ACM100 ACK300					
		M20	CM6223	ACM200 ACP200	AH725 AH120 AH330 GH110	VP15TF MP7130 MP7140 VP20RT	JP4020 JP4120	PC210F PC5300	TT9080 TT9030
		M30	CM6233 CM6032	ACM300 ACP200	AH725 AH130 AH730 GH130	VP15TF MP7130 MP7140 VP30RT	JS4045 CY250 CY25	PC9530	TT8080 TT8020
	軟 Soft ↓	M40	CM6243	ACP300 ACM300	AH140 AH3135 AH4035	MP7140 VP30RT	JM4160	PC5400 PC9540	
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01			AH110 GH110 AH330	MP8010	ATH80D TH308		
		K10	CM6223		AH110 AH120 GH110 AH725 AH330	MP8010	TH3015 CY100H	PC6510	TT7515 TT6080
		K20	CM6233 CM6032	ACK200 ACK300	GH130	VP15TF VP20RT	CY150 JP4120 CY9020		TT7515 TT6080
	軟 Soft ↓	K30	CM6243	ACK300		VP15TF VP20RT	CY250 JS4045	PC5300	TT3080

銑刀片材質碼對照表
Milling Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	↑ 硬 Hard	P10		GC1010		WKP25 WKP25S WPP20 WKK20S	IC903 IC4100 IC4050	KC715M KC930M KC935M
		P20	CM6223	GC1010 GC1030 GC1130 GC2030	F25M MP3000	WSM20	IC8080 IC810 IC380	KC715M KC930M KC935M
		P30	CM6233 CM6032	GC1010 GC1030 GC1130 GC2030	F30M F40M MP3000	WSM30 WSM35	IC830 IC928 IC330	KC735M KC530M KC537M
	軟 Soft ↓	P40	CM6243	GC2030 GC1030 GC1130	F40M T60M	WKP45 WP45S WSP45		KC735M KC537M KCPM40
M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10		GC1025 GC1030			IC903	KC715M KC515M
		M20	CM6223	GC1025 GC1030 GC1040 GC2230	F25M MP3000	WSM35 WXM35	IC908 IC928	KC635M KC730M KC525M KCPM40
		M30	CM6233 CM6032	S30T GC1040 GC2230	F30M F40M MP3000	WSM35 WXM35	IC328 IC330 IC830	KC530M KC537M K735M KCPM40
	軟 Soft ↓	M40	CM6243		F40M	WSP45 WSM45S	IC328 IC300 IC330	
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01						
		K10	CM6223	GC1010	MK1500	WAK15	IC350 IC810	KC514M KC515M KC527M KC635M
		K20	CM6233 CM6032	GC1010 GC1020	MK1500 MK2000 T150M	WAK15 WKK25 WKP25S	IC5100 IC830	KC514M KC610M KC520M KC620M
	軟 Soft ↓	K30	CM6243	GC1020	MK2000 MK2050	WKP35S WPP20	IC810 IC908 IC910 IC928 IC950	KC522M KC725M KC524M KC735M

銑削刀桿系列

Milling Toolholders Series

合金鋼	調質鋼≦55HRC
不銹鋼	鋁合金 / 銅合金
鈦合金	鑄鐵

For alloy steel, hardened steel (≦55HRC), stainless stee, lcast iron, aluminum alloy and high-temp alloy machining.

產品選擇表
Product Selection Table

高進給加工【高效型】High Feed Milling- Performance

刀片可雙面使用
Double-Sided Inserts

P.259 Φ16~32

P.260 Φ17~32

P.261 Φ50

P.262 Φ16~33

P.263 Φ16~33

P.264 Φ40~50

P.265 Φ16~35

P.266 Φ16~42

P.267 Φ50~100

P.268 Φ25~32

P.269 Φ50~80

刀片單面使用
Single-Sided Inserts

P.270 Φ8~16

P.271 Φ50~100

P.272 Φ50~80

P.315 Φ32~50

P.316 Φ50~160

面銑加工 Face Milling

刀片可雙面使用
Double-Sided Inserts

P.273 Φ50~100

P.274 Φ50~160

P.275 Φ50~100

產品選擇表
Product Selection Table

面銑加工 Face Milling

刀片單面使用
Single-Sided
Inserts

P.276 Φ50~160

P.277 Φ50~160

P.278 Φ50~260

P.279 Φ80~300

面銑加工、側銑加工 Face Milling & Side Milling

刀片可雙面使用
Double-Sided
Inserts

P.280 Φ20~32

P.281 Φ17~32

P.282 Φ50~160

P.283 Φ40~100

刀片單面使用
Single-Sided
Inserts

P.284 Φ16~32

P.285 Φ24~32

P.286 Φ15~25

P.287 Φ14.2~32.0

P.289 Φ25~35

P.290 Φ11~36

P.291 Φ25~35

P.292 Φ40~80

P.293 Φ40~125

P.294 Φ10~33

P.295 Φ25~33

P.296 Φ26~35

P.297 Φ40~125

P.298 Φ25~35

P.299 Φ50~80

P.300 Φ20~40

產品選擇表
Product Selection Table

面銑加工、側銑加工 Face Milling & Side Milling

刀片單面使用
Single-Sided Inserts

P.301 Φ21~33

P.302 Φ50~63

P.303 Φ16~35

P.304 Φ6~21

P.305 Φ16~35

P.307 Φ9~35

P.308 Φ50~66

P.309 Φ10~33

P.310 Φ10~33

仿形加工 Profile Milling

仿形加工
【高精度型】
Profile Milling-High Precision

刀片單面使用
Single-Sided Inserts

P.311 5~16R

P.312 5~16R

仿形加工
【粗加工應用】
Profile Milling-Roughing

刀片單面使用
Single-Sided Inserts

P.313 12.5~25.0R

仿形加工、面銑加工 Profile Milling & Face Milling

刀片單面使用
Single-Sided Inserts

P.314 Φ16

P.317 Φ10~17

P.318 Φ15~35

P.319 Φ20~35

產品選擇表
Product Selection Table

仿形加工、面銑加工 Profile Milling & Face Milling

刀片單面使用
Single-Sided
Inserts

P.320 Φ25~40

P.321 Φ12~42

P.322 Φ20~42

P.323 Φ50~80

P.325 Φ50~160

P.326 Φ20~40

P.327 Φ25~35

P.328 Φ50~100

T 型加工 T-Slot Milling

刀片單面使用
Single-Sided
Inserts

P.329 Φ21~50

P.330 Φ100~125

鳩尾槽加工 Dovetail Milling

刀片單面使用
Single-Sided
Inserts

P.331 Φ16~60

鎢鋼銑刀頭 Thread- Carbide End Mills

P.332 Φ8~32

P.333 Φ8~20

P.334 4.0~12.5R

產品選擇表
Product Selection Table

鎢鋼抗震刀桿 Carbide Vibration Holder

P.335 Φ8~32

P.336 Φ11.7~31.5

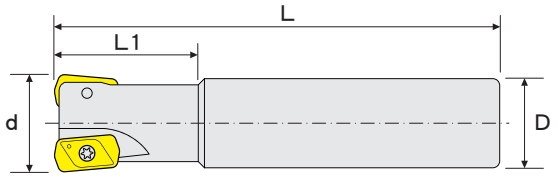
扭力扳手 Torque Wrench

P.337 T6~20

梅花螺絲尺寸規格表
Torx Screw Size
P.338~339

ELN 高進給型銑刀桿

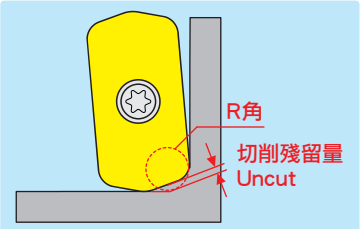
HIGH FEED MILLING CUTTERS- ELN



Milling Table 150

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ELN03-02016-100L	16	30	100	16	2	LNMX0303..	TS2535	ETF07
ELN03-02016-150L	16	30	150	16	2			
ELN03-02017-150L	17	50	150	16	2			
ELN03-02018-150L	18	50	150	16	2			
ELN03-03020-150L	20	50	150	20	3			
ELN03-04020-130L	20	50	130	20	4			
ELN03-03021-150L	21	50	150	20	3			
ELN03-03022-150L	22	50	150	20	3			
ELN03-04025-150L	25	60	150	25	4			
ELN03-06032-150L	32	70	150	32	6			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LNMX0303	1.5 mm	0.5 mm



搭配刀片 Insert P.233 切削條件表 Cutting Condition P.583

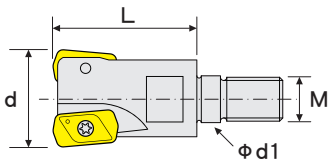
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HLN 鎖牙式 - 高進給型銑刀頭

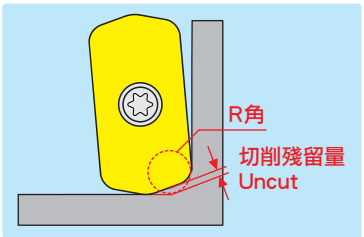
MODULAR HEADS- HIGH FEED MILLING CUTTERS- HLN



Milling Table 150

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HLN03-02017	17	26	8.5	M8	2	LNMX0303..	TS2535	ETF07
HLN03-03021	21	32	10.5	M10	3			
HLN03-04026	26	38	12.5	M12	4			
HLN03-04032	32	41	17.0	M16	4			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LNMX0303	1.5 mm	0.5 mm



搭配刀片 Insert P.233 搭配刀桿 Holder P.335, 336 切削條件表 Cutting Condition P.583

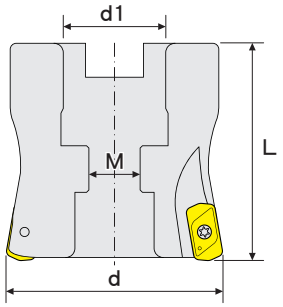
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FLN 高進給型銑刀盤

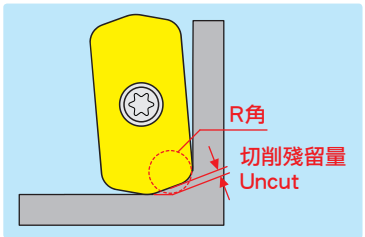
HIGH FEED FACE MILLING CUTTERS- FLN



Milling Table 150

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FLN03-05050-2200	50	50	22.00	—	5	LNMX0303..	TS2535	ETF07
FLN03-08050-2200	50	50	22.00	—	8			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LNMX0303	1.5 mm	0.5 mm



搭配刀片 Insert P.233
切削條件表 Cutting Condition P.583

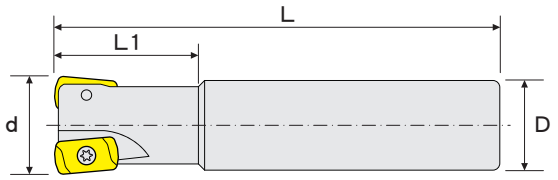
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

ELO 高進給型銑刀桿

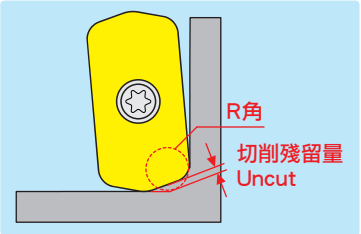
HIGH FEED MILLING CUTTERS- ELO



Milling Table 151

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ELO03-02016-150L	16	30	150	16	2	LOGX0303..	MS3007K	ETF08
ELO03-02017-150L	17	25	150	16	2			
ELO03-03020-150L	20	35	150	20	3			
ELO03-03021-150L	21	30	150	20	3			
ELO03-04025-150L	25	40	150	25	4			
ELO03-04025-200L	25	40	200	25	4			
ELO03-04026-150L	26	35	150	25	4			
ELO03-04026-200L	26	35	200	25	4			
ELO03-05032-150L	32	50	150	32	5			
ELO03-05032-200L	32	50	200	32	5			
ELO03-05033-150L	33	40	150	32	5			
ELO03-05033-200L	33	40	200	32	5			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LOGX0303	1.6 mm	0.39 mm



搭配刀片 Insert P.233
切削條件表 Cutting Condition P.583

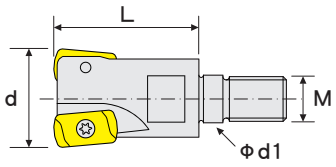
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

HLO 鎖牙式 - 高進給型銑刀頭

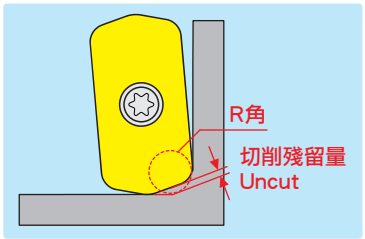
MODULAR HEADS- HIGH FEED MILLING CUTTERS- HLO



Milling Table 151

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HLO03-02016	16	25	8.5	M8	2	LOGX0303..	MS3007K	ETF08
HLO03-02017	17	25	8.5	M8	2			
HLO03-03020	20	30	10.5	M10	3			
HLO03-03021	21	30	10.5	M10	3			
HLO03-04025	25	35	12.5	M12	4			
HLO03-04026	26	35	12.5	M12	4			
HLO03-05032	32	40	17.0	M16	5			
HLO03-05033	33	40	17.0	M16	5			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LOGX0303	1.6 mm	0.39 mm



搭配刀片 Insert P.233 搭配刀桿 Holder P.335, 336 切削條件表 Cutting Condition P.583

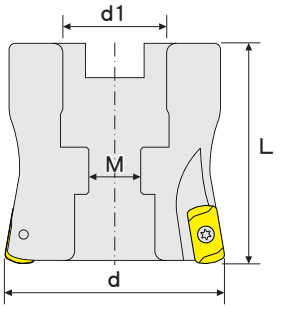
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FLO 高進給型銑刀盤

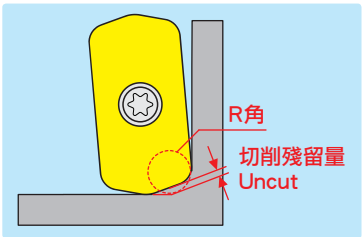
HIGH FEED FACE MILLING CUTTERS- FLO



Milling Table 151

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FLO03-06040-1600	40	40	16.00	M8.5	6	LOGX0303..	MS3007K	ETF08
FLO03-08050-2200	50	50	22.00	M11.0	8			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LOGX0303	1.6 mm	0.39 mm



搭配刀片 Insert P.233
切削條件表 Cutting Condition P.583

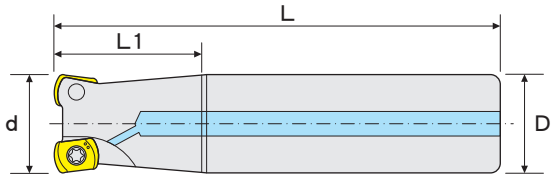
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

EBN 高進給型銑刀桿

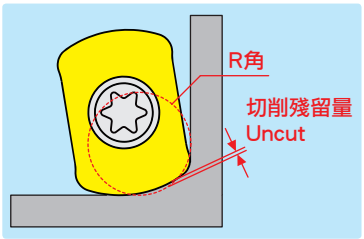
HIGH FEED MILLING CUTTERS- EBN



Milling Table 152

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EBN06-02016-150L	16	30	150	16	2	BNMX0603..	TS3016	ETF08
EBN06-02016-200L	16	30	200	16	2			
EBN06-02017-150L	17	30	150	16	2			
EBN06-02017-200L	17	30	200	16	2			
EBN06-03020-150L	20	30	150	20	3			
EBN06-03020-200L	20	30	200	20	3			
EBN06-03021-150L	21	30	150	20	3			
EBN06-03021-200L	21	30	200	20	3			
EBN06-04025-150L	25	35	150	25	4			
EBN06-04025-200L	25	35	200	25	4			
EBN06-04026-150L	26	35	150	25	4			
EBN06-04026-200L	26	35	200	25	4			
EBN06-05032-150L	32	40	150	32	5			
EBN06-05032-200L	32	40	200	32	5			
EBN06-05033-150L	33	40	150	32	5			
EBN06-05033-200L	33	40	200	32	5			
EBN06-05035-150L	35	40	150	32	5			
EBN06-05035-200L	35	40	200	32	5			
EBN09-03025-150L	25	40	150	25	3	BNMX0904..	TS4009	ETF15
EBN09-03032-150L	32	40	150	32	3			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
BNMX0603	2.0 mm	0.42 mm
BNMX0904	2.5 mm	0.61 mm



搭配刀片 Insert P.233 切削條件表 Cutting Condition P.584

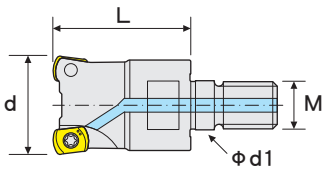
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HBN 鎖牙式 - 高進給型銑刀頭

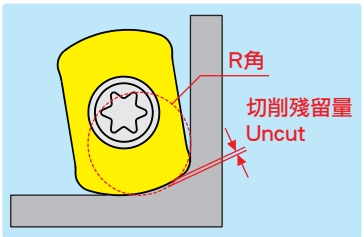
MODULAR HEADS- HIGH FEED MILLING CUTTERS- HBN



Milling Table 152

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HBN06-02016	16	25	8.5	M8	2	BNMX0603..	TS3016	ETF08
HBN06-02017	17	25	8.5	M8	2			
HBN06-03020	20	30	10.5	M10	3			
HBN06-03021	21	30	10.5	M10	3			
HBN06-04025	25	35	12.5	M12	4			
HBN06-04026	26	35	12.5	M12	4			
HBN06-04032	32	40	17.0	M16	4			
HBN06-05032	32	40	17.0	M16	5			
HBN06-04035	35	43	17.0	M16	4			
HBN06-05035	35	43	17.0	M16	5			
HBN06-06040	40	43	17.0	M16	6			
HBN06-06042	42	43	17.0	M16	6			
HBN09-03025-C	25	35	12.5	M12	3	BNMX0904..	TS4009	ETF15
HBN09-04032-C	32	40	17.0	M16	4			
HBN09-04035-C	35	43	17.0	M16	4			
HBN09-05042-C	42	43	17.0	M16	5			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
BNMX0603	2.0 mm	0.42 mm
BNMX0904	2.5 mm	0.61 mm



➡ 搭配刀片 Insert P.233 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.584

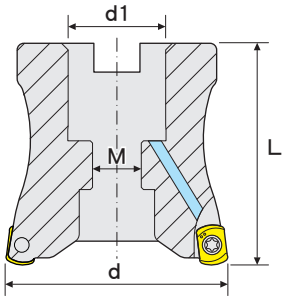
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FBN 高進給型銑刀盤

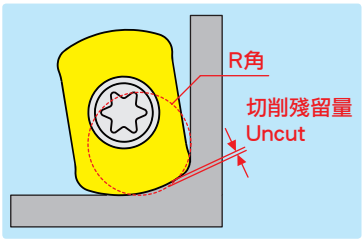
HIGH FEED FACE MILLING CUTTERS- FBN



Milling Table 152

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FBN06-07050-2200-C	50	50	22.00	—	7	BNMX0603..	MS2506E	ETF08
FBN06-07052-2200-C	52	50	22.00	—	7			
FBN09-06050-2200-C	50	50	22.00	—	6	BNMX0904..	TS3504	ETF15
FBN09-06052-2200-C	52	50	22.00	—	6			
FBN09-07063-2200-C	63	50	22.00	—	7		TS4009	
FBN09-07063-2700-C	63	50	27.00	—	7		TS3504	
FBN09-07066-2700-C	66	50	27.00	—	7			
FBN09-08080-2700-C	80	50	27.00	—	8			
FBN09-10100-3200-C	100	50	32.00	—	10			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
BNMX0603	2.0 mm	0.42 mm
BNMX0904	2.5 mm	0.61 mm



搭配刀片 Insert P.233 切削條件表 Cutting Condition P.584

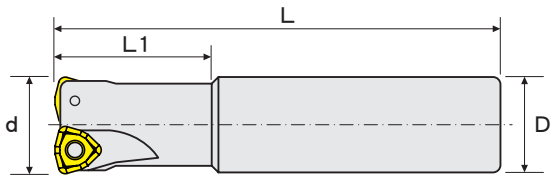
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EWN 高進給型銑刀桿

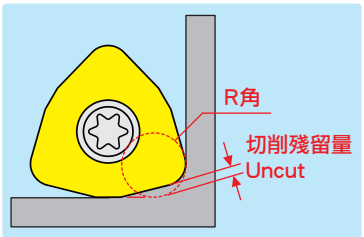
HIGH FEED MILLING CUTTERS- EWN



Milling Table 153

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EWN09-02025-150L	25	40	150	25	2	WNMX09T3..	TS3006	ETF10
EWN09-03032-150L	32	40	150	32	3			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
WNMX09T3	2.5 mm	0.6 mm
WNMX1305	3.0 mm	1.0 mm



搭配刀片 Insert P.233, 234
切削條件表 Cutting Condition P.585

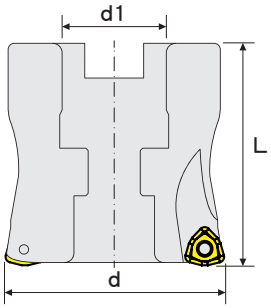
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

FWN 高進給型銑刀盤

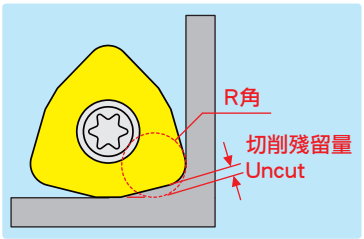
HIGH FEED FACE MILLING CUTTERS- FWN



Milling Table 153

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FWN09-05050-2200	50	50	22.00	—	5	WNMX09T3..	TS3006	ETF10
FWN09-05063-2200	63	50	22.00	—	5			
FWN09-05050-2200-C	50	50	22.00	—	5			
FWN09-05063-2200-C	63	50	22.00	—	5			
FWN13-05063-2200	63	50	22.00	—	5	WNMX1305..	TS4006	ETF15
FWN13-07080-2700	80	50	27.00	—	7			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
WNMX09T3	2.5 mm	0.6 mm
WNMX1305	3.0 mm	1.0 mm



搭配刀片 Insert P.233, 234
切削條件表 Cutting Condition P.585

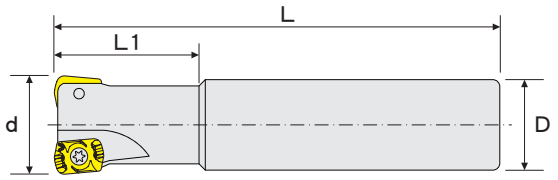
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

ELP 高進給型銑刀桿

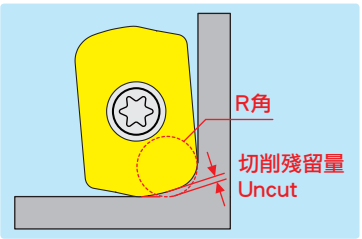
HIGH FEED MILLING CUTTERS- ELP



Milling Table 192

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ELP01-01008-080L	8	16	80	10	1	LPGX0102..	MS1804A	ETF06
ELP01-01008-080L-C	8	16	80	10	1			
ELP01-02010-080L	10	20	80	10	2			
ELP01-02010-080L-C	10	20	80	10	2			
ELP01-02010-100L	10	25	100	10	2			
ELP01-02010-100L-C	10	25	100	10	2			
ELP01-03012-080L	12	20	80	12	3			
ELP01-03012-080L-C	12	20	80	12	3			
ELP01-03012-100L	12	25	100	12	3			
ELP01-03012-100L-C	12	25	100	12	3			
ELP01-03012-150L	12	25	150	12	3			
ELP01-03012-150L-C	12	25	150	12	3			
ELP01-04016-090L	16	20	90	16	4			
ELP01-04016-090L-C	16	20	90	16	4			
ELP01-04016-150L	16	30	150	16	4			
ELP01-04016-150L-C	16	30	150	16	4			

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
LPGX0102	1.2 mm	0.17 mm



搭配刀片 Insert P.234 切削條件表 Cutting Condition P.617

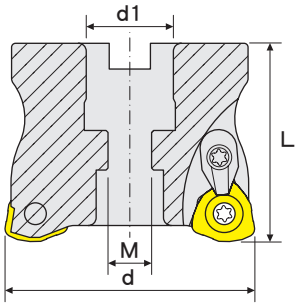
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63	—	HRC<30	—	HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FJD 高進給型銑刀盤

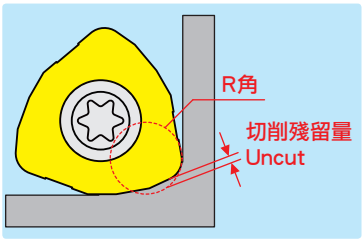
HIGH FEED FACE MILLING CUTTERS- FJD



Milling Table 154

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Screw	Clamp	Wrench
	d	L	d1	M							
FJD12-03050-2200	50	50	22.00	M11	3	JDMW1204..	MS4011G	–	–	MC35-3V	ETF15
FJD12-04050-2200	50	50	22.00	M11	4						
FJD12-04063-2200	63	50	22.00	M11	4						
FJD12-04063-2540	63	50	25.40	M13	4						
FJD12-04066-2540	66	50	25.40	M13	4						
FJD12-04080-2540	80	50	25.40	M13	4						
FJD12-06080-2540	80	50	25.40	M13	6						
FJD14-04063-2200	63	50	22.00	M11	4	JDMT1405.. JDMW1405..	MS5011A	–	–	MC50V	ETF20
FJD14-04063-2540	63	50	25.40	M13	4						
FJD14-04066-2540	66	50	25.40	M13	4						
FJD14-04080-3175	80	63	31.75	M17	4						
FJD14-05100-3175	100	63	31.75	M17	5						

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
JDMW1204	3.0 mm	0.63 mm
JDMT1405 / JDMW1405	3.0 mm	0.64 mm



搭配刀片 Insert P.234, 235
切削條件表 Cutting Condition P.586

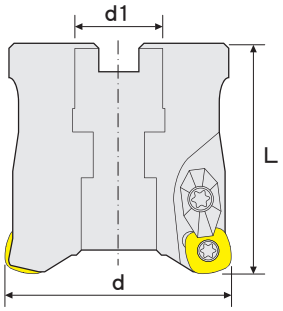
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

FSD 高進給型銑刀盤

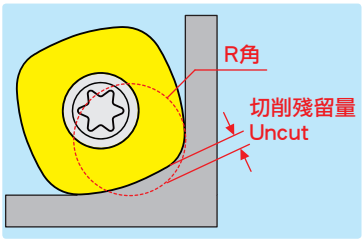
HIGH FEED FACE MILLING CUTTERS- FSD



Milling Table 155

訂購編號 Order No.	尺寸 Dimensions (mm)			刀片數量 Teeth	搭配刀片 Insert	Clamp	Screw	Screw	Wrench
	d	L	d1						
FSD12-03050-2200	50	50	22.00	3	SDMT1205.. SDNW1205..	YR-06	MS4008ES	MS4011A	ETF15
FSD12-03050-2222	50	50	22.22	3					
FSD12-04050-2200	50	50	22.00	4					
FSD12-04050-2222	50	50	22.22	4					
FSD12-03063-2200	63	50	22.00	3					
FSD12-03063-2222	63	50	22.22	3					
FSD12-04063-2200	63	50	22.00	4					
FSD12-04063-2222	63	50	22.22	4					
FSD12-04080-3175	80	55	31.75	4					
FSD12-04080-3200	80	55	32.00	4					
FSD12-05080-3175	80	55	31.75	5					
FSD12-05080-3200	80	55	32.00	5					

R 角編程設定 Programming- Corner R		
刀片 Insert	內接圓 R 角 Input. R	切削殘留量 Uncut
SDMT1205 SDNW1205	4.5 mm	0.83 mm



搭配刀片 Insert P.235 切削條件表 Cutting Condition P.587

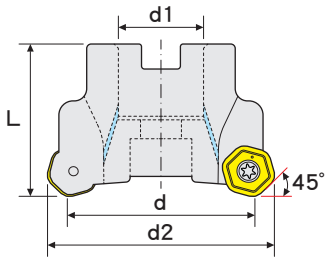
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	◎	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FHN 面銑刀盤

FACE MILLING CUTTERS- FHN



Milling Table 156

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	d2	L	d1				
FHN07-05050-2200-C	50	58.7	40	22.00	5	HNMX0704..	TS4005	ETF15
FHN07-06063-2200-C	63	71.7	40	22.00	6			
FHN07-08080-2700-C	80	88.7	50	27.00	8			
FHN07-09100-3200-C	100	108.7	50	32.00	9			

搭配刀片 Insert P.235 切削條件表 Cutting Condition P.587

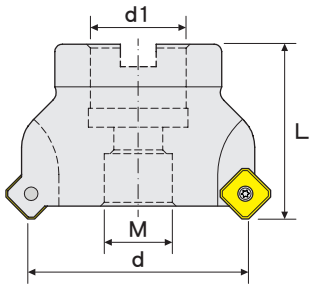
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FSN 面銑刀盤

FACE MILLING CUTTERS- FSN



157

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FSN12-04050-2200-C	50	40	22.00	M11	4	SNMX1205..	MS4014M	ETF15
FSN12-05050-2200-C	50	40	22.00	M11	5			
FSN12-05063-2200-C	63	40	22.00	M11	5			
FSN12-06063-2200-C	63	40	22.00	M11	6			
FSN12-06080-2700-C	80	50	27.00	M13	6			
FSN12-07080-2700-C	80	50	27.00	M13	7			
FSN12-08080-2700-C	80	50	27.00	M13	8			
FSN12-07100-3200-C	100	50	32.00	M45	7			
FSN12-08100-3200-C	100	50	32.00	M45	8			
FSN12-09100-3200-C	100	50	32.00	M45	9			
FSN12-10125-4000-C	125	63	40.00	M53	10			
FSN12-12160-4000-C	160	63	40.00	M55	12			

搭配刀片 Insert P.236　切削條件表 Cutting Condition P.588

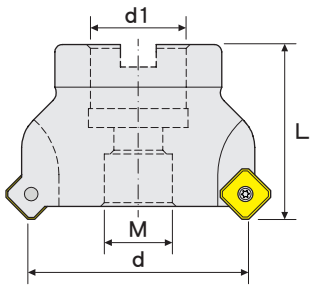
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

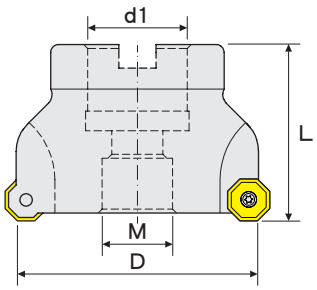
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

FON 面銑刀盤

FACE MILLING CUTTERS- FON





Milling Table 157

訂購編號 Order No.	尺寸 Dimensions (mm)					刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	D	L	d1	M				
FON05-04050-2200	50	52.9	40	22.00	—	4	ONMX0505.. SNMX1205..	TS4015	ETF15
FON05-05063-2200	63	65.9	40	22.00	—	5			
FON05-06080-2700	80	82.9	50	27.00	—	6			
FON05-08100-3200	100	102.9	50	32.00	—	8			
FON05-10125-4000	125	127.9	63	40.00	—	10			
FON05-12160-4000	160	162.9	63	40.00	—	12			
FON05-14200-6000	200	202.9	63	60.00	—	14			

搭配刀片 Insert P.236 切削條件表 Cutting Condition P.588

※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

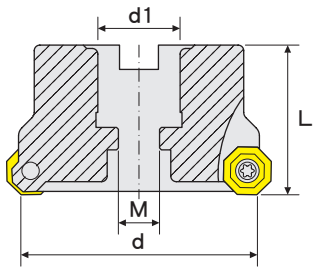
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

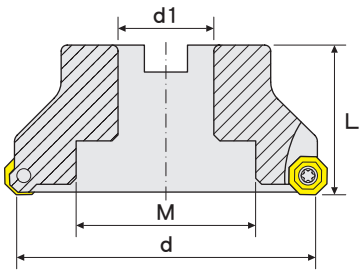
FOF 面銑刀盤

FACE MILLING CUTTERS- FOF

Φ50
Φ63



Φ80
Φ100
Φ125



Milling Table 158

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FOF05-05050-2200	50	40	22.00	M11	5	OFMT05T3..	MS4011A	ETF15
FOF05-06063-2200	63	40	22.00	M11	6			
FOF05-06063-2540	63	50	25.40	M13	6			
FOF05-07080-2540	80	50	25.40	M13	7			
FOF05-07080-2700	80	50	27.00	M38	7			
FOF05-08100-3175	100	50	31.75	M46	8			
FOF05-08100-3200	100	50	32.00	M46	8			
FOF05-09125-3810	125	63	38.10	M60	9			
FOF05-09125-4000	125	63	40.00	M60	9			
FOF05-11160-5080	160	63	50.80	M80	11			

搭配刀片 Insert P.236 切削條件表 Cutting Condition P.589

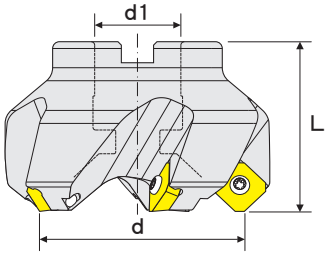
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FSE 面銑刀盤

FACE MILLING CUTTERS- FSE



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訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FSE12-04050-2200	50	40	22.00	—	4	SE..1204..	CS45	ETF15
FSE12-05063-2540	63	50	25.40	—	5			
FSE12-06080-2540	80	50	25.40	—	6			
FSE12-06100-3175	100	50	31.75	—	6			
FSE12-08125-3810	125	63	38.10	—	8			
FSE12-10160-5080	160	63	50.80	—	10			

➡ 搭配刀片 Insert P.236, 237 ➡ 切削條件表 Cutting Condition P.589

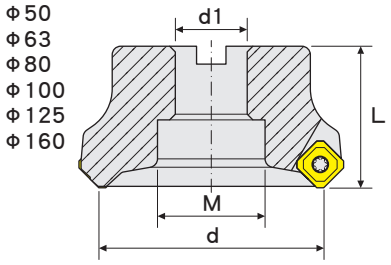
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

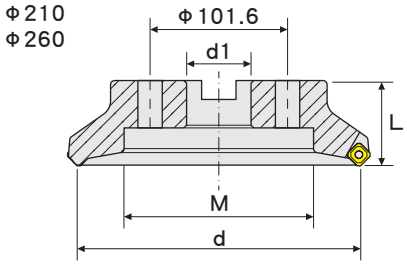
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FSE 面銑刀盤

FACE MILLING CUTTERS- FSE





Milling Table 160

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Shim	Screw	Wrench	Screw	Wrench
	d	L	d1	M							
FSE13-03050-2200	50	40	22.00	M11	3	SE..13T3..	SSS445N	MDS05 035 ST	PL35	MS3512B	ETF15
FSE13-04063-2200	63	40	22.00	M11	4						
FSE13-03050-2540	50	50	25.40	M13	3						
FSE13-04063-2540	63	50	25.40	M13	4						
FSE13-04080-2540	80	50	25.40	M38	4						
FSE13-04080-2700	80	50	27.00	M38	4						
FSE13-05100-3175	100	50	31.75	M45	5						
FSE13-05100-3200	100	50	32.00	M45	5						
FSE13-06125-3810	125	63	38.10	M60	6						
FSE13-06125-4000	125	63	40.00	M60	6						
FSE13-07160-4000	160	63	40.00	M80	7						
FSE13-07160-5080	160	63	50.80	M80	7						
FSE13-08210-4762	210	63	47.62	M140	8						
FSE13-10260-4762	260	63	47.62	M180	10						

➡ 搭配刀片 Insert P.237, 238 ➡ 切削條件表 Cutting Condition P.590

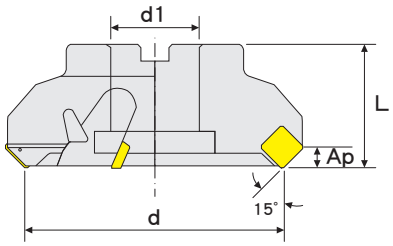
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FSP 面銑刀盤

FACE MILLING CUTTERS- FSP



Milling Table 161

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Shim	Screw	Wrench	Screw	Wrench
	d	L	d1	Ap							
FSP12-05080-2540	80	55	25.40	8.5	5	SPMN1203..	Y-5253	Y-5252 M4.0-0.7	Y-5251 5/16-24	Y-5254 5/16-24	ETF15
FSP12-06100-3175	100	55	31.75	8.5	6						
FSP12-08125-3810	125	60	38.10	8.5	8						
FSP12-10160-5080	160	60	50.80	8.5	10						
FSP12-12200-4762	200	65	47.62	8.5	12						
FSP12-16250-4762	250	65	47.62	8.5	16						
FSP12-20300-4762	300	65	47.62	8.5	20						

➡ 搭配刀片 Insert P.238 ➡ 切削條件表 Cutting Condition P.590

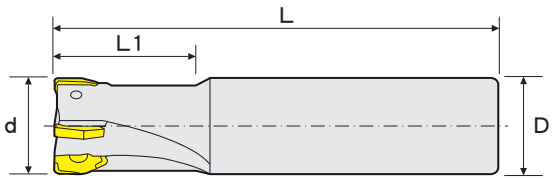
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	○	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EXN 直角型銑刀桿

SHOULDER MILLING CUTTERS- EXN



Milling Table 162

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EXN04-03020-110L-C	20	28	110	20	3	XNMX0403..	MS2506E	ETF08
EXN04-03020-150L-C	20	28	150	20	3			
EXN04-04025-120L-C	25	28	120	25	4			
EXN04-04025-170L-C	25	28	170	25	4			
EXN04-05032-130L-C	32	30	130	32	5			
EXN04-05032-200L-C	32	30	195	32	5			

搭配刀片 Insert P.238　切削條件表 Cutting Condition P.591

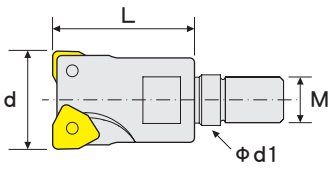
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

HXN 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HXN



Milling Table 162

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HXN04-02017-C	17	26	8.5	M8	2	XNMX0403..	TS2512	ETF08
HXN04-03020-C	20	28	10.5	M10	3		MS2506E	
HXN04-03021-C	21	32	10.5	M10	3		TS2512	
HXN04-04025-C	25	30	12.5	M12	4		MS2506E	
HXN04-04026-C	26	38	12.5	M12	4		TS2512	
HXN04-05032-C	32	40	17.0	M16	5		MS2506E	

➡ 搭配刀片 Insert P.238 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.591

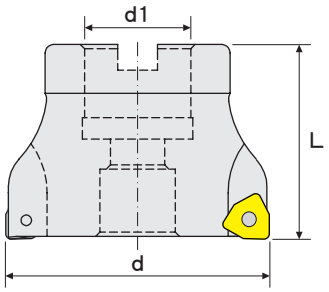
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FXN 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FXN



Milling Table 162

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FXN04-06050-2200	50	50	22.00	–	6	XNMX0403..	TS2512	ETF08
FXN04-07063-2200	63	50	22.00	–	7			
FXN04-07063-2540	63	50	25.40	–	7			
FXN04-07040-1600-C	40	40	16.00	–	7	XNMX0403..	MS2506E	ETF08
FXN04-09050-2200-C	50	40	22.00	–	9			
FXN08-04050-2200-C	50	40	22.00	–	4	XNMX0806..	MS4011A	ETF15
FXN08-05050-2200-C	50	40	22.00	–	5			
FXN08-06063-2200-C	63	40	22.00	–	6			
FXN08-07063-2200-C	63	40	22.00	–	7			
FXN08-07080-2700-C	80	50	27.00	–	7			
FXN08-09080-2700-C	80	50	27.00	–	9			
FXN08-08100-3200-C	100	50	32.00	–	8			
FXN08-11100-3200-C	100	50	32.00	–	11			
FXN08-11125-4000-C	125	63	40.00	–	11			
FXN08-12160-4000-C	160	63	40.00	–	12			

搭配刀片 Insert P.238　切削條件表 Cutting Condition P.591

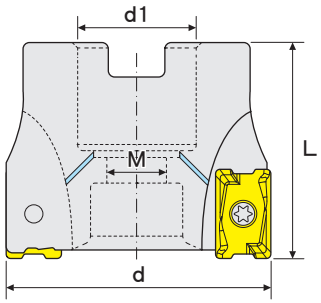
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

FAN 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FAN



Milling Table 195

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FAN15-04040-1600-C	40	40	16.00	—	4	ANMX15T6..	TS4006	ETF15
FAN15-05050-2200-C	50	40	22.00	—	5			
FAN15-06063-2200-C	63	40	22.00	—	6			
FAN15-07080-2700-C	80	50	27.00	—	7			
FAN15-08100-3200-C	100	50	32.00	—	8			

搭配刀片 Insert P.239 切削條件表 Cutting Condition P.620

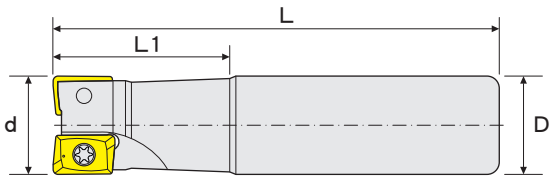
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EAP 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAP



Milling Table 163

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAP10-02016-100L	16	28	100	16	2	APKT1003..	MS2506B	ETF09
EAP10-02016-150L	16	28	150	16	2			
EAP10-02016-200L	16	28	200	16	2			
EAP10-02017-150L	17	26	150	16	2			
EAP10-02017-200L	17	26	200	16	2			
EAP10-02018-100L	18	30	100	20	2			
EAP10-02018-150L	18	30	150	20	2			
EAP10-02018-200L	18	30	200	20	2			
EAP10-02019-120L	19	30	120	20	2			
EAP10-02020-100L	20	30	100	20	2			
EAP10-02020-150L	20	30	150	20	2			
EAP10-02020-200L	20	30	200	20	2			
EAP10-03020-100L	20	30	100	20	3			
EAP10-03020-150L	20	30	150	20	3			
EAP10-03020-200L	20	30	200	20	3			
EAP10-02021-120L	21	30	120	20	2			
EAP10-02021-150L	21	30	150	20	2			
EAP10-02021-200L	21	30	200	20	2			
EAP10-03021-150L	21	30	150	20	3			
EAP10-03021-200L	21	30	200	20	3			
EAP10-03025-125L	25	30	125	25	3			
EAP10-03025-150L	25	30	150	25	3			
EAP10-03025-200L	25	30	200	25	3			
EAP10-03026-150L	26	30	150	25	3			
EAP10-03026-200L	26	30	200	25	3			
EAP10-04026-150L	26	30	150	25	4			
EAP10-04026-200L	26	30	200	25	4			
EAP10-04032-150L	32	40	150	32	4			
EAP10-04032-200L	32	40	200	32	4			

➡ 搭配刀片 Insert P.239 ➡ 切削條件表 Cutting Condition P.592

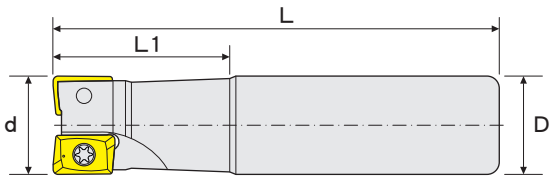
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EAPT 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAPT



Milling Table 163

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAPT16-02024-125L	24	40	125	25	2	APKT1604.. APET1604..	MS4009A	ETF15
EAPT16-02025-125L	25	40	125	25	2			
EAPT16-02025-150L	25	40	150	25	2			
EAPT16-02025-200L	25	40	200	25	2			
EAPT16-02026-150L	26	30	150	25	2			
EAPT16-02026-200L	26	30	200	25	2			
EAPT16-02026-250L	26	30	250	25	2			
EAPT16-03032-150L	32	45	150	32	3		MS4011A	ETF15
EAPT16-03032-200L	32	45	200	32	3			
EAPT16-03032-250L	32	45	250	32	3			
EAPT16-03033-150L	33	35	150	32	3			
EAPT16-03033-200L	33	35	200	32	3			
EAPT16-03033-250L	33	35	250	32	3			
EAPT16-03033-300L	33	35	300	32	3			
EAPT16-02035-150L	35	35	150	32	2			
EAPT16-02035-200L	35	35	200	32	2			
EAPT16-03035-150L	35	35	150	32	3			
EAPT16-03035-200L	35	35	200	32	3			
EAPT17-02025-150L	25	35	150	25	2	APKT1705..	MS4009A	ETF15
EAPT17-02025-200L	25	35	200	25	2			
EAPT17-02026-150L	26	35	150	25	2			
EAPT17-02026-200L	26	35	200	25	2			
EAPT17-03032-150L	32	40	150	32	3			
EAPT17-03032-200L	32	40	200	32	3			
EAPT17-03032-250L	32	40	250	32	3			

➡ 搭配刀片 Insert P.239, 240 ➡ 切削條件表 Cutting Condition P.592

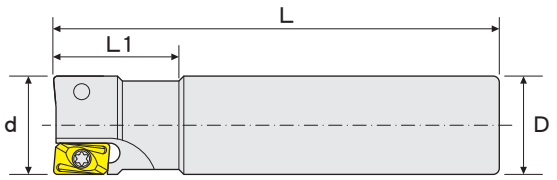
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EAPM 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAPM



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAPM10-02015-100L	15	25	100	16	2	APMT1035..	MS2506A	ETF09
EAPM10-02016-150L	16	25	150	16	2			
EAPM10-02016-200L	16	25	200	16	2			
EAPM10-03020-150L	20	30	150	20	3			
EAPM10-03020-200L	20	30	200	20	3			
EAPM10-02022-150L	22	25	150	20	2			
EAPM10-03022-150L	22	25	150	20	3			
EAPM10-03025-150L	25	35	150	25	3			
EAPM10-03025-200L	25	35	200	25	3			

搭配刀片 Insert P.240　切削條件表 Cutting Condition P.593

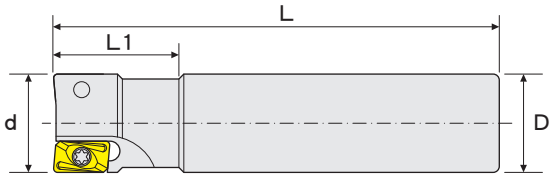
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

EAP 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAP



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAP11-020142-100L	14.2	20	100	16	2	APMT1135..	MS2506E	ETF08
EAP11-020155-100L	15.5	25	100	16	2			
EAP11-02016-100L	16	28	100	16	2			
EAP11-02016-150L	16	28	150	16	2			
EAP11-02016-200L	16	28	200	16	2			
EAP11-02017-150L	17	20	150	16	2			
EAP11-02017-200L	17	20	200	16	2			
EAP11-02018-110L	18	28	110	20	2			
EAP11-02018-150L	18	28	150	20	2			
EAP11-02020-110L	20	28	110	20	2			
EAP11-02020-150L	20	28	150	20	2			
EAP11-02020-200L	20	28	200	20	2			
EAP11-03020-110L	20	28	110	20	3			
EAP11-03020-125L	20	28	125	20	3			
EAP11-03020-150L	20	25	150	20	3			
EAP11-03020-200L	20	25	200	20	3			
EAP11-02021-150L	21	25	150	20	2			
EAP11-02021-200L	21	25	200	20	2			
EAP11-03021-150L	21	25	150	20	3			
EAP11-03021-200L	21	25	200	20	3			
EAP11-030213-150L	21.3	25	150	20	3			
EAP11-02022-150L	22	25	150	20	2			
EAP11-02022-200L	22	25	200	20	2			
EAP11-03022-150L	22	25	150	20	3			
EAP11-03024-120L	24	35	120	25	3			
EAP11-03024-150L	24	35	150	25	3			
EAP11-03025-100L	25	35	100	25	3			
EAP11-03025-120L	25	35	120	25	3			
EAP11-03025-150L	25	35	150	25	3			
EAP11-03025-200L	25	35	200	25	3			
EAP11-04025-100L	25	35	100	25	4			

➡ 搭配刀片 Insert P.240 ➡ 切削條件表 Cutting Condition P.593

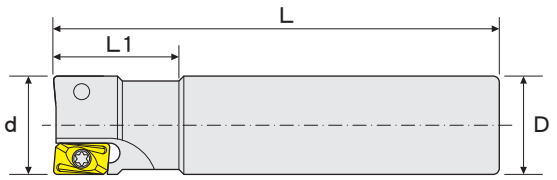
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EAP 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAP



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAP11-04025-120L	25	35	120	25	4	APMT1135..	MS2506E	ETF08
EAP11-04025-150L	25	35	150	25	4			
EAP11-04025-200L	25	35	200	25	4			
EAP11-03026-150L	26	35	150	25	3			
EAP11-03026-200L	26	35	200	25	3			
EAP11-04026-150L	26	35	150	25	4			
EAP11-04026-200L	26	35	200	25	4			
EAP11-03032-150L	32	35	150	32	3			
EAP11-03032-200L	32	35	200	32	3			
EAP11-04032-130L	32	35	130	32	4			
EAP11-04032-150L	32	35	150	32	4			
EAP11-04032-200L	32	35	200	32	4			
EAP11-05032-130L	32	35	130	32	5			

搭配刀片 Insert P.240　切削條件表 Cutting Condition P.593

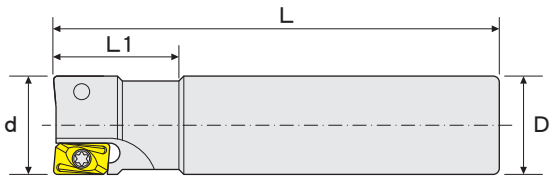
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

EAP 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAP



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAP16-02025-120L	25	40	120	25	2	APMT1604.. APGT1604..	MS4009A	ETF15
EAP16-02025-150L	25	40	150	25	2			
EAP16-02025-200L	25	40	200	25	2			
EAP16-02026-150L	26	40	150	25	2			
EAP16-02026-200L	26	40	200	25	2			
EAP16-02029-150L	29	40	150	32	2			
EAP16-02032-150L	32	45	150	32	2			
EAP16-02032-200L	32	45	200	32	2			
EAP16-02032-250L	32	45	250	32	2			
EAP16-03032-130L	32	45	130	32	3			
EAP16-03032-150L	32	45	150	32	3			
EAP16-03032-200L	32	45	200	32	3			
EAP16-03032-250L	32	45	250	32	3			
EAP16-02033-150L	33	35	150	32	2		MS4011A	
EAP16-02033-200L	33	35	200	32	2			
EAP16-02033-250L	33	35	250	32	2			
EAP16-03033-150L	33	35	150	32	3			
EAP16-03033-200L	33	35	200	32	3			
EAP16-03033-250L	33	35	250	32	3			
EAP16-03035-150L	35	35	150	32	3			
EAP16-03035-200L	35	35	200	32	3			
EAP16-03035-250L	35	35	250	32	3			

➡ 搭配刀片 Insert P.240, 241 ➡ 切削條件表 Cutting Condition P.593

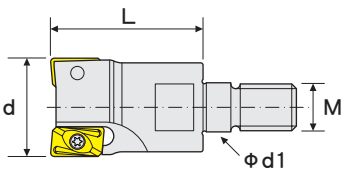
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HAP 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HAP



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HAP11-01011	11	21	5.5	M5	1	APMT1135..	MS2506E	ETF08
HAP11-01013	13	23	6.5	M6	1			
HAP11-02016	16	25	8.5	M8	2			
HAP11-02017	17	25	8.5	M8	2			
HAP11-02020	20	30	10.5	M10	2			
HAP11-03020	20	30	10.5	M10	3			
HAP11-02021	21	30	10.5	M10	2			
HAP11-03021	21	30	10.5	M10	3			
HAP11-02022	22	30	10.5	M10	2			
HAP11-03022	22	30	10.5	M10	3			
HAP11-03025	25	35	12.5	M12	3			
HAP11-04025	25	35	12.5	M12	4			
HAP11-03026	26	35	12.5	M12	3			
HAP11-04026	26	35	12.5	M12	4			
HAP11-04032	32	43	17.0	M16	4			
HAP11-05032	32	43	17.0	M16	5			
HAP11-04033	33	43	17.0	M16	4			
HAP11-05033	33	43	17.0	M16	5			
HAP11-04035	35	43	17.0	M16	4			
HAP11-05035	35	43	17.0	M16	5			
HAP11-05036	36	43	17.0	M16	5			

➡ 搭配刀片 Insert P.240 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.593

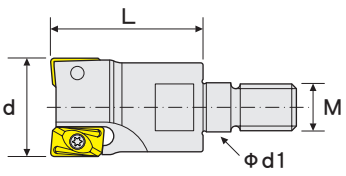
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HAP 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HAP



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HAP16-02025	25	38	12.5	M12	2	APMT1604.. APGT1604..	MS4009A	ETF15
HAP16-02026	26	38	12.5	M12	2			
HAP16-02032	32	43	17.0	M16	2			
HAP16-03032	32	43	17.0	M16	3			
HAP16-02033	33	43	17.0	M16	2		MS4011A	ETF15
HAP16-03033	33	43	17.0	M16	3			
HAP16-03035	35	43	17.0	M16	3			

➡ 搭配刀片 Insert P.240, 241 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.593

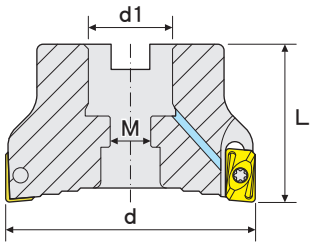
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FAP 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FAP



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FAP11-05040-1600	40	40	16.00	M9	5	APMT1135..	MS2506E	ETF08
FAP11-05050-2200	50	40	22.00	M11	5			
FAP11-07050-2200	50	40	22.00	M11	7			
FAP11-08063-2200	63	40	22.00	M11	8			
FAP11-09080-2700	80	50	27.00	M13	9			
FAP11-08063-2540	63	50	25.40	M13	8			
FAP11-09080-2540	80	50	25.40	M13	9			

➡ 搭配刀片 Insert P.240 ➡ 切削條件表 Cutting Condition P.593

※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

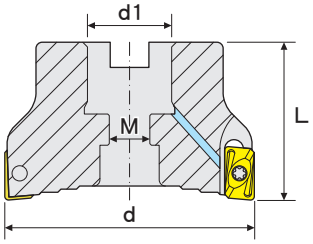
應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

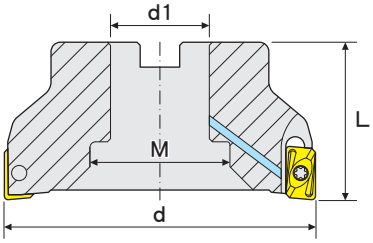
FAP 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FAP

Φ40
Φ50
Φ63
Φ66
Φ80



Φ100
Φ125



Milling Table 164

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FAP16-04040-1600	40	40	16.00	M9	4	APMT1604.. APGT1604..	MS4011A	ETF15
FAP16-04050-2200	50	50	22.00	M11	4			
FAP16-05050-2200	50	50	22.00	M11	5			
FAP16-05063-2200	63	50	22.00	M11	5			
FAP16-06063-2200	63	50	22.00	M11	6			
FAP16-06080-2700	80	50	27.00	M13	6			
FAP16-08080-2700	80	50	27.00	M13	8			
FAP16-08100-3200	100	50	32.00	M45	8			
FAP16-09125-4000	125	63	40.00	M60	9			
FAP16-04050-2540	50	50	25.40	M13	4			
FAP16-05060-2540	60	50	25.40	M13	5			
FAP16-05063-2540	63	50	25.40	M13	5			
FAP16-04066-2540	66	50	25.40	M13	4			
FAP16-05066-2540	66	50	25.40	M13	5			
FAP16-06080-2540	80	50	25.40	M13	6			
FAP16-08100-3175	100	50	31.75	M45	8			
FAP16-08110-3175	110	50	31.75	M45	8			
FAP16-09125-3810	125	50	38.10	M60	9			

➡ 搭配刀片 Insert P.240, 241 ➡ 切削條件表 Cutting Condition P.593

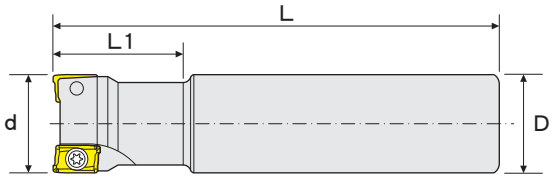
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EAX 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAX



Milling Table 165

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAX12-01010-100L	10	15	100	16	1	AXMT1235..	MS3005A	ETF09
EAX12-01011-100L	11	15	100	16	1			
EAX12-01012-100L	12	15	100	16	1			
EAX12-02016-100L	16	25	100	16	2		MS3006A	ETF09
EAX12-02016-150L	16	25	150	16	2			
EAX12-02016-200L	16	25	200	16	2			
EAX12-02017-100L	17	25	100	16	2			
EAX12-02017-150L	17	25	150	16	2			
EAX12-02017-200L	17	25	200	16	2			
EAX12-02020-150L	20	30	150	20	2			
EAX12-02020-200L	20	30	200	20	2			
EAX12-03020-150L	20	30	150	20	3			
EAX12-03020-200L	20	30	200	20	3			
EAX12-03021-150L	21	30	150	20	3			
EAX12-03021-200L	21	30	200	20	3			
EAX12-03022-110L	22	30	110	20	3			
EAX12-03022-150L	22	30	150	20	3			
EAX12-03022-200L	22	30	200	20	3			
EAX12-03025-150L	25	35	150	25	3			
EAX12-03025-200L	25	35	200	25	3			
EAX12-04025-150L	25	35	150	25	4			
EAX12-04025-200L	25	35	200	25	4			
EAX12-03026-150L	26	35	150	25	3			
EAX12-03026-200L	26	35	200	25	3			
EAX12-03026-250L	26	35	250	25	3			
EAX12-04026-150L	26	35	150	25	4			
EAX12-04026-200L	26	35	200	25	4			
EAX12-05032-150L	32	40	150	32	5			
EAX12-05032-200L	32	40	200	32	5			
EAX12-05033-150L	33	40	150	32	5			
EAX12-05033-200L	33	40	200	32	5			

➡ 搭配刀片 Insert P.241 ➡ 切削條件表 Cutting Condition P.594

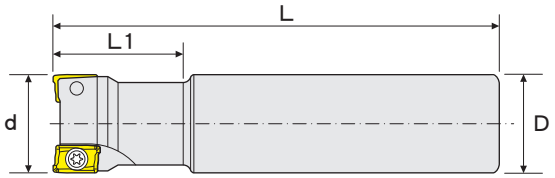
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EAX 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAX



Milling Table 165

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAX17-02025-120L	25	35	120	25	2	AXMT1705..	CS40	ETF15
EAX17-02028-120L	28	35	120	25	2			
EAX17-03030-130L	30	40	130	25	3			
EAX17-03032-130L	32	40	130	32	3			
EAX17-03035-130L	35	40	130	32	3			
EAX17-04040-170L	40	50	170	32	4			
EAX17-05050-170L	50	50	170	32	5			
EAX17-06063-170L	63	50	170	32	6			
EAX17-05050-135L	50	25	135	32	5			
EAX17-06063-135L	63	25	135	32	6			
EAX17-02025-170L	25	50	170	25	2			
EAX17-02026-150L	26	35	150	25	2			
EAX17-02026-200L	26	35	200	25	2			
EAX17-02026-250L	26	35	250	25	2			
EAX17-02026-300L	26	35	300	25	2			
EAX17-02028-170L	28	50	170	25	2			
EAX17-02030-180L	30	60	180	25	2			
EAX17-02032-180L	32	60	180	32	2			
EAX17-02033-150L	33	40	150	32	2			
EAX17-02033-200L	33	40	200	32	2			
EAX17-02033-250L	33	40	250	32	2			
EAX17-02033-300L	33	40	300	32	2			
EAX17-02033-350L	33	40	350	32	2			
EAX17-03033-150L	33	40	150	32	3			
EAX17-03033-200L	33	40	200	32	3			
EAX17-03033-250L	33	40	250	32	3			
EAX17-03033-300L	33	40	300	32	3			
EAX17-03033-350L	33	40	350	32	3			

搭配刀片 Insert P.241　切削條件表 Cutting Condition P.594

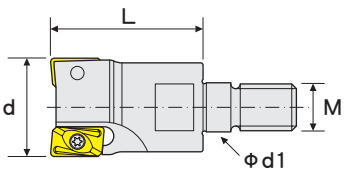
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

HAX 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HAX



Milling Table 165

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HAX17-02026	26	35	12.5	M12	2	AXMT1705..	CS40	ETF15
HAX17-02033	33	40	17.0	M16	2			
HAX17-03033	33	40	17.0	M16	3			
HAX17-02035	35	40	17.0	M16	2			
HAX17-03035	35	40	17.0	M16	3			

➡ 搭配刀片 Insert P.241 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.594

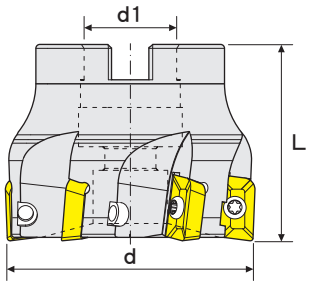
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FAX 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FAX



Milling Table 165

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FAX17-04040-1600	40	40	16.00	–	4	AXMT1705..	CS40	ETF15
FAX17-05050-2200	50	40	22.00	–	5			
FAX17-06063-2200	63	40	22.00	–	6			
FAX17-04080-2540	80	50	25.40	–	4			
FAX17-05100-3175	100	63	31.75	–	5			
FAX17-06125-3810	125	63	38.10	–	6			
FAX17-07080-2540	80	50	25.40	–	7			
FAX17-08100-3175	100	63	31.75	–	8			
FAX17-09125-3810	125	63	38.10	–	9			

搭配刀片 Insert P.241 切削條件表 Cutting Condition P.594

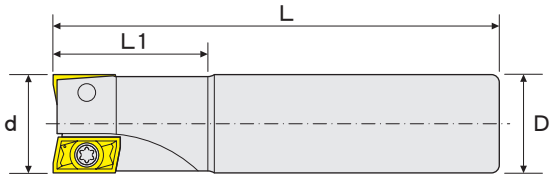
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EJD 直角型銑刀桿

SHOULDER MILLING CUTTERS- EJD



Milling Table 166

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EJD15-02025-125L	25	40	125	25	2	JDMT1505..	MS4009A	ETF15
EJD15-02025-150L	25	40	150	25	2			
EJD15-02025-200L	25	40	200	25	2			
EJD15-02025-250L	25	40	250	25	2			
EJD15-02026-150L	26	40	150	25	2			
EJD15-02026-200L	26	40	200	25	2			
EJD15-02030-125L	30	35	125	25	2			
EJD15-02030-150L	30	35	150	25	2			
EJD15-02030-200L	30	35	200	25	2			
EJD15-03032-150L	32	45	150	32	3			
EJD15-03032-200L	32	45	200	32	3			
EJD15-03032-250L	32	45	250	32	3			
EJD15-03032-300L	32	45	300	32	3			
EJD15-03033-150L	33	45	150	32	3			
EJD15-03033-200L	33	45	200	32	3			
EJD15-03033-250L	33	45	250	32	3			
EJD15-03033-300L	33	45	300	32	3			
EJD15-03035-150L	35	45	150	32	3			
EJD15-03035-200L	35	45	200	32	3			
EJD15-03035-250L	35	45	250	32	3			
EJD15-03035-300L	35	45	300	32	3			

➡ 搭配刀片 Insert P.241 ➡ 切削條件表 Cutting Condition P.595

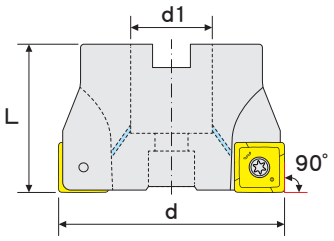
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FSO 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FSO



Milling Table 167

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FSO08-04040-1600-C	40	40	16.00	—	4	SOMT08T3..	TS2507	ETF08
FSO08-05050-2200-C	50	40	22.00	—	5			
FSO08-06063-2200-C	63	40	22.00	—	6			
FSO14-04050-2200-C	50	40	22.00	—	4	SOMT1404..	TS3505	ETF15
FSO14-05063-2200-C	63	40	22.00	—	5			
FSO14-07080-2700-C	80	50	27.00	—	7			

搭配刀片 Insert P.241　切削條件表 Cutting Condition P.595

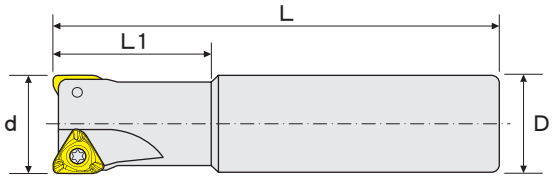
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

ETP 直角型銑刀桿

SHOULDER MILLING CUTTERS- ETP



Milling Table 168

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ETP10-02020-130L	20	50	130	20	2	TPMX1004..	TS2517	ETF08
ETP10-03025-150L	25	55	150	25	3			
ETP15-03033-200L	33	45	200	32	3	TPMX1505..	TS4014	ETF15
ETP15-04040-200L	40	45	200	32	4			

搭配刀片 Insert P.242　切削條件表 Cutting Condition P.596

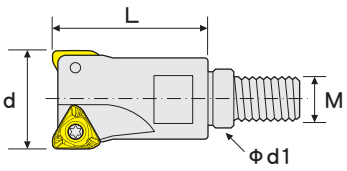
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

HTP 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HTP



Milling Table 168

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HTP10-02020	20	35	10.5	M10	2	TPMX1004..	TS2517	ETF08
HTP10-02020-C	20	35	10.5	M10	2			
HTP10-02021	21	35	10.5	M10	2			
HTP10-03025	25	35	12.5	M12	3			
HTP10-03025-C	25	35	12.5	M12	3			
HTP10-03026	26	35	12.5	M12	3			
HTP10-05032	32	43	17.0	M16	5			
HTP10-05032-C	32	43	17.0	M16	5			
HTP10-05033	33	43	17.0	M16	5			
HTP10-05033-C	33	43	17.0	M16	5			

➡ 搭配刀片 Insert P.242 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.596

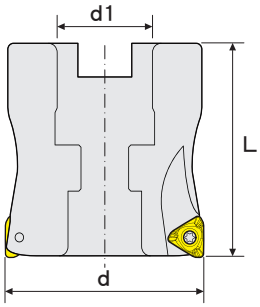
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FTP 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FTP



Milling Table 168

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FTP10-06050-2200-C	50	50	22.00	—	6	TPMX1004..	TS2517	ETF08
FTP10-07050-2200	50	50	22.00	—	7			
FTP10-07063-2200-C	63	50	22.00	—	7			
FTP10-09063-2200	63	50	22.00	—	9			
FTP15-04040-1600-C	40	40	16.00	—	4	TPMX1505..	TS4004	ETF15
FTP15-05050-2200-C	50	40	22.00	—	5			
FTP15-06063-2200-C	63	40	22.00	—	6			
FTP15-08080-2700-C	80	50	27.00	—	8			

➡ 搭配刀片 Insert P.242 ➡ 切削條件表 Cutting Condition P.596

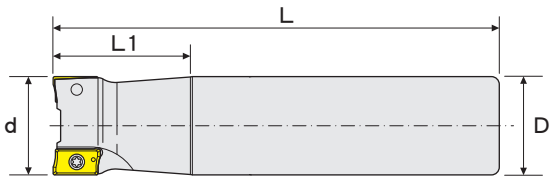
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EW390 直角型銑刀桿

SHOULDER MILLING CUTTERS- EW390



Milling Table 169

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EW390-02016-150L	16	28	150	16	2			
EW390-02016-200L	16	28	200	16	2			
EW390-02017-150L	17	20	150	16	2			
EW390-02017-200L	17	20	200	16	2			
EW390-02018-150L	18	20	150	16	2			
EW390-02018-200L	18	20	200	16	2			
EW390-02020-150L	20	30	150	20	2			
EW390-02020-200L	20	30	200	20	2			
EW390-03020-150L	20	30	150	20	3			
EW390-03020-200L	20	30	200	20	3			
EW390-02021-150L	21	20	150	20	2			
EW390-02021-200L	21	20	200	20	2			
EW390-03021-150L	21	20	150	20	3			
EW390-03021-200L	21	20	200	20	3			
EW390-02022-150L	22	30	150	20	2			
EW390-02022-200L	22	30	200	20	2			
EW390-03022-150L	22	30	150	20	3			
EW390-03025-150L	25	35	150	25	3			
EW390-03025-200L	25	35	200	25	3	W39011T3..	MS2506B	ETF09
EW390-04025-150L	25	35	150	25	4			
EW390-04025-200L	25	35	200	25	4			
EW390-03026-150L	26	25	150	25	3			
EW390-03026-200L	26	25	200	25	3			
EW390-04026-150L	26	25	150	25	4			
EW390-04026-200L	26	25	200	25	4			
EW390-04030-150L	30	40	150	32	4			
EW390-04030-200L	30	40	200	32	4			
EW390-04030-250L	30	40	250	32	4			
EW390-04032-150L	32	40	150	32	4			
EW390-04032-200L	32	40	200	32	4			
EW390-04032-250L	32	40	250	32	4			
EW390-04033-150L	33	32	150	32	4			
EW390-04033-200L	33	32	200	32	4			
EW390-04033-250L	33	32	250	32	4			
EW390-04035-150L	35	32	150	32	4			
EW390-04035-200L	35	32	200	32	4			
EW390-04035-250L	35	32	250	32	4			

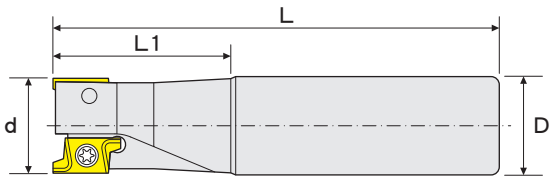
搭配刀片 Insert P.242 切削條件表 Cutting Condition P.597

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

ERT 直角型銑刀桿

SHOULDER MILLING CUTTERS- ERT



Milling Table 170

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ERT07-01006-100L	6	20	100	10	1	ANRT0702..	MS2004A	ETF06
ERT07-01008-100L	8	20	100	10	1			
ERT07-01009-100L	9	20	100	10	1			
ERT07-02010-100L	10	25	100	10	2			
ERT07-02010-150L	10	25	150	10	2			
ERT07-02011-100L	11	20	100	10	2			
ERT07-02011-150L	11	20	150	10	2			
ERT07-02012-100L	12	25	100	12	2		MS2005A	ETF06
ERT07-02012-150L	12	25	150	12	2			
ERT07-02013-100L	13	20	100	12	2			
ERT07-02013-150L	13	20	150	12	2			
ERT07-03016-150L	16	30	150	16	3			
ERT07-03016-200L	16	30	200	16	3			
ERT07-03017-150L	17	25	150	16	3			
ERT07-03017-200L	17	25	200	16	3			
ERT07-04020-150L	20	35	150	20	4			
ERT07-04020-200L	20	35	200	20	4			
ERT07-04021-150L	21	25	150	20	4			

➡ 搭配刀片 Insert P.242 ➡ 切削條件表 Cutting Condition P.598

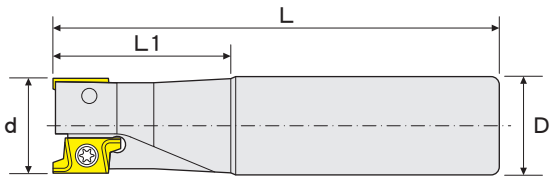
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

ERT 直角型銑刀桿

SHOULDER MILLING CUTTERS- ERT



Milling Table 170

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ERT10-02016-150L	16	30	150	16	2	ANRT1003..	MS2506B	ETF09
ERT10-02016-200L	16	30	200	16	2			
ERT10-02017-150L	17	25	150	16	2			
ERT10-02017-200L	17	25	200	16	2			
ERT10-02020-150L	20	35	150	20	2			
ERT10-02020-200L	20	35	200	20	2			
ERT10-03020-150L	20	35	150	20	3			
ERT10-03020-200L	20	35	200	20	3			
ERT10-02021-150L	21	30	150	20	2			
ERT10-02021-200L	21	30	200	20	2			
ERT10-03021-150L	21	30	150	20	3			
ERT10-03021-200L	21	30	200	20	3			
ERT10-02025-150L	25	40	150	25	2			
ERT10-02025-200L	25	40	200	25	2			
ERT10-03025-150L	25	40	150	25	3			
ERT10-03025-200L	25	40	200	25	3			
ERT10-03025-250L	25	40	250	25	3			
ERT10-02026-150L	26	30	150	25	2			
ERT10-02026-200L	26	30	200	25	2			
ERT10-03026-150L	26	30	150	25	3			
ERT10-03026-200L	26	30	200	25	3			
ERT10-03026-250L	26	30	250	25	3			
ERT10-04032-150L	32	40	150	32	4			
ERT10-04032-200L	32	40	200	32	4			
ERT10-04032-250L	32	40	250	32	4			
ERT10-04032-300L	32	40	300	32	4			
ERT10-05032-150L	32	40	150	32	5			
ERT10-05032-200L	32	40	200	32	5			
ERT10-05032-250L	32	40	250	32	5			
ERT10-05032-300L	32	40	300	32	5			
ERT10-04033-150L	33	35	150	32	4			

搭配刀片 Insert P.242　切削條件表 Cutting Condition P.598

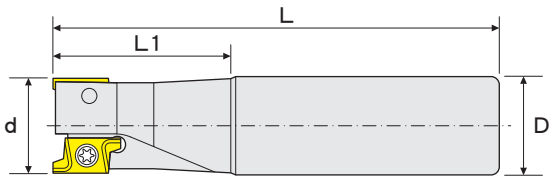
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

ERT 直角型銑刀桿

SHOULDER MILLING CUTTERS- ERT



Milling Table 170

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ERT10-04033-200L	33	35	200	32	4	ANRT1003..	MS2506B	ETF09
ERT10-04033-250L	33	35	250	32	4			
ERT10-04033-300L	33	35	300	32	4			
ERT10-05033-150L	33	35	150	32	5			
ERT10-05033-200L	33	35	200	32	5			
ERT10-05033-250L	33	35	250	32	5			
ERT10-05033-300L	33	35	300	32	5			
ERT10-04035-150L	35	35	150	32	4			
ERT10-04035-200L	35	35	200	32	4			
ERT10-04035-250L	35	35	250	32	4			
ERT10-04035-300L	35	35	300	32	4			
ERT10-05035-150L	35	35	150	32	5			
ERT10-05035-200L	35	35	200	32	5			
ERT10-05035-250L	35	35	250	32	5			
ERT10-05035-300L	35	35	300	32	5			

➡ 搭配刀片 Insert P.242 ➡ 切削條件表 Cutting Condition P.598

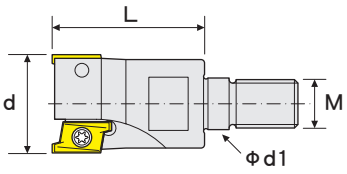
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HRT 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HRT



Milling Table 170

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HRT07-01009	9	18	4.5	M4	1	ANRT0702..	MS2004A	ETF06
HRT07-02010	10	18	5.5	M5	2			
HRT07-02011	11	18	5.5	M5	2			
HRT07-02012	12	20	6.5	M6	2		MS2005A	
HRT07-02013	13	20	6.5	M6	2			
HRT07-03016	16	23	8.5	M8	3			
HRT07-03017	17	23	8.5	M8	3			
HRT07-04020	20	30	10.5	M10	4			
HRT07-04021	21	30	10.5	M10	4			
HRT10-02016	16	30	8.5	M8	2	ANRT1003..	MS2506B	ETF09
HRT10-02017	17	30	8.5	M8	2			
HRT10-02020	20	30	10.5	M10	2			
HRT10-03020	20	30	10.5	M10	3			
HRT10-02021	21	30	10.5	M10	2			
HRT10-03021	21	30	10.5	M10	3			
HRT10-03025	25	35	12.5	M12	3			
HRT10-03026	26	35	12.5	M12	3			
HRT10-04026	26	35	12.5	M12	4			
HRT10-04032	32	43	17.0	M16	4			
HRT10-05032	32	43	17.0	M16	5			
HRT10-04033	33	43	17.0	M16	4			
HRT10-05033	33	43	17.0	M16	5			
HRT10-04035	35	43	17.0	M16	4			
HRT10-05035	35	43	17.0	M16	5			

➡ 搭配刀片 Insert P.242 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.598

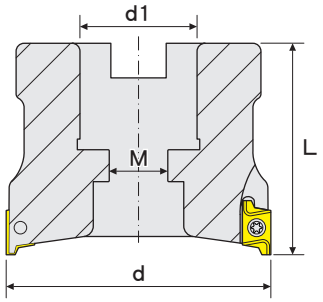
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FRT 直角型銑刀盤

SHOULDER FACE MILLING CUTTERS- FRT



Milling Table 170

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
FRT10-04050-2200	50	40	22.00	M11	4	ANRT1003..	MS2508B	ETF09
FRT10-06050-2200	50	40	22.00	M11	6			
FRT10-07050-2200	50	40	22.00	M11	7			
FRT10-04063-2540	63	50	25.40	M13	4			
FRT10-06063-2540	63	50	25.40	M13	6			
FRT10-04066-2540	66	50	25.40	M13	4			
FRT10-06066-2540	66	50	25.40	M13	6			

搭配刀片 Insert P.242　切削條件表 Cutting Condition P.598

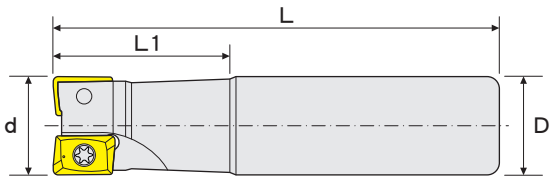
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

EAD 直角型銑刀桿

SHOULDER MILLING CUTTERS- EAD



Milling Table 171

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EAD06-02010-120L	10	20	120	10	2	ADMT0602..	MS1804B	ETF06
EAD06-02011-110L	11	13	110	10	2			
EAD06-02011-150L	11	13	150	10	2			
EAD06-02012-100L	12	25	100	12	2			
EAD06-02012-130L	12	25	130	12	2			
EAD06-03012-100L	12	25	100	12	3			
EAD06-03012-130L	12	25	130	12	3			
EAD06-02013-130L	13	18	130	12	2			
EAD06-03013-130L	13	18	130	12	3			
EAD06-04016-150L	16	28	150	16	4			
EAD06-04016-200L	16	28	200	16	4			
EAD06-04017-150L	17	20	150	16	4			
EAD10-02016-150L	16	22	150	16	2	ADMT10T3..	TS2515	ETF08
EAD10-02017-150L	17	22	150	16	2			
EAD10-03018-150L	18	28	150	20	3			
EAD10-03020-150L	20	28	150	20	3			
EAD10-03021-150L	21	28	150	20	3			
EAD10-04025-150L	25	35	150	25	4			
EAD10-04026-150L	26	35	150	25	4			
EAD10-05032-150L	32	40	150	32	5			
EAD10-05033-150L	33	40	150	32	5			

➡ 搭配刀片 Insert P.243 ➡ 切削條件表 Cutting Condition P.599

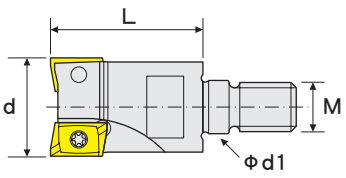
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HAD 鎖牙式 - 直角型銑刀頭

MODULAR HEADS- SHOULDER MILLING CUTTERS- HAD



Milling Table 171

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HAD06-02010	10	16	5.5	M5	2	ADMT0602..	MS1804A	ETF06
HAD06-02011	11	16	5.5	M5	2			
HAD06-02012	12	18	6.5	M6	2			
HAD06-03012	12	18	6.5	M6	3			
HAD06-02013	13	18	6.5	M6	2			
HAD06-03013	13	18	6.5	M6	3			
HAD06-04016	16	20	8.5	M8	4			
HAD06-04017	17	20	8.5	M8	4			
HAD06-04018	18	20	8.5	M8	4			
HAD06-04020	20	24	10.5	M10	4			
HAD06-05020	20	24	10.5	M10	5			
HAD06-05021	21	24	10.5	M10	5			
HAD06-04025	25	28	12.5	M12	4			
HAD06-05025	25	28	12.5	M12	5			
HAD06-05026	26	28	12.5	M12	5			
HAD10-02016	16	25	8.5	M8	2	ADMT10T3..	TS2515	ETF08
HAD10-02017	17	25	8.5	M8	2			
HAD10-03018	18	25	8.5	M8	3			
HAD10-03020	20	30	10.5	M10	3			
HAD10-03021	21	30	10.5	M10	3			
HAD10-04025	25	35	12.5	M12	4			
HAD10-04026	26	35	12.5	M12	4			
HAD10-05032	32	43	17.0	M16	5			
HAD10-05033	33	43	17.0	M16	5			

➡ 搭配刀片 Insert P.243 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.599

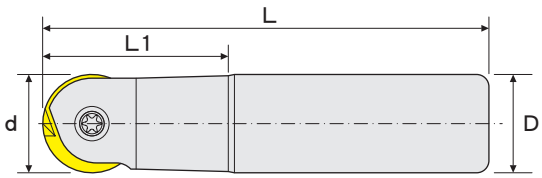
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EBCM 高精度球型銑刀桿

HIGH PRECISION- BALL Nose CUTTERS- EBCM



Milling Table 172

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EBCM08-01008-100L	8	20	100	8	1	—	MGR3008	ETF08
EBCM10-01010-100L	10	25	100	10	1	CMP32D10..	MGR4010	ETL15
EBCM10-01010-150L	10	36	150	12	1	CMP32D10..		
EBCM12-01012-150L	12	32	150	12	1	CMP32D12..	MGR5012	ETL20
EBCM12-01012-200L	12	58	200	16	1			
EBCM16-01016-150L	16	36	150	16	1	CMP32D16..	MGR5016	ETL20
EBCM16-01016-200L	16	36	200	16	1			
EBCM20-01020-150L	20	45	150	20	1	CMP32D20..	MGR5020	ETL20
EBCM20-01020-200L	20	45	200	20	1			
EBCM20-01020-250L	20	76	250	25	1			
EBCM25-01025-200L	25	45	200	25	1	CMP32D25..	MGR6025	ETL30
EBCM25-01025-250L	25	45	250	25	1			
EBCM25-01025-300L	25	98	300	32	1			
EBCM32-01032-200L	32	50	200	32	1	CMP32D32..	MGR8030	ETL30
EBCM32-01032-250L	32	50	250	32	1			
EBCM32-01032-300L	32	50	300	32	1			

➡ 搭配刀片 Insert P.244 ➡ 切削條件表 Cutting Condition P.600

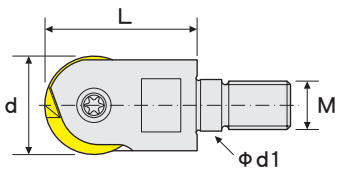
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	○	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HBCM 鎖牙式 - 高精度球型銑刀頭

MODULAR HEADS- HIGH PRECISION- BALL Nose CUTTERS- HBCM



Milling Table 172

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L	d1	M				
HBCM08-01008	8	16	4.5	M4	1	—	MGR3008	ETF08
HBCM10-01010	10	20	5.5	M5	1	CMP32D10..	MGR4010	ETL15
HBCM12-01012	12	22	6.5	M6	1	CMP32D12..	MGR5012	ETL20
HBCM16-01016	16	28	8.5	M8	1	CMP32D16..	MGR5016	ETL20
HBCM20-01020	20	30	10.5	M10	1	CMP32D20..	MGR5020	ETL20
HBCM25-01025	25	40	12.5	M12	1	CMP32D25..	MGR6025	ETL30
HBCM32-01032	32	43	17.0	M16	1	CMP32D32..	MGR8030	ETL30

➡ 搭配刀片 Insert P.244 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.600

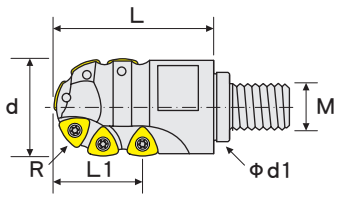
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	○	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HBWP 鎖牙式 - 球型銑刀頭 (粗加工)

MODULAR HEADS- BALL Nose CUTTERS- ROUGHING- HBWP



Milling Table 174

訂購編號 Order No.	尺寸 Dimensions (mm)						刃數 Flute	搭配刀片 Insert	Screw	Wrench
	R	d	L1	L	d1	M				
HBWP2614-02025	12.5R	25	21	42	12.5	M12	2	WP26339R14..	TS4023	ETF15
HBWP2614-02030	15.0R	30	23	50	12.5	M12	2			
HBWP2614-02032	16.0R	32	23	50	17.0	M16	2			
HBWP2625-02040	20.0R	40	38	65	28.0	M18	2	WP26379R25..	TS5007	ETF20
HBWP2625-02050	25.0R	50	45	80	36.0	M25	2			

➡ 搭配刀片 Insert P.244 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.602

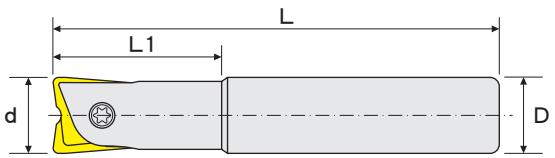
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EBC 圓角型銑刀桿

CORNER ROUNDING MILLING CUTTERS- EBC



Milling Table 194

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EBC16-01016-150L	16	35	150	16	1	WPBC16..	MGR5016	ETL20
EBC16-01016-200L	16	35	200	16	1			

搭配刀片 Insert P.244 切削條件表 Cutting Condition P.619

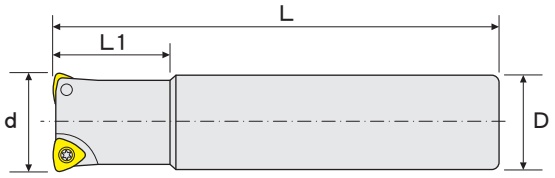
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EWP 高進給型銑刀桿

HIGH FEED MILLING CUTTERS- EWP



Milling Table 173

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EWP2614-03032-150L	32	28	150	32	3	WP26339R14..	TS4005	ETF15
EWP2614-03035-180L	35	40	180	32	3			
EWP2614-03035-230L	35	40	230	32	3			
EWP2614-04040-200L	40	40	200	32	4			
EWP2625-02040-200L	40	45	200	32	2	WP26379R25..	TS5002	ETF20
EWP2625-03050-200L	50	45	200	32	3			

搭配刀片 Insert P.244 切削條件表 Cutting Condition P.601

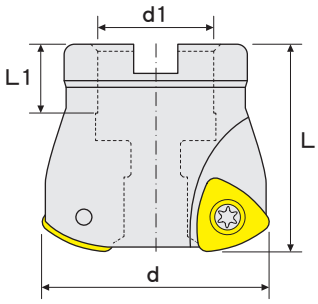
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FWP 高進給型銑刀盤

HIGH FEED FACE MILLING CUTTERS- FWP



Milling Table 173

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	d1				
FWP2625-03050-2200	50	21	50	22.00	3	WP26379R25..	TS5002	ETF20
FWP2625-04063-2200	63	21	50	22.00	4			
FWP2625-05080-2700	80	23	50	27.00	5			
FWP2625-06100-3200	100	26	50	32.00	6			
FWP2625-07125-4000	125	38	63	40.00	7			
FWP2625-08160-4000	160	38	63	40.00	8			

搭配刀片 Insert P.244　切削條件表 Cutting Condition P.601

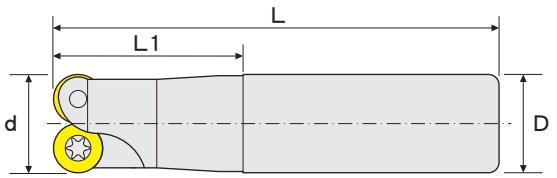
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

ERD 圓角型銑刀桿

CORNER RADIUS MILLING CUTTERS- ERD



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ERD05-02010-100L	10	18	100	10	2	RD..0501..	MS2003A	ETF06
ERD05-02011-100L	11	15	100	10	2		MS2004A	
ERD05-02011-150L	11	15	150	10	2			
ERD05-02012-100L	12	22	100	12	2			
ERD05-03012-100L	12	22	100	12	3			
ERD05-03012-150L	12	22	150	12	3			
ERD05-02013-100L	13	18	100	12	2			
ERD05-03013-100L	13	18	100	12	3			
ERD05-03013-150L	13	18	150	12	3			
ERD05-04016-150L	16	30	150	16	4			
ERD05-04016-200L	16	30	200	16	4			
ERD05-04017-150L	17	20	150	16	4			
ERD05-04017-200L	17	20	200	16	4			

➡ 搭配刀片 Insert P.245 ➡ 切削條件表 Cutting Condition P.603

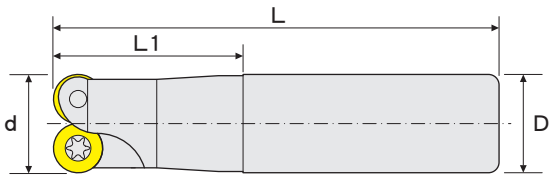
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

ERD 圓角型銑刀桿

CORNER RADIUS MILLING CUTTERS- ERD



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ERD07-02015-100L	15	25	100	16	2	RD..0702..	MS2505E	ETF08
ERD07-02015-150L	15	25	150	16	2			
ERD07-02016-150L	16	25	150	16	2		MS2506E	ETF08
ERD07-02016-200L	16	25	200	16	2			
ERD07-03016-150L	16	25	150	16	3			
ERD07-03016-200L	16	25	200	16	3			
ERD07-02017-150L	17	20	150	16	2			
ERD07-02017-200L	17	20	200	16	2			
ERD07-03017-150L	17	20	150	16	3			
ERD07-03017-200L	17	20	200	16	3			
ERD07-03020-150L	20	35	150	20	3			
ERD07-03020-200L	20	35	200	20	3			
ERD07-03021-150L	21	25	150	20	3			
ERD07-03021-200L	21	25	200	20	3			
ERD07-04025-150L	25	40	150	25	4			
ERD07-04025-200L	25	40	200	25	4			
ERD07-04025-250L	25	40	250	25	4			
ERD07-05025-150L	25	40	150	25	5		MS2505E	ETF08
ERD07-05025-200L	25	40	200	25	5			
ERD07-05025-250L	25	40	250	25	5			
ERD07-04026-150L	26	25	150	25	4		MS2506E	ETF08
ERD07-04026-200L	26	25	200	25	4			
ERD07-04026-250L	26	25	250	25	4			
ERD07-05026-150L	26	25	150	25	5			
ERD07-05026-200L	26	25	200	25	5			
ERD07-05026-250L	26	25	250	25	5			
ERD07-05035-150L	35	30	150	32	5			
ERD07-05035-200L	35	30	200	32	5			
ERD07-05035-250L	35	30	250	32	5			
ERD07-05035-300L	35	30	300	32	5			
ERD07-06035-150L	35	30	150	32	6			
ERD07-06035-200L	35	30	200	32	6			
ERD07-06035-250L	35	30	250	32	6			
ERD07-06035-300L	35	30	300	32	6			

➡ 搭配刀片 Insert P.245 ➡ 切削條件表 Cutting Condition P.603

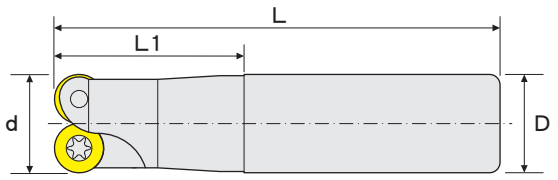
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

ERD 圓角型銑刀桿

CORNER RADIUS MILLING CUTTERS- ERD



Milling Table 175

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L1	L	D						
ERDX10-02020-150L	20	40	150	20	2	RD..1003..	MS3507A	–	–	ETF15
ERDX10-02020-200L	20	40	200	20	2					
ERDX10-02021-150L	21	25	150	20	2					
ERDX10-02021-200L	21	25	200	20	2					
ERDX10-03025-150L	25	40	150	25	3					
ERDX10-03025-200L	25	40	200	25	3					
ERDX10-03025-250L	25	40	250	25	3					
ERDX10-03026-150L	26	25	150	25	3					
ERDX10-03026-200L	26	25	200	25	3					
ERDX10-03026-250L	26	25	250	25	3					
ERDX10-03030-150L	30	25	150	25	3		MS3509A	–	–	ETF15
ERDX10-03030-200L	30	25	200	25	3					
ERDX10-03030-250L	30	25	250	25	3					
ERDX10-03032-150L	32	40	150	32	3		MS3509A	MC35-3V	–	ETF15
ERDX10-03032-200L	32	40	200	32	3					
ERDX10-03032-250L	32	40	250	32	3					
ERDX10-03032-300L	32	40	300	32	3					
ERDX10-03035-150L	35	35	150	32	3					
ERDX10-03035-200L	35	35	200	32	3					
ERDX10-03035-250L	35	35	250	32	3					
ERDX10-03035-300L	35	35	300	32	3					
ERDX10-04035-150L	35	35	150	32	4					
ERDX10-04035-200L	35	35	200	32	4					
ERDX10-04035-250L	35	35	250	32	4					
ERDX10-04035-300L	35	35	300	32	4					

➡ 搭配刀片 Insert P.245 ➡ 切削條件表 Cutting Condition P.603

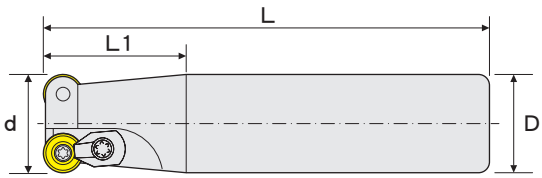
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

ERD 圓角型銑刀桿

CORNER RADIUS MILLING CUTTERS- ERD



Milling Table 175

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L1	L	D						
ERD10-02025-150L	25	45	150	25	2	RD..10T3..	MS4009B	–	MC35-3V	ETF15
ERD10-02025-200L	25	45	200	25	2					
ERD10-02025-250L	25	45	250	25	2					
ERD10-02026-150L	26	30	150	25	2					
ERD10-02026-200L	26	30	200	25	2					
ERD10-02026-250L	26	30	250	25	2					
ERD10-02030-150L	30	30	150	25	2					
ERD10-02030-200L	30	30	200	25	2					
ERD10-02030-250L	30	30	250	25	2					
ERD10-03030-150L	30	30	150	25	3					
ERD10-03030-200L	30	30	200	25	3					
ERD10-03030-250L	30	30	250	25	3					
ERD10-03032-150L	32	45	150	32	3					
ERD10-03032-200L	32	45	200	32	3					
ERD10-03032-250L	32	45	250	32	3					
ERD10-03032-300L	32	45	300	32	3					
ERD10-03035-150L	35	30	150	32	3					
ERD10-03035-200L	35	30	200	32	3					
ERD10-03035-250L	35	30	250	32	3					
ERD10-03035-300L	35	30	300	32	3					
ERD10-03040-150L	40	30	150	32	3					
ERD10-03040-200L	40	30	200	32	3					
ERD10-03040-250L	40	30	250	32	3					
ERD10-03040-300L	40	30	300	32	3					
ERD12-02025-100L	25	45	100	25	2	RD..1204..	MS4009A	–	MC35-3V	ETF15
ERD12-02025-150L	25	45	150	25	2					
ERD12-02025-200L	25	45	200	25	2					

➡ 搭配刀片 Insert P.246, 247 ➡ 切削條件表 Cutting Condition P.603

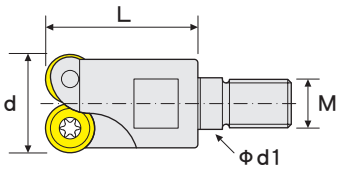
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HRD 鎖牙式 - 圓角型銑刀頭

MODULAR HEADS- CORNER RADIUS MILLING CUTTERS- HRD



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L	d1	M						
HRD05-02012	12	18	6.5	M6	2	RD..0501..	MS2004A	ETF06	–	–
HRD05-03012	12	18	6.5	M6	3					
HRD05-02013	13	18	6.5	M6	2					
HRD05-03013	13	18	6.5	M6	3					
HRD05-04016	16	23	8.5	M8	4					
HRD05-04017	17	23	8.5	M8	4					
HRD07-02015	15	23	8.5	M8	2	RD..0702..	MS2505E	ETF08	–	–
HRD07-02016	16	23	8.5	M8	2		MS2506E	ETF08	–	–
HRD07-03016	16	23	8.5	M8	3					
HRD07-02017	17	23	8.5	M8	2					
HRD07-03017	17	23	8.5	M8	3					
HRD07-03020	20	30	10.5	M10	3					
HRD07-02021	21	30	10.5	M10	2					
HRD07-03021	21	30	10.5	M10	3					
HRD07-03022	22	30	10.5	M10	3					
HRD07-04025	25	35	12.5	M12	4					
HRD07-05025	25	35	12.5	M12	5		MS2505E	ETF08	–	–
HRD07-04026	26	35	12.5	M12	4		MS2506E	ETF08	–	–
HRD07-05026	26	35	12.5	M12	5					
HRD07-05035	35	43	17.0	M16	5					
HRD07-06035	35	43	17.0	M16	6					
HRDX10-02020	20	30	10.5	M10	2	RD..1003..	MS3507A	ETF15	–	–
HRDX10-02021	21	30	10.5	M10	2					
HRDX10-03025	25	35	12.5	M12	3					
HRDX10-03026	26	35	12.5	M12	3					
HRDX10-03030	30	35	12.5	M12	3		MS3509A	ETF15	–	–
HRDX10-03032	32	43	17.0	M16	3		MS3509A	–	MC35-3V	ETF15
HRDX10-03035	35	43	17.0	M16	3					
HRDX10-04035	35	43	17.0	M16	4					
HRDX10-04040	40	43	17.0	M16	4					
HRDX10-04042	42	43	17.0	M16	4					
HRDX10-05042	42	43	17.0	M16	5					

➡ 搭配刀片 Insert P.245 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.603

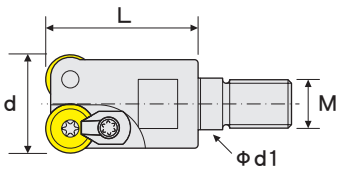
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HRD 鎖牙式 - 圓角型銑刀頭

MODULAR HEADS- CORNER RADIUS MILLING CUTTERS- HRD



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L	d1	M						
HRD10-02020	20	30	10.5	M10	2	RD..10T3..	MS4008B	ETF15	—	—
HRD10-02021	21	30	10.5	M10	2		MS4009B	ETF15	—	—
HRD10-02025	25	35	12.5	M12	2		MS4009B	—	MC35-3V	ETF15
HRD10-03025	25	35	12.5	M12	3		MS4009B	ETF15	—	—
HRD10-02026	26	35	12.5	M12	2		MS4009B	—	MC35-3V	ETF15
HRD10-03026	26	35	12.5	M12	3		MS4009B	ETF15	—	—
HRD10-02030	30	43	17.0	M16	2		MS4009B	—	MC35-3V	ETF15
HRD10-03032	32	43	17.0	M16	3					
HRD10-03035	35	43	17.0	M16	3					
HRD10-04035	35	43	17.0	M16	4					
HRD10-04040	40	43	17.0	M16	4					
HRD10-04042	42	43	17.0	M16	4					
HRD10-05042	42	43	17.0	M16	5		MS4009B	ETF15	—	—

➡ 搭配刀片 Insert P.246 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.603

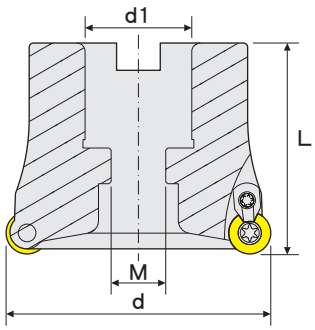
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FRDX 圓角型銑刀盤

CORNER RADIUS FACE MILLING CUTTERS- FRDX



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Clamp	Screw	Wrench
	d	L	d1	M						
FRDX10-04050-2200	50	40	22.00	M11	4	RD..1003..	MS3509A	MC35-3V	—	ETF15
FRDX10-05050-2200	50	40	22.00	M11	5					
FRDX10-06052-2200	52	40	22.00	M11	6					
FRDX10-04050-2540	50	50	25.40	M13	4					
FRDX10-05050-2540	50	50	25.40	M13	5					
FRDX10-05063-2540	63	50	25.40	M13	5					
FRDX10-06063-2540	63	50	25.40	M13	6					
FRDX10-06066-2540	66	50	25.40	M13	6					
FRDX10-06080-2540	80	50	25.40	M13	6					

搭配刀片 Insert P.245　切削條件表 Cutting Condition P.603

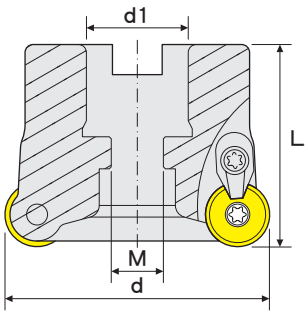
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

FRD 圓角型銑刀盤

CORNER RADIUS FACE MILLING CUTTERS- FRD



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L	d1	M						
FRD10-05040-1600	40	40	16.00	M9	5	RD..10T3..	MS4009B	—	MC35-3V	ETF15
FRD10-04050-2200	50	50	22.00	M11	4					
FRD10-05050-2200	50	50	22.00	M11	5					
FRD10-05052-2200	52	50	22.00	M11	5					
FRD10-04050-2540	50	50	25.40	M13	4					
FRD10-05063-2540	63	50	25.40	M13	5					
FRD10-06080-2540	80	50	25.40	M13	6					
FRD10-06086-2540	86	50	25.40	M13	6					

➡ 搭配刀片 Insert P.246 ➡ 切削條件表 Cutting Condition P.603

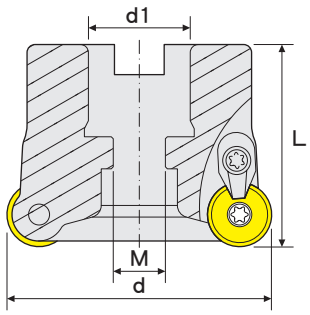
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FRD 圓角型銑刀盤

CORNER RADIUS FACE MILLING CUTTERS- FRD



訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L	d1	M						
FRD16-03050-2200	50	50	22.00	M11	3	RD..1604..	MS5011A	—	MC50V	ETF20
FRD16-04052-2200	52	50	22.00	M11	4					
FRD16-05063-2700	63	50	27.00	M13	5					
FRD16-04066-2700	66	50	27.00	M13	4					
FRD16-05066-2700	66	50	27.00	M13	5					
FRD16-05080-2700	80	50	27.00	M13	5					
FRD16-06080-2700	80	50	27.00	M13	6					
FRD16-03063-2540	63	50	25.40	M13	3					
FRD16-04063-2540	63	50	25.40	M13	4					
FRD16-05063-2540	63	50	25.40	M13	5					
FRD16-04066-2540	66	50	25.40	M13	4					
FRD16-05066-2540	66	50	25.40	M13	5					
FRD16-04072-2540	72	50	25.40	M13	4					
FRD16-05080-2540	80	50	25.40	M13	5					
FRD16-06100-3175	100	50	31.75	M45	6					
FRD16-08160-5080	160	60	50.80	M64	8					

搭配刀片 Insert P.247　切削條件表 Cutting Condition P.603

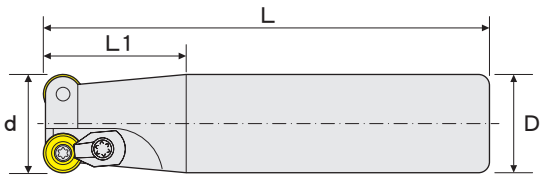
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

ERP 圓角型銑刀桿

CORNER RADIUS MILLING CUTTERS- ERP



Milling Table 176

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L1	L	D						
ERP08-02020-150L	20	35	150	20	2	RP..08T2..	MS2506A	ETF09	MC35-3V	ETF15
ERP08-02020-200L	20	35	200	20	2					
ERP10-02025-150L	25	40	150	25	2	RP..10T3..	MS3509A	–	MC35-3V	ETF15
ERP10-02025-200L	25	40	200	25	2					
ERP10-02025-250L	25	40	250	25	2					
ERP10-02026-150L	26	35	150	25	2					
ERP10-02026-200L	26	35	200	25	2					
ERP10-02026-250L	26	35	250	25	2					
ERP12-02025-150L	25	45	150	25	2	RP..1204..	MS4009A	–	MC35-3V	ETF15
ERP12-02025-200L	25	45	200	25	2					
ERP12-02025-250L	25	45	250	25	2					
ERP12-02026-150L	26	35	150	25	2					
ERP12-02026-200L	26	35	200	25	2					
ERP12-02026-250L	26	35	250	25	2					
ERP12-02032-150L	32	45	150	32	2		MS4011A	–	MC35-3V	ETF15
ERP12-02032-200L	32	45	200	32	2					
ERP12-03032-150L	32	45	150	32	3					
ERP12-03032-200L	32	45	200	32	3					
ERP12-03032-250L	32	45	250	32	3					
ERP12-03040-150L	40	35	150	32	3					
ERP12-03040-200L	40	35	200	32	3					
ERP12-03040-250L	40	35	250	32	3					
ERPX10-02020-150L	20	35	150	20	2	RP..1003..	MS4009A	ETF15	–	–
ERPX10-02020-200L	20	35	200	20	2					
ERPX10-02021-150L	21	25	150	20	2					
ERPX10-02021-200L	21	25	200	20	2					
ERPX10-02025-150L	25	40	150	25	2		MS4009A	–	MC35-3V	ETF15
ERPX10-02025-200L	25	40	200	25	2					
ERPX10-02026-150L	26	30	150	25	2					
ERPX10-02026-200L	26	30	200	25	2					

➡ 搭配刀片 Insert P.248, 249 ➡ 切削條件表 Cutting Condition P.604

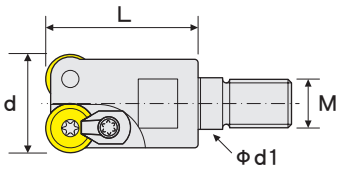
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

HRP 鎖牙式 - 圓角型銑刀頭

MODULAR HEADS- CORNER RADIUS MILLING CUTTERS- HRP



Milling Table 176

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L	d1	M						
HRP12-02025	25	35	12.5	M12	2	RP..1204..	MS4009A	–	MC35-3V	ETF15
HRP12-02026	26	35	12.5	M12	2					
HRPX10-02020	20	30	10.5	M10	2	RP..1003..	MS4009A	ETF15	–	–
HRPX10-02021	21	30	10.5	M10	2					
HRPX10-02025	25	35	12.5	M12	2		MS4009A	–	MC35-3V	ETF15
HRPX10-03025	25	35	12.5	M12	3		MS4009A	ETF15	–	–
HRPX10-02026	26	35	12.5	M12	2		MS4009A	–	MC35-3V	ETF15
HRPX10-03030	30	35	12.5	M12	3					
HRPX10-03035	35	43	17.0	M16	3					
HRPX10-04035	35	43	17.0	M16	4					

➡ 搭配刀片 Insert P.248, 249 ➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.604

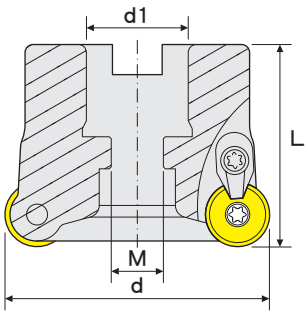
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FRP 圓角型銑刀盤

CORNER RADIUS FACE MILLING CUTTERS- FRP



Milling Table 176

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench	Clamp	Wrench
	d	L	d1	M						
FRP12-04050-2200	50	50	22.00	M11	4	RP..1204..	MS4011A	—	MC35-3V	ETF15
FRP12-04050-2540	50	50	25.40	M13	4					
FRP12-05063-2540	63	50	25.40	M13	5					
FRP12-05066-2540	66	50	25.40	M13	5					
FRP12-06080-2540	80	50	25.40	M13	6					
FRP12-06100-3175	100	50	31.75	M13	6					

➡ 搭配刀片 Insert P.248, 249 ➡ 切削條件表 Cutting Condition P.604

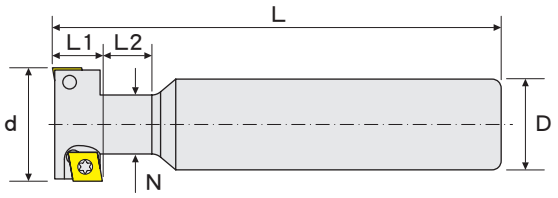
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

ETCC- T 型銑刀桿

T-SLOT MILLING CUTTERS- ETCC



Milling Table 177

訂購編號 Order No.	尺寸 Dimensions (mm)						刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L2	N	L	D				
ETCC06-02021-100L	21	9	16	10.0	100	16	2	CCMT0602.. CCGT0602..	TS2506	ETF07
ETCC06-04040-150L	40	9	17	19.8	150	20	4			
ETCC06-04025-090L	25	11	17	12.5	90	20	4			
ETCC06-04030-100L	30	11	20	14.0	100	25	4			
ETCC06-04040-150L-110C	40	11	15	19.8	150	20	4			
ETCC09-04040-110L	40	18	27	20.0	110	25	4	CCMT09T3.. CCGT09T3..	MS4011A	ETF15
ETCC09-04050-150L	50	18	15	24.8	150	25	4			
ETCC12-04050-140L	50	22	34	26.0	140	32	4	CCMT1204.. CCGT1204..	MS5011A	ETF20

➡ 搭配刀片 Insert P.440 ➡ 切削條件表 Cutting Condition P.605

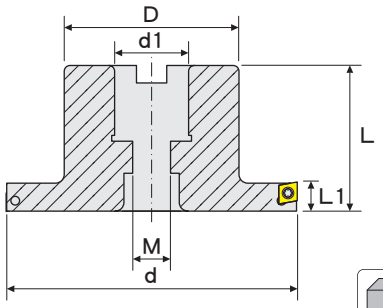
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

FTCC- T 型銑刀盤

T-SLOT MILLING CUTTERS- FTCC



Milling Table 177

訂購編號 Order No.	尺寸 Dimensions (mm)					刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D	d1				
FTCC06-08100-2540	100	8	50	60	25.40	8	CCMT0602.. CCGT0602..	MS2506A	ETF09
ETCC06-10125-3175	125	10	50	70	31.75	10			

搭配刀片 Insert P.440 切削條件表 Cutting Condition P.605

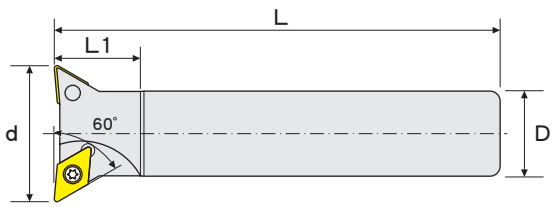
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

EDDC 鳩尾槽型銑刀桿

DOVETAIL CUTTERS- EDDC



Milling Table 178

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
EDDC07-01016-100L	16	20	100	16	1	DCMT0702.. DCGT0702..	MS2506A	ETF09
EDDC07-01020-100L	20	25	100	20	1			
EDDC07-03025-120L	25	25	120	20	3			
EDDC07-03030-120L	30	25	120	20	3			
EDDC11-03040-150L	40	25	150	25	3	DCMT11T3.. DCGT11T3..	MS4011A	ETF15
EDDC11-03044-150L	44	25	150	25	3			
EDDC11-03050-120L	50	30	120	25	3			
EDDC11-03050-150L	50	30	150	32	3			
EDDC11-04056-150L	56	30	150	32	4			
EDDC11-04060-150L	60	30	150	32	4			

➡ 搭配刀片 Insert P.442 ➡ 切削條件表 Cutting Condition P.605

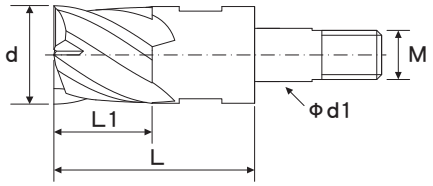
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

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



Milling Table 179

白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.	尺寸 Dimensions (mm)					刃數 Flutes	Wrench
		d	L1	L	螺紋 Thread	d1		
CHS40800	CHS40800A	8	8	17.0	M4×0.7	4.5	4	TC06
CHS41000	CHS41000A	10	10	20.0	M5×0.8	5.5	4	TC07
CHS41200	CHS41200A	12	12	23.2	M6×1.0	6.5	4	TC08
CHS41600	CHS41600A	16	16	30.0	M8×1.25	8.5	4	TC11
CHS42000	CHS42000A	20	20	37.2	M10×1.5	10.5	4	TC15
CHS42500	CHS42500A	25	25	44.7	M12×1.75	12.5	4	TC19
CHS43200	CHS43200A	32	32	55.2	M16×2.0	17.0	4	TC24

➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.606

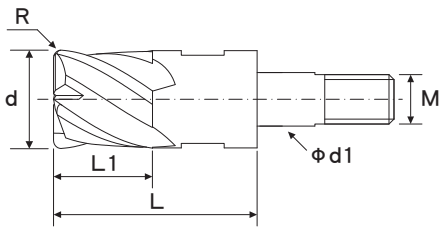
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	○	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

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



Milling Table 179

白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.	尺寸 Dimensions (mm)						刃數 Flutes	Wrench
		d	R 角	L1	L	螺紋 Thread	d1		
CHCR4080005	CHCR4080005A	8	0.5R	8	17.0	M4×0.7	4.5	4	TC06
CHCR4080010	CHCR4080010A	8	1.0R	8	17.0	M4×0.7	4.5	4	TC06
CHCR4080020	CHCR4080020A	8	2.0R	8	17.0	M4×0.7	4.5	4	TC06
CHCR4100005	CHCR4100005A	10	0.5R	10	20.0	M5×0.8	5.5	4	TC07
CHCR4100010	CHCR4100010A	10	1.0R	10	20.0	M5×0.8	5.5	4	TC07
CHCR4100020	CHCR4100020A	10	2.0R	10	20.0	M5×0.8	5.5	4	TC07
CHCR4120010	CHCR4120010A	12	1.0R	12	23.2	M6×1.0	6.5	4	TC08
CHCR4120020	CHCR4120020A	12	2.0R	12	23.2	M6×1.0	6.5	4	TC08
CHCR4120030	CHCR4120030A	12	3.0R	12	23.2	M6×1.0	6.5	4	TC08
CHCR4160010	CHCR4160010A	16	1.0R	16	30.0	M8×1.25	8.5	4	TC11
CHCR4160020	CHCR4160020A	16	2.0R	16	30.0	M8×1.25	8.5	4	TC11
CHCR4160030	CHCR4160030A	16	3.0R	16	30.0	M8×1.25	8.5	4	TC11
CHCR4200020	CHCR4200020A	20	2.0R	20	37.2	M10×1.5	10.5	4	TC15
CHCR4200030	CHCR4200030A	20	3.0R	20	37.2	M10×1.5	10.5	4	TC15
CHCR4200040	CHCR4200040A	20	4.0R	20	37.2	M10×1.5	10.5	4	TC15

➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.606

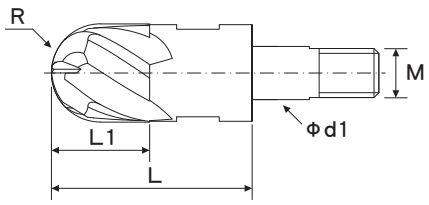
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	○	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

鎖牙式 - S220 鎢鋼球型銑刀頭 - 標準型 - 4 刃

THREAD- S220 MICRO GRAIN CARBIDE END MILLS- Ball Nose- 4F



Milling Table 180

白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.	尺寸 Dimensions (mm)					刃數 Flutes	Wrench
		半徑 R	L1	L	螺紋 Thread	d1		
CHB40400	CHB40400A	4.0R	8	17.0	M4×0.7	4.5	4	TC06
CHB40500	CHB40500A	5.0R	10	20.0	M5×0.8	5.5	4	TC07
CHB40600	CHB40600A	6.0R	12	23.2	M6×1.0	6.5	4	TC08
CHB40800	CHB40800A	8.0R	16	30.0	M8×1.25	8.5	4	TC11
CHB41000	CHB41000A	10.0R	20	37.2	M10×1.5	10.5	4	TC15
CHB41250	CHB41250A	12.5R	25	44.7	M12×1.75	12.5	4	TC19

➡ 搭配刀桿 Holder P.335, 336 ➡ 切削條件表 Cutting Condition P.607

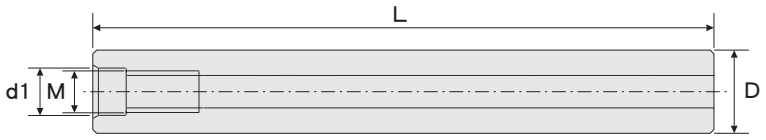
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	○	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

鎢鋼抗震刀桿

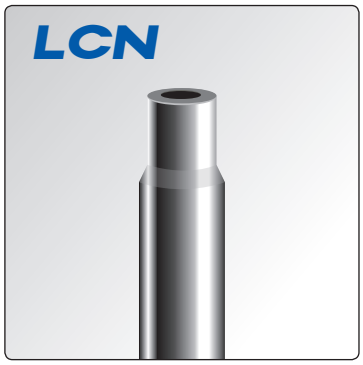
CARBIDE ANTI-VIBRATION HOLDER

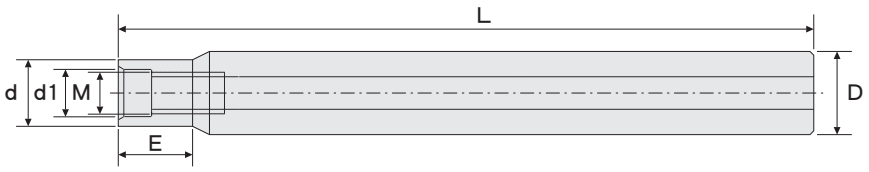


訂購編號 Order No.	尺寸 Dimensions (mm)			
	螺紋 Thread	柄徑 D	d1	全長 L
LCL008-060L	M4 × 0.7	8	4.5	60
LCL008-100L	M4 × 0.7	8	4.5	100
LCL008-120L	M4 × 0.7	8	4.5	120
LCL010-075L	M5 × 0.8	10	5.5	75
LCL010-100L	M5 × 0.8	10	5.5	100
LCL010-150L	M5 × 0.8	10	5.5	150
LCL012-075L	M6 × 1.0	12	6.5	75
LCL012-100L	M6 × 1.0	12	6.5	100
LCL012-150L	M6 × 1.0	12	6.5	150
LCL012-200L	M6 × 1.0	12	6.5	200
LCL016-100L	M8 × 1.25	16	8.5	100
LCL016-150L	M8 × 1.25	16	8.5	150
LCL016-200L	M8 × 1.25	16	8.5	200
LCL016-250L	M8 × 1.25	16	8.5	250
LCL020-100L	M10 × 1.5	20	10.5	100
LCL020-150L	M10 × 1.5	20	10.5	150
LCL020-200L	M10 × 1.5	20	10.5	200
LCL020-250L	M10 × 1.5	20	10.5	250
LCL020-300L	M10 × 1.5	20	10.5	300
LCL025-100L	M12 × 1.75	25	12.5	100
LCL025-150L	M12 × 1.75	25	12.5	150
LCL025-200L	M12 × 1.75	25	12.5	200
LCL025-250L	M12 × 1.75	25	12.5	250
LCL025-300L	M12 × 1.75	25	12.5	300
LCL032-100L	M16 × 2.0	32	17.0	100
LCL032-150L	M16 × 2.0	32	17.0	150
LCL032-200L	M16 × 2.0	32	17.0	200
LCL032-250L	M16 × 2.0	32	17.0	250
LCL032-300L	M16 × 2.0	32	17.0	300

鎢鋼抗震刀桿 - 頸型

CARBIDE ANTI-VIBRATION HOLDER- NECK

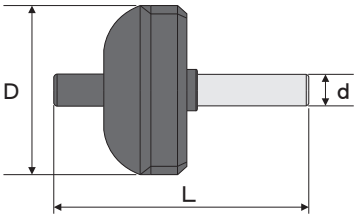




訂購編號 Order No.	尺寸 Dimensions (mm)					
	螺紋 Thread	刃徑 d	d1	有效長 E	全長 L	柄徑 D
LCN011-075L-030E	M6 × 1.0	11.7	6.5	30	75	12
LCN011-100L-040E	M6 × 1.0	11.7	6.5	40	100	12
LCN011-150L-050E	M6 × 1.0	11.7	6.5	50	150	12
LCN015-100L-040E	M8 × 1.25	15.7	8.5	40	100	16
LCN015-150L-050E	M8 × 1.25	15.7	8.5	50	150	16
LCN019-100L-040E	M10 × 1.5	19.5	10.5	40	100	20
LCN019-150L-050E	M10 × 1.5	19.5	10.5	50	150	20
LCN019-200L-060E	M10 × 1.5	19.5	10.5	60	200	20
LCN024-100L-040E	M12 × 1.75	24.5	12.5	40	100	25
LCN024-150L-050E	M12 × 1.75	24.5	12.5	50	150	25
LCN024-200L-060E	M12 × 1.75	24.5	12.5	60	200	25
LCN024-250L-080E	M12 × 1.75	24.5	12.5	80	250	25
LCN031-100L-040E	M16 × 2.0	31.5	17.0	40	100	32
LCN031-150L-050E	M16 × 2.0	31.5	17.0	50	150	32
LCN031-200L-060E	M16 × 2.0	31.5	17.0	60	200	32
LCN031-250L-080E	M16 × 2.0	31.5	17.0	80	250	32

連接式扭力扳手

TORQUE WRENCH



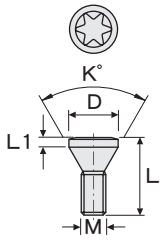
訂購編號 Order No.	d	L	D	建議使用起子頭 Bit Torx	扭力值 Torque	
					N.m	In-ld
TH06	10	76.25	52	T6	0.6	5.3
TH07				T7	0.9	8.0
TH08				T8	1.2	10.6
TH09				T9	1.4	12.4
TH10				T10	2.0	17.7
TH15				T15	3.0	26.6
TH20				T20	5.0	44.3

特色 Features：

1. 適用於需要固定扭力設定要求的工業和工作。
   Preset torque tool for industrial applicabons.
2. 符合人體工學的 T 型握把設計，操作容易，使用安全。
   Ergonomic T-handle provides user comfort and safety.
3. 更換式接桿，方便使用者依不同使用場合而調整。
   Removable extension shaft allows for increased access.
4. 當施力到達固定值時，握把會有一回轉力及 " 喀嚓 " 聲來提醒使用者，避免超過扭力值而造成物件損壞。
   Tactile overrun when torque is reached preventing damage to fasteners.

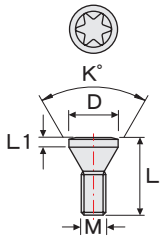
梅花螺絲尺寸規格表

TORX SCREW SIZE

螺 絲 Screw	尺寸 Dimensions (mm)						訂購編號 Order No.
	螺紋 Thread	D	L1	L	K°	扳手 Wrench	
	M1.6×0.35	2.35	0.50	3.0	50°	T06	MS1603B
		2.35	0.50	4.0	50°	T06	MS1604B
		2.50	0.65	4.0	70°	T06	MS1604C
		2.65	0.55	3.0	70°	T06	MS1603A
		2.65	0.55	4.0	70°	T06	MS1604A
	M1.8×0.35	2.35	0.50	4.0	50°	T06	MS1804B
		2.40	0.70	4.1	60°	T06	MS1804A
		2.40	0.70	5.0	60°	T06	MS1805A
		2.50	0.45	4.3	60°	T06	TS1801
	M2.0×0.40	2.70	0.50	3.3	60°	T06	MS2003A
		2.70	0.50	4.0	60°	T06	MS2004A
		2.70	1.00	4.0	60°	T06	MS2004C
		2.70	0.50	5.0	60°	T06	MS2005A
		2.70	0.60	5.0	70°	T06	TS2003
		3.05	0.50	5.0	60°	T06	MS2005B
	M2.2×0.45	2.75	1.00	4.5	60°	T07	MS2205C
		3.10	0.40	5.5	60°	T07	MS2206F
		3.10	0.60	5.5	60°	T06	TS2205
		3.10	0.90	5.0	60°	T07	MS2205A
		3.10	0.90	6.0	60°	T07	MS2206A
	M2.5×0.45	3.40	0.50	4.8	50°	T07	MS2505C
		3.40	0.50	5.5	50°	T07	MS2506C
		3.50	0.50	5.6	50°	T07	TS2535
		3.50	0.50	6.0	60°	T08	TS2515
		3.50	0.70	5.0	60°	T08	MS2505E
		3.50	0.70	5.4	60°	T08	TS2512
		3.50	0.70	6.0	60°	T08	MS2506E
		3.50	0.85	7.4	60°	T08	TS2511
		3.50	0.90	6.0	45°	T09	MS2506A
		3.50	0.90	8.0	45°	T09	MS2508A
		3.50	0.90	5.0	60°	T09	MS2505B
		3.50	0.90	6.0	60°	T09	MS2506B
		3.50	0.90	8.0	60°	T09	MS2508B
		3.60	0.90	6.0	60°	T08	TS2504
		3.60	0.70	6.5	50°	T08	TS2507
		3.60	0.70	5.5	43°	T08	TS2502
		4.00	0.55	6.5	圓弧 Round	T09	TS2517
		4.50	0.30	7.0	60°	T08	MS2507G
	M3.0×0.50	3.80	0.70	6.0	40°	T09	MS3006B
		3.80	0.40	6.1	50°	T08	TS3016
		3.80	0.70	6.3	40°	T09	TS3002
		3.80	0.70	8.0	40°	T09	MS3008B
		3.95	0.55	6.5	60°	T08	MS3007K
		4.00	1.20	5.0	60°	T09	MS3005A
		4.00	1.20	6.0	60°	T09	MS3006A
		4.00	1.20	7.3	60°	T09	MS3008A
		4.00	1.20	10.0	60°	T09	MS3010A

梅花螺絲尺寸規格表

TORX SCREW SIZE

螺 絲 Screw	尺寸 Dimensions (mm)						訂購編號 Order No.
	螺紋 Thread	D	L1	L	K°	扳手 Wrench	
	M3.0×0.50	4.40	1.20	8.0	60°	T10	MS3008C
		4.50	0.90	7.8	60°	T10	TS3006
		5.30	0.80	8.0	60°	T15	MS3008D
	M3.5×0.60	4.80	0.60	8.0	60°	T10	MS3508F
		4.80	1.00	9.5	60°	T10	MS3510E
		5.00	0.40	9.0	60°	T15	TS3504
		5.30	1.00	11.0	60°	T15	TS3505
		5.30	0.80	6.0	60°	T15	MS3506A
		5.30	0.80	7.0	60°	T15	MS3507A
		5.30	0.80	9.0	60°	T15	MS3509A
		5.30	0.80	12.0	60°	T15	MS3512A
		5.30	1.40	9.5	60°	T15	MS3509B
		5.30	1.40	12.0	60°	T15	MS3512B
		5.50	1.00	8.5	60°	T15	TS3503
		5.50	0.60	12.0	60°	T15	TS3520
		5.20	0.70	7.5	60°	T15	TS3521
		6.00	1.20	12.0	60°	T15	MS3512D
	M4.0×0.70	4.95	0.90	9.0	40°	T15	MS4009B
		5.00	0.65	10.0	40°	T15	TS4009
		5.20	1.20	12.8	43°	T15	MS4013F
		5.40	1.10	8.2	60°	T15	MS4008A
		5.40	1.10	9.0	60°	T15	MS4009A
		5.40	1.10	11.0	60°	T15	MS4011A
		5.60	0.50	7.5	90°	T10	MS4008C
		5.60	0.50	8.8	60°	T15	TS4005
		5.60	0.80	10.0	60°	T15	TS4023
		5.60	1.20	13.6	60°	T15	MS4014N
		5.70	0.90	11.0	60°	T15	TS4006
		5.70	1.00	10.0	60°	T15	TS4004
		5.70	1.20	11.0	50°	T15	MS4011G
		6.00	1.50	10.6	60°	T15	TS4008
		6.90	0.90	10.0	圓弧 Round	T15	TS4015
		7.10	0.90	13.6	60°	T15	MS4014M
	M4.5×0.75	5.80	0.50	9.0	60°	T10	MS4509TRV
		6.80	1.10	11.0	60°	T20	MS4511A
		6.80	1.10	16.0	60°	T20	MS4516A
	M5.0×0.80	7.00	1.10	11.0	60°	T20	TS5006
		7.00	0.80	17.0	60°	T20	MS5017D
		7.00	1.10	11.0	60°	T20	MS5011A
		7.00	1.10	14.0	60°	T20	MS5014A
		7.50	0.80	11.0	60°	T20	TS5007
		8.10	1.00	22.0	60°	T25	MS5022E
	M6.0×1.00	7.85	0.20	10.0	90°	T15	MS6010G

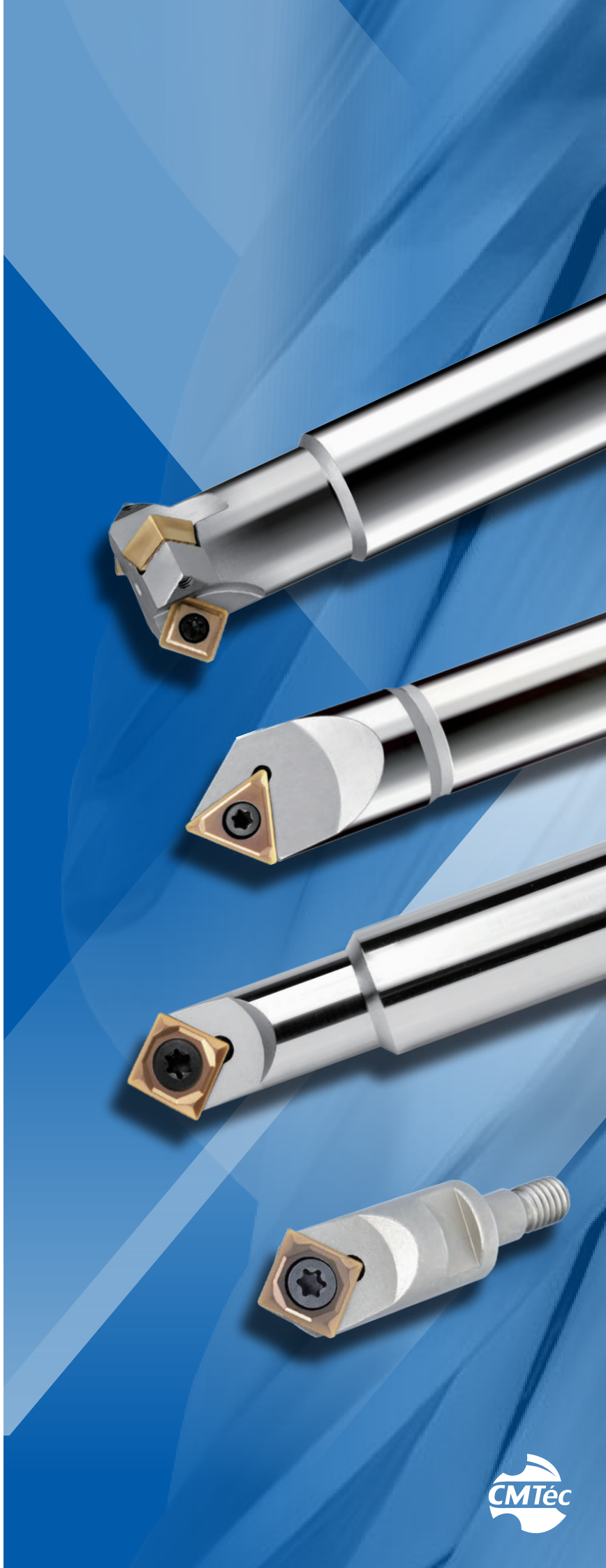
MEMO

多功能倒角銑刀桿系列

Multipurpose Chamfering Toolholders Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.



產品選擇表
Product Selection Table

鎢鋼倒角銑刀片 Carbide Chamfering Inserts

刀片單面使用
Single-Sided
Inserts

多功能倒角加工 Multipurpose Chamfering

刀片單面使用
Single-Sided
Inserts

產品選擇表
Product Selection Table

倒角加工 Chamfering

刀片單面使用
Single-Sided
Inserts

P.350 Φ15~50

鎢鋼抗震刀桿 Carbide Vibration Holder

P.351 Φ8~32

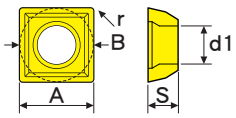
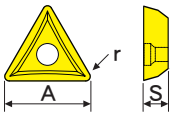
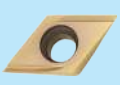
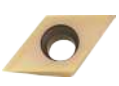
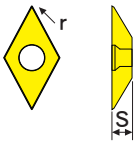
P.352 Φ11.7~31.5

計算倒角加工
寬度 Ae
How to calculate
Chamfering
width(Ae)

P.353

鎢鋼倒角銑刀片
CARBIDE CHAMFERING INSERTS

加工材質											
P	鋼材 Alloy Steels	–			○		◎	◎		◎：第一推薦 First Recommend ○：第二推薦 Second Recommend –：不推薦 NO Recommend	
M	不銹鋼 Stainless Steels	–			○		◎	◎			
K	鑄鐵 Cast Iron	–			○		◎	◎			
N	鋁合金 Aluminum Alloys	◎			–		–	–		F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing	
S	高溫合金 High Temp Alloys	–			○		◎	◎			
H	調質鋼 Hardened Steels	–			◎		◎	◎			

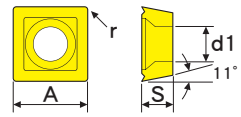
刀片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於倒角加工、定點加工、開 V 槽加工、雕刻加工【刀片單面使用】。 Chamfering & Countersinking, Spotting, V-Grooving, Engraving【Single-Sided Inserts】.																
	SDMX05T104-FG				●			●		–	–	–	–	–		346
F S M R																
	SCGX09T304-AG	●								9.53	9.53	3.97	0.4	4.4		347
F S M R																
	SCGX09T304-FG				●					9.53	9.53	3.97	0.4	4.4		
F S M R																
	SCMX09T304-SM						●			9.53	9.53	3.97	0.4	4.4		
F S M R																
	TCGX16T308-AG	●								16.5	–	3.97	0.8	–		348
F S M R																
	TCGX16T308-FG						●			16.5	–	3.97	0.8	–		
F S M R																
	TCMX16T308-SM						●			16.5	–	3.97	0.8	–		
F S M R																
	DCEX11T301-FX						●			–	–	3.97	0.1	–		349
	DCEX11T302-FX						●			–	–	3.97	0.2	–		
	DCEX11T304-FX						●			–	–	3.97	0.4	–		
F S M R																
	DCEX11T301						●			–	–	3.97	0.1	–		
	DCEX11T302						●			–	–	3.97	0.2	–		
	DCEX11T304						●			–	–	3.97	0.4	–		
F S M R	DCEX11T308						●			–	–	3.97	0.8	–		

➡ 切削條件表 Cutting Condition P.608, 618

鎢鋼倒角銑刀片

CARBIDE CHAMFERING INSERTS

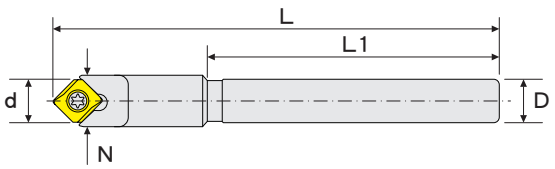
加工材質											
P	鋼材 Alloy Steels						◎	◎	◎	◎：第一推薦 First Recommend ○：第二推薦 Second Recommend －：不推薦 NO Recommend	
M	不銹鋼 Stainless Steels						◎	◎	◎		
K	鑄鐵 Cast Iron						◎	◎	◎		
N	鋁合金 Aluminum Alloys						－	－	－	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing	
S	高溫合金 High Temp Alloys						◎	◎	◎		
H	調質鋼 Hardened Steels						◎	◎	－		

刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於倒角加工【刀片單面使用】。 Chamfering【Single-Sided Inserts】.																
T	SPMG050204-MG						●	●	●	5.00	－	2.38	0.4	2.30		350
F S M R																
T	SPMG060204-MG						●	●	●	6.00	－	2.38	0.4	2.65		
F S M R																
T	SPMG07T308-MG						●	●	●	7.94	－	3.97	0.8	2.85		
F S M R																
T	SPMG090408-MG						●	●	●	9.80	－	4.30	0.8	4.05		
F S M R																
T	SPMG090408-RG						●	●	●	9.80	－	4.30	0.8	4.05		
F S M R																
T	SPMG110408-MG						●	●	●	11.5	－	4.80	0.8	4.45		－
F S M R																
T	SPMG110408-RG						●	●	●	11.5	－	4.80	0.8	4.45		
F S M R																

➡ 切削條件表 Cutting Condition P.609

ECSD 多功能倒角型銑刀桿

MULTIPURPOSE- CHAMFERING TOOLHOLDERS- ECSD



Milling Table 193

訂購編號 Order No.	尺寸 Dimensions (mm)					刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	N	L	D				
ECSD05-01005-040L	5.5	20	7	40	6	1	SDMX05T1..	TS1801	ETF06
ECSD05-01005-060L	5.5	40	7	60	6	1			

搭配刀片 Insert P.344
切削條件表 Cutting Condition P.618

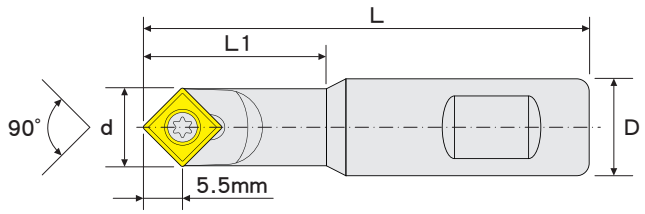
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63	—	HRC<30	—	HRC<30
	◎	◎	◎	—	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

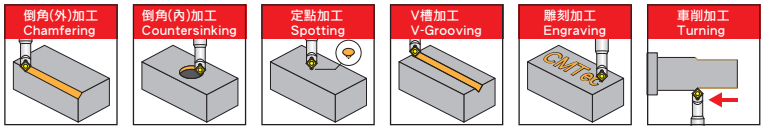
ECSC 多功能倒角型銑刀桿

MULTIPURPOSE- CHAMFERING TOOLHOLDERS- ECSC

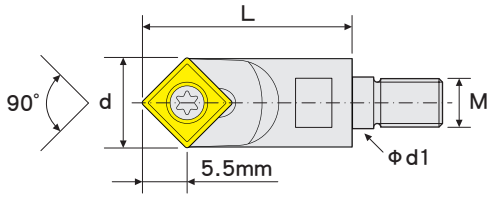


Milling Table 181

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	L1	L	D				
ECSC09-01013-100L	13	29	100	10	1	SCGX09T3.. SCMX09T3..	TS3520	ETF15
ECSC09-01013-100L-12	13	29	100	12	1			
ECSC09-01013-100L-16	13	29	100	16	1			
ECSC09-01013-150L-16	13	29	150	16	1			

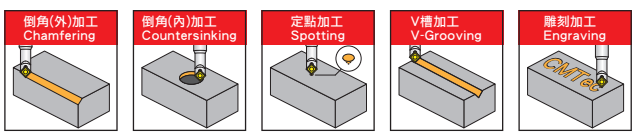


搭配刀片 Insert P.344
切削條件表 Cutting Condition P.608



Milling Table 181

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Wrench	Screw	Wrench
	d	L1	d1	M					
HCSC09-01013	13	30	6.5	M6	1	SCGX09T3.. SCMX09T3..	TC08	TS3520	ETF15



搭配刀片 Insert P.344
切削條件表 Cutting Condition P.608
搭配刀桿 Holder P.351, 352

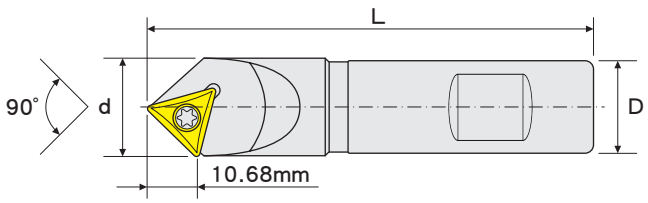
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

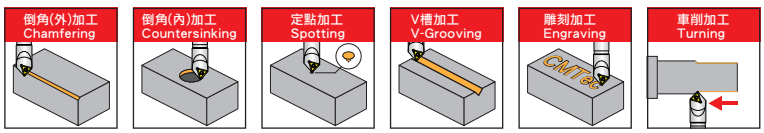
ECTCX 多功能倒角型銑刀桿

MULTIPURPOSE- CHAMFERING TOOLHOLDERS- ECTCX



Milling Table 181

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	—	L	D				
ECTCX16-01020-120L	20	—	120	20	1	TCGX16T3.. TCMX16T3..	TS3521	ETF15
ECTCX16-01020-150L	20	—	150	20	1			



搭配刀片 Insert P.344
切削條件表 Cutting Condition P.608

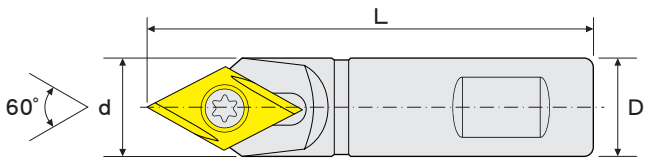
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	◎	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

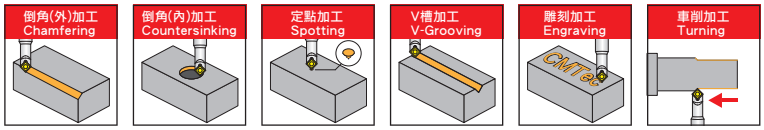
ECDC 多功能倒角型銑刀桿

MULTIPURPOSE- CHAMFERING TOOLHOLDERS- ECDC



Milling Table 181

訂購編號 Order No.	尺寸 Dimensions (mm)				刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	—	L	D				
ECDC11-01012-060L	12	—	60	10	1	DCEX11T3..	TS3520	ETF15
ECDC11-01012-100L	12	—	100	12	1			



搭配刀片 Insert P.344
切削條件表 Cutting Condition P.608

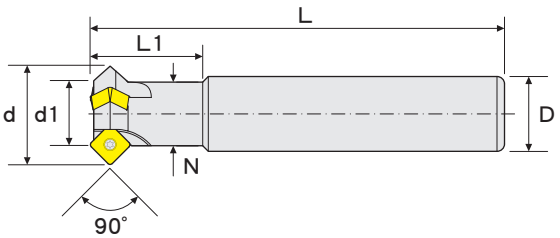
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	○	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

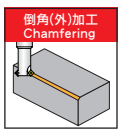
ECSP 倒角型銑刀桿

CHAMFERING TOOLHOLDERS- ECSP



Milling Table 182

訂購編號 Order No.	尺寸 Dimensions (mm)						刀片數量 Teeth	搭配刀片 Insert	Screw	Wrench
	d	d1	L1	N	L	D				
ECSP05-02015-120L	15	8.26	20	10	120	12	2	SPMG0502..	TS2003	ETF06
ECSP05-03017-150L	17	10.26	25	11	150	16	3			
ECSP05-03019-150L	19	12.26	30	13	150	16	3			
ECSP05-04024-150L	24	17.26	35	18	150	20	4			
ECSP06-03022-120L	22	13.85	30	16	120	16	3	SPMG0602..	TS2205	ETF06
ECSP07-03027-120L	27	16.44	30	17	120	20	3	SPMG07T3..	TS2511	ETF08
ECSP09-02030-150L	30	16.80	40	19	150	20	2	SPMG0904..	TS3504	ETF15
ECSP09-03040-150L	40	26.80	40	29	150	25	3			
ECSP09-04050-150L	50	36.80	40	39	150	25	4			



搭配刀片 Insert P.345
切削條件表 Cutting Condition P.609

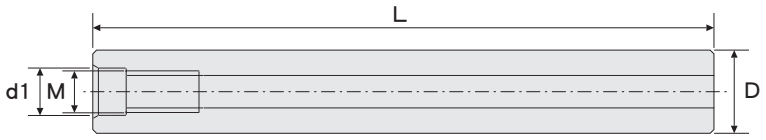
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	○	—	◎	◎	—	○

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

鎢鋼抗震刀桿

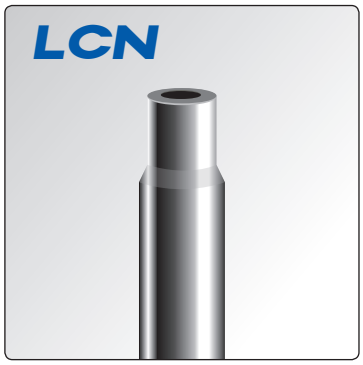
CARBIDE ANTI-VIBRATION HOLDER

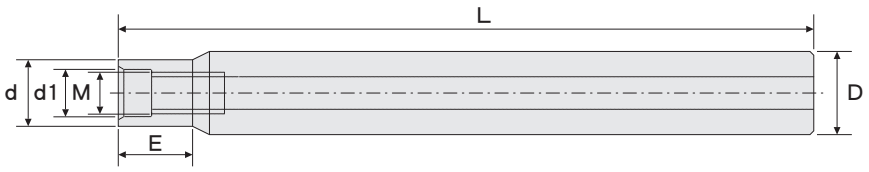


訂購編號 Order No.	尺寸 Dimensions (mm)			
	螺紋 Thread	柄徑 D	d1	全長 L
LCL008-060L	M4 × 0.7	8	4.5	60
LCL008-100L	M4 × 0.7	8	4.5	100
LCL008-120L	M4 × 0.7	8	4.5	120
LCL010-075L	M5 × 0.8	10	5.5	75
LCL010-100L	M5 × 0.8	10	5.5	100
LCL010-150L	M5 × 0.8	10	5.5	150
LCL012-075L	M6 × 1.0	12	6.5	75
LCL012-100L	M6 × 1.0	12	6.5	100
LCL012-150L	M6 × 1.0	12	6.5	150
LCL012-200L	M6 × 1.0	12	6.5	200
LCL016-100L	M8 × 1.25	16	8.5	100
LCL016-150L	M8 × 1.25	16	8.5	150
LCL016-200L	M8 × 1.25	16	8.5	200
LCL016-250L	M8 × 1.25	16	8.5	250
LCL020-100L	M10 × 1.5	20	10.5	100
LCL020-150L	M10 × 1.5	20	10.5	150
LCL020-200L	M10 × 1.5	20	10.5	200
LCL020-250L	M10 × 1.5	20	10.5	250
LCL020-300L	M10 × 1.5	20	10.5	300
LCL025-100L	M12 × 1.75	25	12.5	100
LCL025-150L	M12 × 1.75	25	12.5	150
LCL025-200L	M12 × 1.75	25	12.5	200
LCL025-250L	M12 × 1.75	25	12.5	250
LCL025-300L	M12 × 1.75	25	12.5	300
LCL032-100L	M16 × 2.0	32	17.0	100
LCL032-150L	M16 × 2.0	32	17.0	150
LCL032-200L	M16 × 2.0	32	17.0	200
LCL032-250L	M16 × 2.0	32	17.0	250
LCL032-300L	M16 × 2.0	32	17.0	300

鎢鋼抗震刀桿 - 頸型

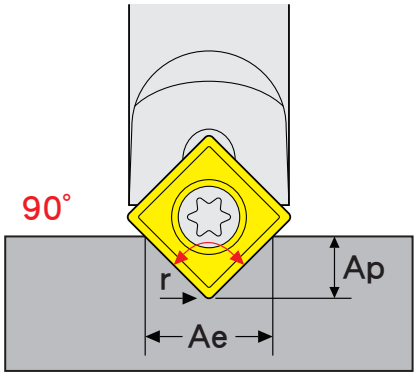
CARBIDE ANTI-VIBRATION HOLDER- NECK



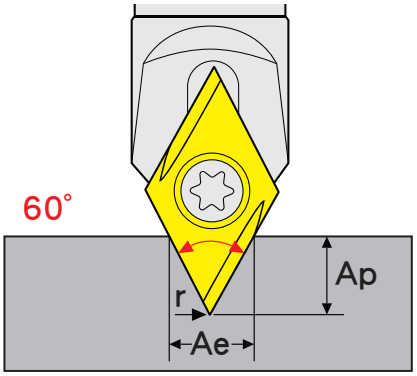


訂購編號 Order No.	尺寸 Dimensions (mm)					
	螺紋 Thread	刃徑 d	d1	有效長 E	全長 L	柄徑 D
LCN011-075L-030E	M6 × 1.0	11.7	6.5	30	75	12
LCN011-100L-040E	M6 × 1.0	11.7	6.5	40	100	12
LCN011-150L-050E	M6 × 1.0	11.7	6.5	50	150	12
LCN015-100L-040E	M8 × 1.25	15.7	8.5	40	100	16
LCN015-150L-050E	M8 × 1.25	15.7	8.5	50	150	16
LCN019-100L-040E	M10 × 1.5	19.5	10.5	40	100	20
LCN019-150L-050E	M10 × 1.5	19.5	10.5	50	150	20
LCN019-200L-060E	M10 × 1.5	19.5	10.5	60	200	20
LCN024-100L-040E	M12 × 1.75	24.5	12.5	40	100	25
LCN024-150L-050E	M12 × 1.75	24.5	12.5	50	150	25
LCN024-200L-060E	M12 × 1.75	24.5	12.5	60	200	25
LCN024-250L-080E	M12 × 1.75	24.5	12.5	80	250	25
LCN031-100L-040E	M16 × 2.0	31.5	17.0	40	100	32
LCN031-150L-050E	M16 × 2.0	31.5	17.0	50	150	32
LCN031-200L-060E	M16 × 2.0	31.5	17.0	60	200	32
LCN031-250L-080E	M16 × 2.0	31.5	17.0	80	250	32

計算倒角加工寬度 Ae
How to calculate Chamfering width(Ae)



倒角角度 90°
Chamfering Angle 90°
Formula：
公式：Ae ≒ 2×(Ap + 0.4r)



倒角角度 60°
Chamfering Angle 60°
Formula：
公式：Ae ≒ 0.58×(Ap + r)×2

範例 1.
倒角角度 = 90°
加工深度 Ap = 1mm
刀尖 r 角 = 0.4mm
求加工寬度 Ae?

Ae ≒ 2×(Ap + 0.4r)
≒ 2×(1 + (0.4×0.4))
≒ 2×1.16
≒ 2.32mm

範例 2.
倒角角度 = 90°
加工深度 Ap = 3mm
刀尖 r 角 = 0.4mm
求加工寬度 Ae?

Ae ≒ 2×(Ap + 0.4r)
≒ 2×(3 + (0.4×0.4))
≒ 2×3.16
≒ 6.32mm

範例 3.
倒角角度 = 60°
加工深度 Ap = 1mm
刀尖 r 角 = 0.1mm
求加工寬度 Ae?

Ae ≒ 0.58×(Ap + r)×2
≒ 0.58×(1 + 0.1)×2
≒ 0.58×1.1×2
≒ 1.27mm

範例 4.
倒角角度 = 60°
加工深度 Ap = 3mm
刀尖 r 角 = 0.4mm
求加工寬度 Ae?

Ae ≒ 0.58×(Ap + r)×2
≒ 0.58×(3 + 0.4)×2
≒ 0.58×3.4×2
≒ 3.94mm

MEMO

鑽削刀具系列

Holemaking Tools Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表 Product Selection Table

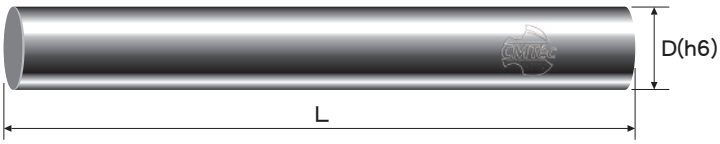
刀型 Type	刃數 Flute	型號 Model Number	產品類別 Product Classification	形狀 Appearance	尺寸 Size	頁數 Page
鎢鋼鑽鉸系列 Carbide Drills & Reamers Series						
鎢鋼圓棒 Micro Grain Carbide Rods		CL0000	全磨光 -Ground		Ø0.5 ~ Ø25.0	358
極細鎢鋼圓棒 Ultra Carbide Rods		ML0000	全磨光 -Ground		Ø0.5 ~ Ø25.0	358
中心鑽頭 Center Drills	二刃 2 Flutes	CDC000060	60°		Ø0.8 ~ Ø5	359
		CDC000090	90°		Ø0.8 ~ Ø5	359
定點鑽頭 Spotting Drills	二刃 2 Flutes	CDP000060	60° NEW		Ø3 ~ Ø12	360
		CDP000090	90°		Ø3 ~ Ø16	360
		CDP0000C0	120°		Ø3 ~ Ø16	361
定點鑽頭 Spotting Drills	二刃 2 Flutes	CDPL000090	長柄型 -Long Shank-90°		Ø4 ~ Ø16	361
		CDPL0000C0	長柄型 -Long Shank-120°		Ø4 ~ Ø16	362
標準鑽頭 Standard Drills	二刃 2 Flutes	CDM20000F	微徑型 -End mill Shank-Micro Dia.		Ø0.1 ~ Ø2.9	363
鑽頭 Drills	二刃 2 Flutes	CDS20000F(3xd)	同柄短刃型 -Straight Shank-Short Flute		Ø3 ~ Ø13	364 ~ 366
		CDSF20000F(5xd)	同柄標準型 -Straight Shank-Standard		Ø5 ~ Ø13	367 ~ 368
鑽頭 High Speed Drills	二刃 2 Flutes	CDH20000F(3xd)	高速短刃型 -End mill Shank-Short Flute		Ø2 ~ Ø20	369 ~ 372
		CDHF20000F(5xd)	高速標準型 -End mill Shank-Standard		Ø3 ~ Ø16	373 ~ 375
		CDHS20000F(7xd)	高速長刃型 -End mill Shank-Long Flute		Ø0.5 ~ Ø16	376 ~ 378
鑽頭 High Speed Drills	二刃 2 Flutes	CDHC20000F(3xd)	高速內冷短刃型 -Short Flute-Int. Cooling		Ø4 ~ Ø20	379
		CDHCF20000F(5xd)	高速內冷標準型 -Standard-Int. Cooling		Ø4 ~ Ø20	380
		CDHCS20000F(7xd)	高速內冷長刃型 -Long Flute-Int. Cooling		Ø5 ~ Ø16	381
粉末高速鋼鑽頭 Powder High Speed Steel Drills	二刃 2 Flutes	JDG20000A(3xd)	標準型 -End mill Shank-Standard NEW		Ø1 ~ Ø20	382 ~ 386
平底型鑽頭 Flat Drills	二刃 2 Flutes	CDFN20000(3xd)	鋁用-短刃型 For Al-Short Flute NEW SIZE		Ø1 ~ Ø14	387 ~ 389
		CDF20000F(3xd)	鋼用-短刃型 For Steel-Short Flute NEW		Ø1 ~ Ø14	390 ~ 392
直刃鑽鉸刀 Straight Flute Drills	二刃 2 Flutes	CDR20000(5xd)	銅鋁用-標準型 For Al&Copper-Standard		Ø4 ~ Ø13	393
機械鉸刀 Machine Reamers	四刃 4 Flutes	CRD40000	短刃型 -Short Flute		Ø2.98~Ø3.02	394
	六刃 6 Flutes	CRD60000	短刃型 -Short Flute		Ø3.98 ~Ø12.02	394
	四刃 4 Flutes	CRS40000			Ø3 ~ Ø6.5	395
	六刃 6 Flutes	CRS60000			Ø7 ~ Ø13	395

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing A	B	C	D
◎	◎	○	—	—	○	○	○	○	—	○	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)				
◎	◎	◎	○	—	—	○	—	—	—	—	濕式(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)				

鎢鋼圓棒/極細鎢鋼圓棒(全磨光)

MICRO GRAIN CARBIDE RODS- GROUND / ULTRA CARBIDE RODS- GROUND

· CL0000
· ML0000



※ 非標品，點數型依需求生產！
Non-standard special & decimal rods are on request.

編號 Order No.	素材 Material	粒徑 Grain Size	鈷 Co %	公差 Tolerance
CL	鎢鋼 Micro Grain	0.6μm	10%	h6
ML	極細鎢鋼 Ultra	0.4μm	12%	h6

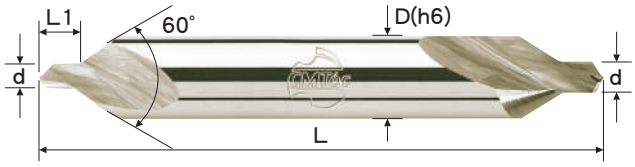
外徑 D	全長 L	訂購編號 Order No.
0.5	100	CL0050
1.0	100	CL0100
1.5	100	CL0150
2.0	100	CL0200
2.5	100	CL0250
3.0	100	CL0300
3.5	100	CL0350
4.0	100	CL0400
4.5	100	CL0450
5.0	100	CL0500
5.5	100	CL0550
6.0	100	CL0600
6.5	100	CL0650
7.0	100	CL0700
7.5	100	CL0750
8.0	100	CL0800
8.5	100	CL0850
9.0	100	CL0900
9.5	100	CL0950
10.0	100	CL1000
10.5	100	CL1050
11.0	100	CL1100
11.5	100	CL1150
12.0	100	CL1200
13.0	100	CL1300
14.0	100	CL1400
15.0	100	CL1500
16.0	100	CL1600
17.0	100	CL1700
18.0	100	CL1800
19.0	100	CL1900
20.0	100	CL2000
21.0	100	CL2100
22.0	100	CL2200
23.0	100	CL2300
24.0	100	CL2400
25.0	100	CL2500

外徑 D	全長 L	訂購編號 Order No.
0.5	100	ML0050
1.0	100	ML0100
1.5	100	ML0150
2.0	100	ML0200
2.5	100	ML0250
3.0	100	ML0300
3.5	100	ML0350
4.0	100	ML0400
4.5	100	ML0450
5.0	100	ML0500
5.5	100	ML0550
6.0	100	ML0600
6.5	100	ML0650
7.0	100	ML0700
7.5	100	ML0750
8.0	100	ML0800
8.5	100	ML0850
9.0	100	ML0900
9.5	100	ML0950
10.0	100	ML1000
10.5	100	ML1050
11.0	100	ML1100
11.5	100	ML1150
12.0	100	ML1200
13.0	100	ML1300
14.0	100	ML1400
15.0	100	ML1500
16.0	100	ML1600
17.0	100	ML1700
18.0	100	ML1800
19.0	100	ML1900
20.0	100	ML2000
21.0	100	ML2100
22.0	100	ML2200
23.0	100	ML2300
24.0	100	ML2400
25.0	100	ML2500

鎢鋼中心鑽頭- 2刃

CARBIDE CENTER DRILLS

· CDC0000060

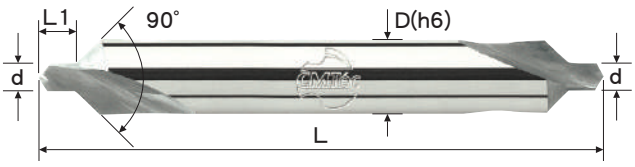


刃徑 d	公差 Tolerance
Φ	+0.02

MG 60 120° 15° HRC 35 Milling Table 48

刃徑 d	刃長 L1	全長 L	柄徑 D	60°白刀訂購編號 Uncoated Order No.
0.80	1.0	32	4	CDC008060
1.00	1.3	32	4	CDC010060
1.25	1.6	32	4	CDC012560
1.60	2.0	32	4	CDC016060
2.00	2.6	40	5	CDC020060
2.50	3.2	45	6	CDC025060
3.00	3.9	60	8	CDC030060
3.15	3.9	60	8	CDC031560
4.00	5.2	75	10	CDC040060
5.00	6.6	75	12	CDC050060

· CDC0000090



刃徑 d	公差 Tolerance
Φ	+0.02

MG 90 120° 15° HRC 35 Milling Table 48

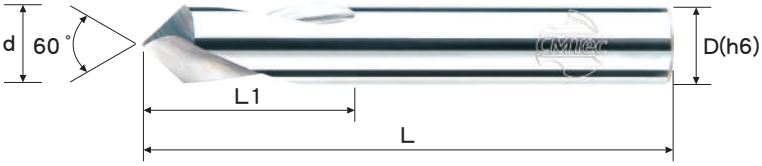
刃徑 d	刃長 L1	全長 L	柄徑 D	90°白刀訂購編號 Uncoated Order No.
0.80	1.0	32	4	CDC008090
1.00	1.3	32	4	CDC010090
1.25	1.6	32	4	CDC012590
1.60	2.0	32	4	CDC016090
2.00	2.6	40	5	CDC020090
2.50	3.2	45	6	CDC025090
3.00	3.9	60	8	CDC030090
3.15	3.9	60	8	CDC031590
4.00	5.2	75	10	CDC040090
5.00	6.6	75	12	CDC050090

➡ 切削條件表 Cutting Condition P.558 ➡ 技術資料 Technical Data P.630

鎢鋼定點鑽60˚- 標準型- 2刃

MICRO GRAIN CARBIDE SPOTTING DRILLS 60˚- 2F

· CDP0000060



NEW

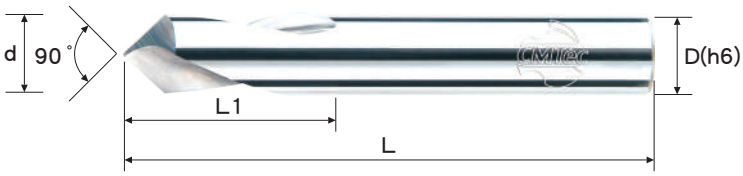
MG TiAlN 60˚ 15˚ HRC 35 Milling Table 49

刃徑 d	溝長 L1	全長 L	柄徑 D	60˚白刀訂購編號 Uncoated Order No.	60˚鍍膜訂購編號 Coated Order No.
3.0	10	40	3	CDP030060	CDP030060A
4.0	12	50	4	CDP040060	CDP040060A
5.0	15	50	5	CDP050060	CDP050060A
6.0	20	50	6	CDP060060	CDP060060A
8.0	25	60	8	CDP080060	CDP080060A
10.0	25	75	10	CDP100060	CDP100060A
12.0	30	75	12	CDP120060	CDP120060A

鎢鋼定點鑽90˚- 標準型- 2刃

MICRO GRAIN CARBIDE SPOTTING DRILLS 90˚- 2F

· CDP0000090



MG TiAlN 90˚ 15˚ HRC 35 Milling Table 49

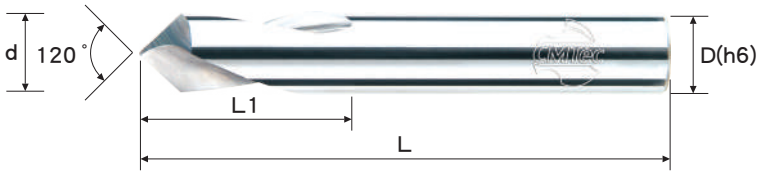
刃徑 d	溝長 L1	全長 L	柄徑 D	90˚白刀訂購編號 Uncoated Order No.	90˚鍍膜訂購編號 Coated Order No.
3.0	10	40	3	CDP030090	CDP030090A
4.0	12	50	4	CDP040090	CDP040090A
5.0	15	50	5	CDP050090	CDP050090A
6.0	20	50	6	CDP060090	CDP060090A
8.0	25	60	8	CDP080090	CDP080090A
10.0	25	75	10	CDP100090	CDP100090A
12.0	30	75	12	CDP120090	CDP120090A
16.0	35	100	16	CDP160090	CDP160090A

➡ 切削條件表 Cutting Condition P.559 ➡ 技術資料 Technical Data P.630

鎢鋼定點鑽120˚- 標準型- 2刃

MICRO GRAIN CARBIDE SPOTTING DRILLS 120˚- 2F

· CDP0000C0



代碼	角度
C0	120

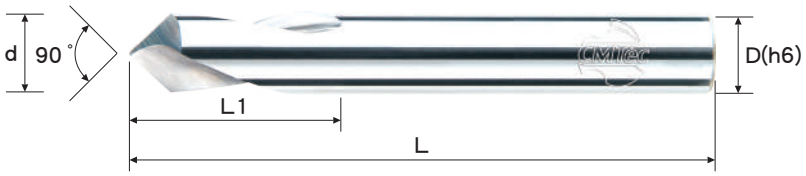
MG TiAlN 120˚ 15˚ HRC 35 Milling Table 49

刃徑 d	溝長 L1	全長 L	柄徑 D	120˚白刀訂購編號 Uncoated Order No.	120˚鍍膜訂購編號 Coated Order No.
3.0	10	40	3	CDP0300C0	CDP0300C0A
4.0	12	50	4	CDP0400C0	CDP0400C0A
5.0	15	50	5	CDP0500C0	CDP0500C0A
6.0	20	50	6	CDP0600C0	CDP0600C0A
8.0	25	60	8	CDP0800C0	CDP0800C0A
10.0	25	75	10	CDP1000C0	CDP1000C0A
12.0	30	75	12	CDP1200C0	CDP1200C0A
16.0	35	100	16	CDP1600C0	CDP1600C0A

鎢鋼定點鑽90˚- 長柄型- 2刃

MICRO GRAIN CARBIDE SPOTTING DRILLS 90˚- Long Shank- 2F

· CDPL0000 90



MG TiAlN 90˚ 15˚ HRC 35 Milling Table 49

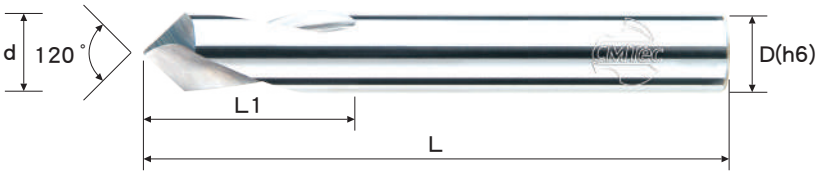
刃徑 d	溝長 L1	全長 L	柄徑 D	90˚白刀訂購編號 Uncoated Order No.	90˚鍍膜訂購編號 Coated Order No.
4.0	15	75	4	CDPL040090	CDPL040090A
5.0	15	75	5	CDPL050090	CDPL050090A
6.0	20	100	6	CDPL060090	CDPL060090A
8.0	25	125	8	CDPL080090	CDPL080090A
10.0	25	150	10	CDPL100090	CDPL100090A
12.0	30	150	12	CDPL120090	CDPL120090A
16.0	35	150	16	CDPL160090	CDPL160090A

➡ 切削條件表 Cutting Condition P.559 ➡ 技術資料 Technical Data P.630

鎢鋼定點鑽120˚- 長柄型- 2刃

MICRO GRAIN CARBIDE SPOTTING DRILLS 120˚- Long Shank- 2F

· CDPL0000C0



代碼	角度
C0	120

MG TiAlN 120˚ 15˚ HRC 35 Milling Table 49

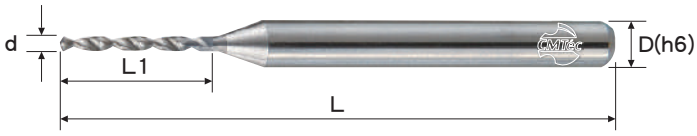
刃徑 d	溝長 L1	全長 L	柄徑 D	120˚白刀訂購編號 Uncoated Order No.	120˚鍍膜訂購編號 Coated Order No.
4.0	15	75	4	CDPL0400C0	CDPL0400C0A
5.0	15	75	5	CDPL0500C0	CDPL0500C0A
6.0	20	100	6	CDPL0600C0	CDPL0600C0A
8.0	25	125	8	CDPL0800C0	CDPL0800C0A
10.0	25	150	10	CDPL1000C0	CDPL1000C0A
12.0	30	150	12	CDPL1200C0	CDPL1200C0A
16.0	35	150	16	CDPL1600C0	CDPL1600C0A

➡ 切削條件表 Cutting Condition P.559 ➡ 技術資料 Technical Data P.630

鎢鋼微徑鑽頭- 標準型- 2刃

CARBIDE DRILLS- End mill Shank- Standard- Micro Diameter- 2F

· CDM20000F



加工材質：鋁鎂合金、塑膠鋼。
For magnesium aluminum alloy, thermoplastics.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

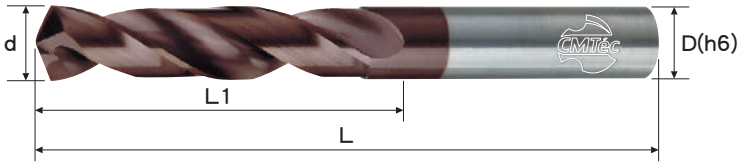
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
0.10	1.0	38	3	2	CDM20010	
0.15	1.0	38	3	2	CDM20015	
0.20	1.5	38	3	2	CDM20020	
0.25	2.0	38	3	2	CDM20025	
0.30	2.0	38	3	2	CDM20030	
0.35	2.5	38	3	2	CDM20035	CDM20035F
0.40	3.5	38	3	2	CDM20040	CDM20040F
0.45	3.5	38	3	2	CDM20045	CDM20045F
0.50	3.5	38	3	2	CDM20050	CDM20050F
0.60	4.0	38	3	2	CDM20060	CDM20060F
0.70	5.0	38	3	2	CDM20070	CDM20070F
0.80	6.0	38	3	2	CDM20080	CDM20080F
0.90	6.0	38	3	2	CDM20090	CDM20090F
1.00	7.0	38	3	2	CDM20100	CDM20100F
1.10	8.0	38	3	2	CDM20110	CDM20110F
1.20	8.0	38	3	2	CDM20120	CDM20120F
1.30	9.0	38	3	2	CDM20130	CDM20130F
1.40	10.0	38	3	2	CDM20140	CDM20140F
1.50	10.0	38	3	2	CDM20150	CDM20150F
1.60	10.0	38	3	2	CDM20160	CDM20160F
1.70	10.0	38	3	2	CDM20170	CDM20170F
1.80	10.0	38	3	2	CDM20180	CDM20180F
1.90	10.0	38	3	2	CDM20190	CDM20190F
2.00	10.0	38	3	2	CDM20200	CDM20200F
2.10	10.0	38	3	2	CDM20210	CDM20210F
2.20	10.0	38	3	2	CDM20220	CDM20220F
2.30	10.0	38	3	2	CDM20230	CDM20230F
2.40	10.0	38	3	2	CDM20240	CDM20240F
2.50	10.0	38	3	2	CDM20250	CDM20250F
2.60	10.0	38	3	2	CDM20260	CDM20260F
2.70	10.0	38	3	2	CDM20270	CDM20270F
2.80	10.0	38	3	2	CDM20280	CDM20280F
2.90	10.0	38	3	2	CDM20290	CDM20290F

➡ 切削條件表 Cutting Condition P.559
➡ 技術資料 Technical Data P.630

鎢鋼同柄鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- Straight Shank- Short Flute- 2F(3×d)

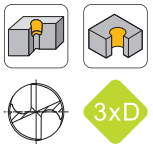
· CDS20000F



規格DIN6539

※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd
※ 另有118˚泛用型，可供選擇。
Drills, tip angle =118˚ is on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7



51

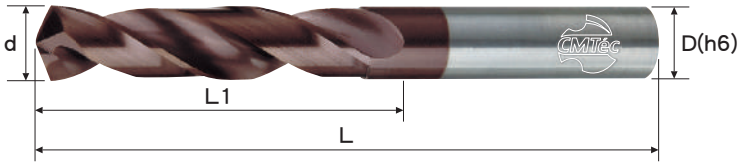
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
3.0	16	46	3.0	2	CDS20300	CDS20300F
3.1	16	49	3.1	2	CDS20310	CDS20310F
3.2	18	49	3.2	2	CDS20320	CDS20320F
3.3	18	49	3.3	2	CDS20330	CDS20330F
3.4	20	52	3.4	2	CDS20340	CDS20340F
3.5	20	52	3.5	2	CDS20350	CDS20350F
3.6	20	52	3.6	2	CDS20360	CDS20360F
3.7	20	52	3.7	2	CDS20370	CDS20370F
3.8	22	55	3.8	2	CDS20380	CDS20380F
3.9	22	55	3.9	2	CDS20390	CDS20390F
4.0	22	55	4.0	2	CDS20400	CDS20400F
4.1	22	55	4.1	2	CDS20410	CDS20410F
4.2	22	55	4.2	2	CDS20420	CDS20420F
4.3	24	58	4.3	2	CDS20430	CDS20430F
4.4	24	58	4.4	2	CDS20440	CDS20440F
4.5	24	58	4.5	2	CDS20450	CDS20450F
4.6	24	58	4.6	2	CDS20460	CDS20460F
4.7	24	58	4.7	2	CDS20470	CDS20470F
4.8	26	62	4.8	2	CDS20480	CDS20480F
4.9	26	62	4.9	2	CDS20490	CDS20490F
5.0	26	62	5.0	2	CDS20500	CDS20500F
5.1	26	62	5.1	2	CDS20510	CDS20510F
5.2	26	62	5.2	2	CDS20520	CDS20520F
5.3	26	62	5.3	2	CDS20530	CDS20530F
5.4	28	66	5.4	2	CDS20540	CDS20540F
5.5	28	66	5.5	2	CDS20550	CDS20550F
5.6	28	66	5.6	2	CDS20560	CDS20560F
5.7	28	66	5.7	2	CDS20570	CDS20570F
5.8	28	66	5.8	2	CDS20580	CDS20580F
5.9	28	66	5.9	2	CDS20590	CDS20590F
6.0	28	66	6.0	2	CDS20600	CDS20600F
6.1	31	70	6.1	2	CDS20610	CDS20610F
6.2	31	70	6.2	2	CDS20620	CDS20620F

切削條件表 Cutting Condition P.560
技術資料 Technical Data P.630

鎢鋼同柄鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- Straight Shank- Short Flute- 2F(3xd)

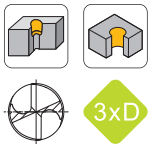
· CDS20000F



規格DIN6539

※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd
※ 另有118˚泛用型，可供選擇。
Drills, tip angle =118˚ is on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7



51

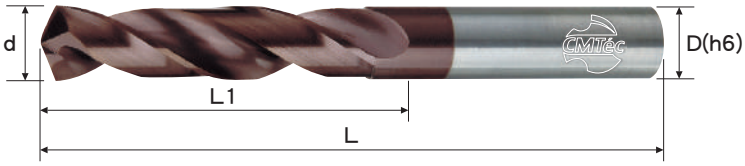
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
6.3	31	70	6.3	2	CDS20630	CDS20630F
6.4	31	70	6.4	2	CDS20640	CDS20640F
6.5	31	70	6.5	2	CDS20650	CDS20650F
6.6	31	70	6.6	2	CDS20660	CDS20660F
6.7	31	70	6.7	2	CDS20670	CDS20670F
6.8	34	74	6.8	2	CDS20680	CDS20680F
6.9	34	74	6.9	2	CDS20690	CDS20690F
7.0	34	74	7.0	2	CDS20700	CDS20700F
7.1	34	74	7.1	2	CDS20710	CDS20710F
7.2	34	74	7.2	2	CDS20720	CDS20720F
7.3	34	74	7.3	2	CDS20730	CDS20730F
7.4	34	74	7.4	2	CDS20740	CDS20740F
7.5	34	74	7.5	2	CDS20750	CDS20750F
7.6	37	79	7.6	2	CDS20760	CDS20760F
7.7	37	79	7.7	2	CDS20770	CDS20770F
7.8	37	79	7.8	2	CDS20780	CDS20780F
7.9	37	79	7.9	2	CDS20790	CDS20790F
8.0	37	79	8.0	2	CDS20800	CDS20800F
8.1	37	79	8.1	2	CDS20810	CDS20810F
8.2	37	79	8.2	2	CDS20820	CDS20820F
8.3	37	79	8.3	2	CDS20830	CDS20830F
8.4	37	79	8.4	2	CDS20840	CDS20840F
8.5	37	79	8.5	2	CDS20850	CDS20850F
8.6	40	84	8.6	2	CDS20860	CDS20860F
8.7	40	84	8.7	2	CDS20870	CDS20870F
8.8	40	84	8.8	2	CDS20880	CDS20880F
8.9	40	84	8.9	2	CDS20890	CDS20890F
9.0	40	84	9.0	2	CDS20900	CDS20900F
9.1	40	84	9.1	2	CDS20910	CDS20910F
9.2	40	84	9.2	2	CDS20920	CDS20920F
9.3	40	84	9.3	2	CDS20930	CDS20930F
9.4	40	84	9.4	2	CDS20940	CDS20940F
9.5	40	84	9.5	2	CDS20950	CDS20950F
9.6	43	89	9.6	2	CDS20960	CDS20960F

➡ 切削條件表 Cutting Condition P.560
➡ 技術資料 Technical Data P.630

鎢鋼同柄鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- Straight Shank- Short Flute- 2F(3×d)

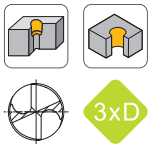
· CDS20000F



規格DIN6539

※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd
※ 另有118°泛用型，可供選擇。
Drills, tip angle =118° is on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7



51

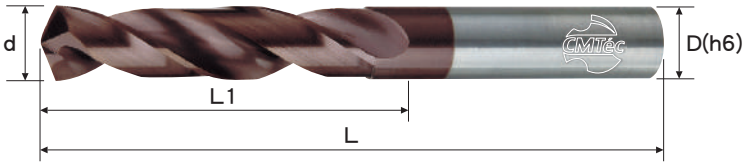
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
9.7	43	89	9.7	2	CDS20970	CDS20970F
9.8	43	89	9.8	2	CDS20980	CDS20980F
9.9	43	89	9.9	2	CDS20990	CDS20990F
10.0	43	89	10.0	2	CDS21000	CDS21000F
10.1	43	89	10.1	2	CDS21010	CDS21010F
10.2	43	89	10.2	2	CDS21020	CDS21020F
10.3	43	89	10.3	2	CDS21030	CDS21030F
10.4	43	89	10.4	2	CDS21040	CDS21040F
10.5	43	89	10.5	2	CDS21050	CDS21050F
10.6	43	89	10.6	2	CDS21060	CDS21060F
10.7	47	95	10.7	2	CDS21070	CDS21070F
10.8	47	95	10.8	2	CDS21080	CDS21080F
10.9	47	95	10.9	2	CDS21090	CDS21090F
11.0	47	95	11.0	2	CDS21100	CDS21100F
11.1	47	95	11.1	2	CDS21110	CDS21110F
11.2	47	95	11.2	2	CDS21120	CDS21120F
11.3	47	95	11.3	2	CDS21130	CDS21130F
11.4	47	95	11.4	2	CDS21140	CDS21140F
11.5	47	95	11.5	2	CDS21150	CDS21150F
11.6	47	95	11.6	2	CDS21160	CDS21160F
11.7	47	95	11.7	2	CDS21170	CDS21170F
11.8	47	95	11.8	2	CDS21180	CDS21180F
11.9	47	95	11.9	2	CDS21190	CDS21190F
12.0	51	102	12.0	2	CDS21200	CDS21200F
12.1	51	102	12.1	2	CDS21210	CDS21210F
12.2	51	102	12.2	2	CDS21220	CDS21220F
12.3	51	102	12.3	2	CDS21230	CDS21230F
12.4	51	102	12.4	2	CDS21240	CDS21240F
12.5	51	102	12.5	2	CDS21250	CDS21250F
12.6	51	102	12.6	2	CDS21260	CDS21260F
12.7	51	102	12.7	2	CDS21270	CDS21270F
12.8	51	102	12.8	2	CDS21280	CDS21280F
12.9	51	102	12.9	2	CDS21290	CDS21290F
13.0	51	102	13.0	2	CDS21300	CDS21300F

→ 切削條件表 Cutting Condition P.560
→ 技術資料 Technical Data P.630

鎢鋼同柄鑽頭- 標準型- 2刃(5倍長)

CARBIDE HIGH SPEED DRILLS- Straight Shank- Standard- 2F(5×d)

· CDSF20000F



規格DIN6539

※ 有效加工深度 = 5倍刃徑。
Cutting effective length = 5xd
※ 另有118˚泛用型，可供選擇。
Drills, tip angle =118˚ is on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

78

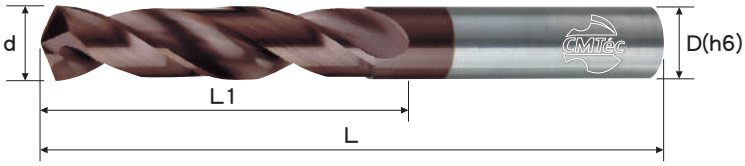
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
5.0	34	73	5.0	2	CDSF20500	CDSF20500F
5.1	38	76	5.1	2	CDSF20510	CDSF20510F
5.2	38	76	5.2	2	CDSF20520	CDSF20520F
5.3	38	76	5.3	2	CDSF20530	CDSF20530F
5.4	38	76	5.4	2	CDSF20540	CDSF20540F
5.5	38	76	5.5	2	CDSF20550	CDSF20550F
5.6	41	81	5.6	2	CDSF20560	CDSF20560F
5.7	41	81	5.7	2	CDSF20570	CDSF20570F
5.8	41	81	5.8	2	CDSF20580	CDSF20580F
5.9	41	81	5.9	2	CDSF20590	CDSF20590F
6.0	41	81	6.0	2	CDSF20600	CDSF20600F
6.1	41	81	6.1	2	CDSF20610	CDSF20610F
6.2	41	81	6.2	2	CDSF20620	CDSF20620F
6.3	41	81	6.3	2	CDSF20630	CDSF20630F
6.4	41	81	6.4	2	CDSF20640	CDSF20640F
6.5	41	81	6.5	2	CDSF20650	CDSF20650F
6.6	43	83	6.6	2	CDSF20660	CDSF20660F
6.7	43	83	6.7	2	CDSF20670	CDSF20670F
6.8	43	83	6.8	2	CDSF20680	CDSF20680F
6.9	43	83	6.9	2	CDSF20690	CDSF20690F
7.0	43	83	7.0	2	CDSF20700	CDSF20700F
7.1	45	87	7.1	2	CDSF20710	CDSF20710F
7.2	45	87	7.2	2	CDSF20720	CDSF20720F
7.3	45	87	7.3	2	CDSF20730	CDSF20730F
7.4	45	87	7.4	2	CDSF20740	CDSF20740F
7.5	45	87	7.5	2	CDSF20750	CDSF20750F
7.6	48	90	7.6	2	CDSF20760	CDSF20760F
7.7	48	90	7.7	2	CDSF20770	CDSF20770F
7.8	48	90	7.8	2	CDSF20780	CDSF20780F
7.9	48	90	7.9	2	CDSF20790	CDSF20790F
8.0	48	90	8.0	2	CDSF20800	CDSF20800F
8.1	53	96	8.1	2	CDSF20810	CDSF20810F
8.2	53	96	8.2	2	CDSF20820	CDSF20820F
8.3	53	96	8.3	2	CDSF20830	CDSF20830F
8.4	53	96	8.4	2	CDSF20840	CDSF20840F
8.5	53	96	8.5	2	CDSF20850	CDSF20850F
8.6	55	98	8.6	2	CDSF20860	CDSF20860F

➡ 切削條件表 Cutting Condition P.576
➡ 技術資料 Technical Data P.630

鎢鋼同柄鑽頭- 標準型- 2刃(5倍長)

CARBIDE HIGH SPEED DRILLS- Straight Shank- Standard- 2F(5×d)

· CDSF20000F



規格DIN6539

※ 有效加工深度 = 5倍刃徑。
Cutting effective length = 5xd
※ 另有118°泛用型，可供選擇。
Drills, tip angle =118° is on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

78

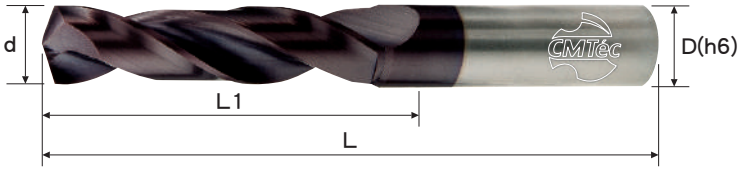
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
8.7	55	98	8.7	2	CDSF20870	CDSF20870F
8.8	55	98	8.8	2	CDSF20880	CDSF20880F
8.9	55	98	8.9	2	CDSF20890	CDSF20890F
9.0	55	98	9.0	2	CDSF20900	CDSF20900F
9.1	58	102	9.1	2	CDSF20910	CDSF20910F
9.2	58	102	9.2	2	CDSF20920	CDSF20920F
9.3	58	102	9.3	2	CDSF20930	CDSF20930F
9.4	58	102	9.4	2	CDSF20940	CDSF20940F
9.5	58	102	9.5	2	CDSF20950	CDSF20950F
9.6	60	105	9.6	2	CDSF20960	CDSF20960F
9.7	60	105	9.7	2	CDSF20970	CDSF20970F
9.8	60	105	9.8	2	CDSF20980	CDSF20980F
9.9	60	105	9.9	2	CDSF20990	CDSF20990F
10.0	60	105	10.0	2	CDSF21000	CDSF21000F
10.1	66	112	10.1	2	CDSF21010	CDSF21010F
10.2	66	112	10.2	2	CDSF21020	CDSF21020F
10.3	66	112	10.3	2	CDSF21030	CDSF21030F
10.4	66	112	10.4	2	CDSF21040	CDSF21040F
10.5	66	112	10.5	2	CDSF21050	CDSF21050F
10.6	68	114	10.6	2	CDSF21060	CDSF21060F
10.7	68	114	10.7	2	CDSF21070	CDSF21070F
10.8	68	114	10.8	2	CDSF21080	CDSF21080F
10.9	68	114	10.9	2	CDSF21090	CDSF21090F
11.0	68	114	11.0	2	CDSF21100	CDSF21100F
11.1	71	118	11.1	2	CDSF21110	CDSF21110F
11.2	71	118	11.2	2	CDSF21120	CDSF21120F
11.3	71	118	11.3	2	CDSF21130	CDSF21130F
11.4	71	118	11.4	2	CDSF21140	CDSF21140F
11.5	71	118	11.5	2	CDSF21150	CDSF21150F
11.6	73	121	11.6	2	CDSF21160	CDSF21160F
11.7	73	121	11.7	2	CDSF21170	CDSF21170F
11.8	73	121	11.8	2	CDSF21180	CDSF21180F
11.9	73	121	11.9	2	CDSF21190	CDSF21190F
12.0	73	121	12.0	2	CDSF21200	CDSF21200F
12.5	76	135	12.5	2	CDSF21250	CDSF21250F
12.7	78	137	12.7	2	CDSF21270	CDSF21270F
13.0	78	137	13.0	2	CDSF21300	CDSF21300F

➡ 切削條件表 Cutting Condition P.576
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Short Flute- 2F(3xd)

· CDH20000F



※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

52

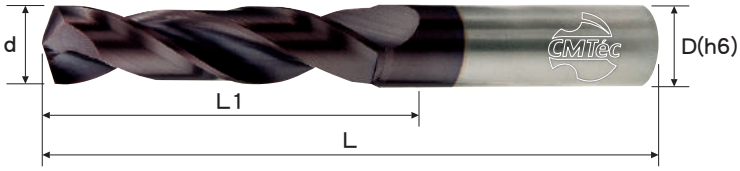
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	13	50	3	2	CDH20200	CDH20200F
2.1	13	50	3	2	CDH20210	CDH20210F
2.2	15	50	3	2	CDH20220	CDH20220F
2.3	15	50	3	2	CDH20230	CDH20230F
2.4	15	50	3	2	CDH20240	CDH20240F
2.5	16	50	3	2	CDH20250	CDH20250F
2.6	16	50	3	2	CDH20260	CDH20260F
2.7	16	50	3	2	CDH20270	CDH20270F
2.8	18	50	3	2	CDH20280	CDH20280F
2.9	18	50	3	2	CDH20290	CDH20290F
3.0	20	62	3	2	CDH20300	CDH20300F
3.1	20	62	4	2	CDH20310	CDH20310F
3.2	20	62	4	2	CDH20320	CDH20320F
3.3	20	62	4	2	CDH20330	CDH20330F
3.4	20	62	4	2	CDH20340	CDH20340F
3.5	20	62	4	2	CDH20350	CDH20350F
3.6	20	62	4	2	CDH20360	CDH20360F
3.7	20	62	4	2	CDH20370	CDH20370F
3.8	20	62	4	2	CDH20380	CDH20380F
3.9	20	62	4	2	CDH20390	CDH20390F
4.0	24	66	4	2	CDH20400	CDH20400F
4.1	24	66	5	2	CDH20410	CDH20410F
4.2	24	66	5	2	CDH20420	CDH20420F
4.3	24	66	5	2	CDH20430	CDH20430F
4.4	24	66	5	2	CDH20440	CDH20440F
4.5	24	66	5	2	CDH20450	CDH20450F
4.6	24	66	5	2	CDH20460	CDH20460F
4.7	24	66	5	2	CDH20470	CDH20470F
4.8	28	66	5	2	CDH20480	CDH20480F
4.9	28	66	5	2	CDH20490	CDH20490F
5.0	28	66	5	2	CDH20500	CDH20500F
5.1	28	66	6	2	CDH20510	CDH20510F
5.2	28	66	6	2	CDH20520	CDH20520F
5.3	28	66	6	2	CDH20530	CDH20530F
5.4	28	66	6	2	CDH20540	CDH20540F
5.5	28	66	6	2	CDH20550	CDH20550F
5.6	28	66	6	2	CDH20560	CDH20560F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Short Flute- 2F(3×d)

· CDH20000F



※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

52

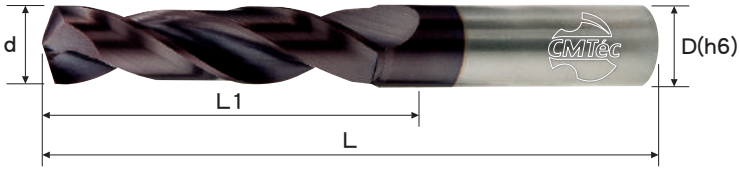
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
5.7	28	66	6	2	CDH20570	CDH20570F
5.8	28	66	6	2	CDH20580	CDH20580F
5.9	28	66	6	2	CDH20590	CDH20590F
6.0	28	66	6	2	CDH20600	CDH20600F
6.1	34	79	7	2	CDH20610	CDH20610F
6.2	34	79	7	2	CDH20620	CDH20620F
6.3	34	79	7	2	CDH20630	CDH20630F
6.4	34	79	7	2	CDH20640	CDH20640F
6.5	34	79	7	2	CDH20650	CDH20650F
6.6	34	79	7	2	CDH20660	CDH20660F
6.7	34	79	7	2	CDH20670	CDH20670F
6.8	34	79	7	2	CDH20680	CDH20680F
6.9	34	79	7	2	CDH20690	CDH20690F
7.0	34	79	7	2	CDH20700	CDH20700F
6.1	34	79	8	2	CDH20610080D	CDH20610080DF
6.2	34	79	8	2	CDH20620080D	CDH20620080DF
6.3	34	79	8	2	CDH20630080D	CDH20630080DF
6.4	34	79	8	2	CDH20640080D	CDH20640080DF
6.5	34	79	8	2	CDH20650080D	CDH20650080DF
6.6	34	79	8	2	CDH20660080D	CDH20660080DF
6.7	34	79	8	2	CDH20670080D	CDH20670080DF
6.8	34	79	8	2	CDH20680080D	CDH20680080DF
6.9	34	79	8	2	CDH20690080D	CDH20690080DF
7.0	34	79	8	2	CDH20700080D	CDH20700080DF
7.1	41	79	8	2	CDH20710	CDH20710F
7.2	41	79	8	2	CDH20720	CDH20720F
7.3	41	79	8	2	CDH20730	CDH20730F
7.4	41	79	8	2	CDH20740	CDH20740F
7.5	41	79	8	2	CDH20750	CDH20750F
7.6	41	79	8	2	CDH20760	CDH20760F
7.7	41	79	8	2	CDH20770	CDH20770F
7.8	41	79	8	2	CDH20780	CDH20780F
7.9	41	79	8	2	CDH20790	CDH20790F
8.0	41	79	8	2	CDH20800	CDH20800F
8.1	47	89	9	2	CDH20810	CDH20810F
8.2	47	89	9	2	CDH20820	CDH20820F
8.3	47	89	9	2	CDH20830	CDH20830F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Short Flute- 2F(3xd)

· CDH20000F



※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

52

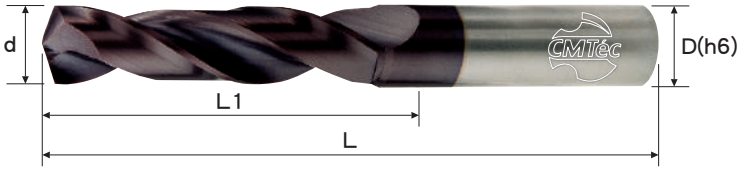
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
8.4	47	89	9	2	CDH20840	CDH20840F
8.5	47	89	9	2	CDH20850	CDH20850F
8.6	47	89	9	2	CDH20860	CDH20860F
8.7	47	89	9	2	CDH20870	CDH20870F
8.8	47	89	9	2	CDH20880	CDH20880F
8.9	47	89	9	2	CDH20890	CDH20890F
9.0	47	89	9	2	CDH20900	CDH20900F
8.1	47	89	10	2	CDH20810100D	CDH20810100DF
8.2	47	89	10	2	CDH20820100D	CDH20820100DF
8.3	47	89	10	2	CDH20830100D	CDH20830100DF
8.4	47	89	10	2	CDH20840100D	CDH20840100DF
8.5	47	89	10	2	CDH20850100D	CDH20850100DF
8.6	47	89	10	2	CDH20860100D	CDH20860100DF
8.7	47	89	10	2	CDH20870100D	CDH20870100DF
8.8	47	89	10	2	CDH20880100D	CDH20880100DF
8.9	47	89	10	2	CDH20890100D	CDH20890100DF
9.0	47	89	10	2	CDH20900100D	CDH20900100DF
9.1	47	89	10	2	CDH20910	CDH20910F
9.2	47	89	10	2	CDH20920	CDH20920F
9.3	47	89	10	2	CDH20930	CDH20930F
9.4	47	89	10	2	CDH20940	CDH20940F
9.5	47	89	10	2	CDH20950	CDH20950F
9.6	47	89	10	2	CDH20960	CDH20960F
9.7	47	89	10	2	CDH20970	CDH20970F
9.8	47	89	10	2	CDH20980	CDH20980F
9.9	47	89	10	2	CDH20990	CDH20990F
10.0	47	89	10	2	CDH21000	CDH21000F
10.2	55	102	11	2	CDH21020	CDH21020F
10.5	55	102	11	2	CDH21050	CDH21050F
10.8	55	102	11	2	CDH21080	CDH21080F
11.0	55	102	11	2	CDH21100	CDH21100F
10.2	55	102	12	2	CDH21020120D	CDH21020120DF
10.5	55	102	12	2	CDH21050120D	CDH21050120DF
10.8	55	102	12	2	CDH21080120D	CDH21080120DF
11.0	55	102	12	2	CDH21100120D	CDH21100120DF
11.2	55	102	12	2	CDH21120	CDH21120F
11.5	55	102	12	2	CDH21150	CDH21150F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Short Flute- 2F(3×d)

· CDH20000F



※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

52

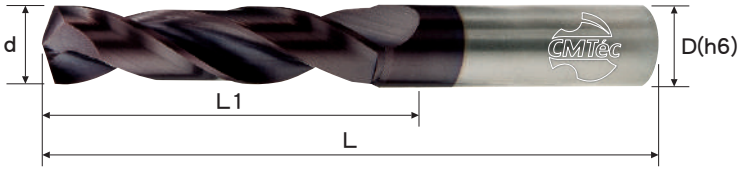
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
11.8	55	102	12	2	CDH21180	CDH21180F
12.0	55	102	12	2	CDH21200	CDH21200F
12.2	55	102	13	2	CDH21220	CDH21220F
12.5	60	107	13	2	CDH21250	CDH21250F
12.8	60	107	13	2	CDH21280	CDH21280F
13.0	60	107	13	2	CDH21300	CDH21300F
12.2	60	107	14	2	CDH21220140D	CDH21220140DF
12.5	60	107	14	2	CDH21250140D	CDH21250140DF
12.8	60	107	14	2	CDH21280140D	CDH21280140DF
13.0	60	107	14	2	CDH21300140D	CDH21300140DF
14.0	60	107	14	2	CDH21400	CDH21400F
15.0	65	115	16	2	CDH21500	CDH21500F
16.0	65	115	16	2	CDH21600	CDH21600F
17.0	73	123	18	2	CDH21700	CDH21700F
18.0	73	123	18	2	CDH21800	CDH21800F
19.0	79	131	20	2	CDH21900	CDH21900F
20.0	79	131	20	2	CDH22000	CDH22000F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 標準型- 2刃(5倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Standard- 2F(5×d)

· CDHF20000F



規格DIN6537

※ 有效加工深度 = 5倍刃徑。
Cutting effective length = 5xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

53

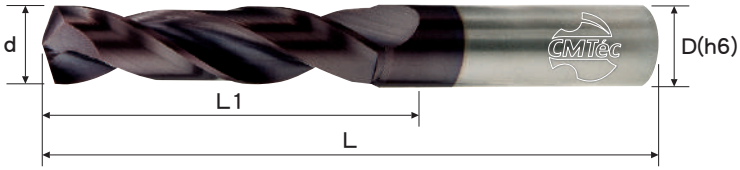
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 coated Order No.
3.0	28	66	6	2	CDHF20300F
3.1	28	66	6	2	CDHF20310F
3.2	28	66	6	2	CDHF20320F
3.3	28	66	6	2	CDHF20330F
3.4	28	66	6	2	CDHF20340F
3.5	28	66	6	2	CDHF20350F
3.6	28	66	6	2	CDHF20360F
3.7	28	66	6	2	CDHF20370F
3.8	36	74	6	2	CDHF20380F
3.9	36	74	6	2	CDHF20390F
4.0	36	74	6	2	CDHF20400F
4.1	36	74	6	2	CDHF20410F
4.2	36	74	6	2	CDHF20420F
4.3	36	74	6	2	CDHF20430F
4.4	36	74	6	2	CDHF20440F
4.5	36	74	6	2	CDHF20450F
4.6	36	74	6	2	CDHF20460F
4.7	36	74	6	2	CDHF20470F
4.8	44	82	6	2	CDHF20480F
4.9	44	82	6	2	CDHF20490F
5.0	44	82	6	2	CDHF20500F
5.1	44	82	6	2	CDHF20510F
5.2	44	82	6	2	CDHF20520F
5.3	44	82	6	2	CDHF20530F
5.4	44	82	6	2	CDHF20540F
5.5	44	82	6	2	CDHF20550F
5.6	44	82	6	2	CDHF20560F
5.7	44	82	6	2	CDHF20570F
5.8	44	82	6	2	CDHF20580F
5.9	44	82	6	2	CDHF20590F
6.0	44	82	6	2	CDHF20600F
6.1	53	91	8	2	CDHF20610F
6.2	53	91	8	2	CDHF20620F
6.3	53	91	8	2	CDHF20630F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 標準型- 2刃(5倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Standard- 2F(5×d)

· CDHF20000F



規格DIN6537

※ 有效加工深度 = 5倍刃徑。
Cutting effective length = 5xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

53

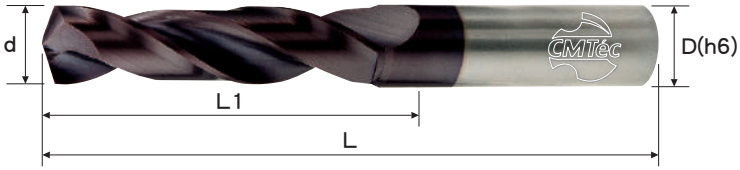
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
6.4	53	91	8	2	CDHF20640F
6.5	53	91	8	2	CDHF20650F
6.6	53	91	8	2	CDHF20660F
6.7	53	91	8	2	CDHF20670F
6.8	53	91	8	2	CDHF20680F
6.9	53	91	8	2	CDHF20690F
7.0	53	91	8	2	CDHF20700F
7.1	53	91	8	2	CDHF20710F
7.2	53	91	8	2	CDHF20720F
7.3	53	91	8	2	CDHF20730F
7.4	53	91	8	2	CDHF20740F
7.5	53	91	8	2	CDHF20750F
7.6	53	91	8	2	CDHF20760F
7.7	53	91	8	2	CDHF20770F
7.8	53	91	8	2	CDHF20780F
7.9	53	91	8	2	CDHF20790F
8.0	53	91	8	2	CDHF20800F
8.1	61	103	10	2	CDHF20810F
8.2	61	103	10	2	CDHF20820F
8.3	61	103	10	2	CDHF20830F
8.4	61	103	10	2	CDHF20840F
8.5	61	103	10	2	CDHF20850F
8.6	61	103	10	2	CDHF20860F
8.7	61	103	10	2	CDHF20870F
8.8	61	103	10	2	CDHF20880F
8.9	61	103	10	2	CDHF20890F
9.0	61	103	10	2	CDHF20900F
9.1	61	103	10	2	CDHF20910F
9.2	61	103	10	2	CDHF20920F
9.3	61	103	10	2	CDHF20930F
9.4	61	103	10	2	CDHF20940F
9.5	61	103	10	2	CDHF20950F
9.6	61	103	10	2	CDHF20960F
9.7	61	103	10	2	CDHF20970F
9.8	61	103	10	2	CDHF20980F
9.9	61	103	10	2	CDHF20990F
10.0	61	103	10	2	CDHF21000F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 標準型- 2刃(5倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Standard- 2F(5×d)

· CDHF20000F



規格DIN6537

※ 有效加工深度 = 5倍刃徑。
Cutting effective length = 5xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

53

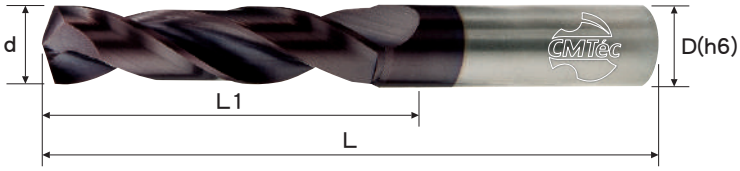
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
10.1	71	118	12	2	CDHF21010F
10.2	71	118	12	2	CDHF21020F
10.3	71	118	12	2	CDHF21030F
10.4	71	118	12	2	CDHF21040F
10.5	71	118	12	2	CDHF21050F
10.6	71	118	12	2	CDHF21060F
10.7	71	118	12	2	CDHF21070F
10.8	71	118	12	2	CDHF21080F
10.9	71	118	12	2	CDHF21090F
11.0	71	118	12	2	CDHF21100F
11.1	71	118	12	2	CDHF21110F
11.2	71	118	12	2	CDHF21120F
11.3	71	118	12	2	CDHF21130F
11.4	71	118	12	2	CDHF21140F
11.5	71	118	12	2	CDHF21150F
11.6	71	118	12	2	CDHF21160F
11.7	71	118	12	2	CDHF21170F
11.8	71	118	12	2	CDHF21180F
11.9	71	118	12	2	CDHF21190F
12.0	71	118	12	2	CDHF21200F
12.5	77	124	14	2	CDHF21250F
13.0	77	124	14	2	CDHF21300F
13.5	77	124	14	2	CDHF21350F
14.0	77	124	14	2	CDHF21400F
14.5	83	133	16	2	CDHF21450F
15.0	83	133	16	2	CDHF21500F
15.5	83	133	16	2	CDHF21550F
16.0	83	133	16	2	CDHF21600F

➡ 切削條件表 Cutting Condition P.561
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 長刃型- 2刃(7倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Long Flute- 2F(7×d)

· CDHS20000F



※ 有效加工深度 = 7倍刃徑。
Cutting effective length = 7xd
※ 有效加工深度(10、12、15)倍長
依需求生產。
Cutting effective length(10xd,
12xd, 15xd) are on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

56

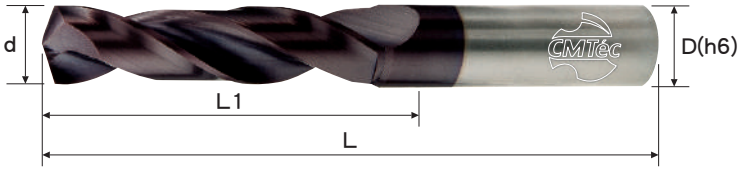
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
0.5	4.0	47	3	2	CDHS20050F
0.6	4.8	47	3	2	CDHS20060F
0.7	5.6	47	3	2	CDHS20070F
0.8	6.4	47	3	2	CDHS20080F
0.9	7.2	47	3	2	CDHS20090F
1.0	8.0	47	3	2	CDHS20100F
1.1	8.8	47	3	2	CDHS20110F
1.2	10.8	52	3	2	CDHS20120F
1.3	11.7	52	3	2	CDHS20130F
1.4	12.6	52	3	2	CDHS20140F
1.5	13.5	52	3	2	CDHS20150F
1.6	14.4	52	3	2	CDHS20160F
1.7	15.3	52	3	2	CDHS20170F
1.8	16.2	52	3	2	CDHS20180F
1.9	17.1	52	3	2	CDHS20190F
2.0	18.0	63	4	2	CDHS20200F
2.1	18.9	63	4	2	CDHS20210F
2.2	19.8	63	4	2	CDHS20220F
2.3	20.7	63	4	2	CDHS20230F
2.4	21.6	63	4	2	CDHS20240F
2.5	22.5	63	4	2	CDHS20250F
2.6	23.4	67	4	2	CDHS20260F
2.7	24.3	67	4	2	CDHS20270F
2.8	25.2	67	4	2	CDHS20280F
2.9	26.1	67	4	2	CDHS20290F
3.0	30.0	70	6	2	CDHS20300F
3.1	30.0	70	6	2	CDHS20310F
3.2	30.0	70	6	2	CDHS20320F
3.3	30.0	70	6	2	CDHS20330F
3.4	35.5	75	6	2	CDHS20340F
3.5	35.5	75	6	2	CDHS20350F
3.6	35.5	75	6	2	CDHS20360F
3.7	35.5	75	6	2	CDHS20370F
3.8	37.5	75	6	2	CDHS20380F
3.9	37.5	75	6	2	CDHS20390F
4.0	37.5	75	6	2	CDHS20400F
4.1	37.5	75	6	2	CDHS20410F

➡ 切削條件表 Cutting Condition P.563
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 長刃型- 2刃(7倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Long Flute- 2F(7×d)

· CDHS20000F



※ 有效加工深度 = 7倍刃徑。
Cutting effective length = 7xd
※ 有效加工深度(10、12、15)倍長依需求生產。
Cutting effective length(10xd, 12xd, 15xd) are on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

56

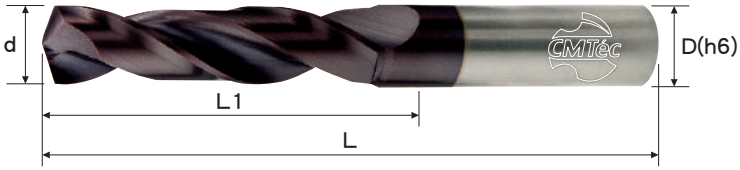
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.2	37.5	75	6	2	CDHS20420F
4.3	45.0	85	6	2	CDHS20430F
4.4	45.0	85	6	2	CDHS20440F
4.5	45.0	85	6	2	CDHS20450F
4.6	45.0	85	6	2	CDHS20460F
4.7	45.0	85	6	2	CDHS20470F
4.8	50.0	90	6	2	CDHS20480F
4.9	50.0	90	6	2	CDHS20490F
5.0	50.0	90	6	2	CDHS20500F
5.1	50.0	90	6	2	CDHS20510F
5.3	50.0	90	6	2	CDHS20530F
5.5	57.0	97	6	2	CDHS20550F
6.0	57.0	97	6	2	CDHS20600F
6.5	66.0	106	8	2	CDHS20650F
6.8	66.0	106	8	2	CDHS20680F
6.9	66.0	106	8	2	CDHS20690F
7.0	76.0	116	8	2	CDHS20700F
7.5	76.0	116	8	2	CDHS20750F
7.6	76.0	116	8	2	CDHS20760F
7.7	76.0	116	8	2	CDHS20770F
7.8	76.0	116	8	2	CDHS20780F
8.0	76.0	116	8	2	CDHS20800F
8.2	87.0	131	10	2	CDHS20820F
8.5	87.0	131	10	2	CDHS20850F
8.6	87.0	131	10	2	CDHS20860F
9.0	87.0	131	10	2	CDHS20900F
9.2	87.0	131	10	2	CDHS20920F
9.5	95.0	139	10	2	CDHS20950F
9.8	95.0	139	10	2	CDHS20980F
10.0	95.0	139	10	2	CDHS21000F
10.2	106.0	155	12	2	CDHS21020F
10.3	106.0	155	12	2	CDHS21030F
10.5	106.0	155	12	2	CDHS21050F
10.7	106.0	155	12	2	CDHS21070F
11.0	106.0	155	12	2	CDHS21100F
11.5	114.0	163	12	2	CDHS21150F
12.0	114.0	163	12	2	CDHS21200F

➡ 切削條件表 Cutting Condition P.563
➡ 技術資料 Technical Data P.630

鎢鋼高速鑽頭- 長刃型- 2刃(7倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Long Flute- 2F(7×d)

· CDHS20000F



※ 有效加工深度 = 7倍刃徑。
Cutting effective length = 7xd
※ 有效加工深度(10、12、15)倍長依需求生產。
Cutting effective length(10xd, 12xd, 15xd) are on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

56

刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
12.1	133	182	14	2	CDHS21210F
12.3	133	182	14	2	CDHS21230F
12.5	133	182	14	2	CDHS21250F
13.0	133	182	14	2	CDHS21300F
13.5	133	182	14	2	CDHS21350F
14.0	133	182	14	2	CDHS21400F
14.1	152	204	16	2	CDHS21410F
14.5	152	204	16	2	CDHS21450F
15.0	152	204	16	2	CDHS21500F
15.5	152	204	16	2	CDHS21550F
15.7	152	204	16	2	CDHS21570F
16.0	152	204	16	2	CDHS21600F

➡ 切削條件表 Cutting Condition P.563 ➡ 技術資料 Technical Data P.630

鎢鋼高速內冷鑽頭- 短刃型- 2刃(3倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Coolant Hole- Short Flute- 2F(3×d)

· CDHC20000F

規格DIN6537

※ 有效加工深度 = 3倍刃徑。
Cutting effective length = 3xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

54

刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	24	66	6	2	CDHC20400F
4.5	24	66	6	2	CDHC20450F
5.0	28	66	6	2	CDHC20500F
5.5	28	66	6	2	CDHC20550F
6.0	28	66	6	2	CDHC20600F
6.5	34	79	8	2	CDHC20650F
7.0	34	79	8	2	CDHC20700F
7.5	41	79	8	2	CDHC20750F
8.0	41	79	8	2	CDHC20800F
8.5	47	89	10	2	CDHC20850F
9.0	47	89	10	2	CDHC20900F
9.5	47	89	10	2	CDHC20950F
10.0	47	89	10	2	CDHC21000F
10.5	55	102	12	2	CDHC21050F
11.0	55	102	12	2	CDHC21100F
11.5	55	102	12	2	CDHC21150F
12.0	55	102	12	2	CDHC21200F
12.5	60	107	14	2	CDHC21250F
13.0	60	107	14	2	CDHC21300F
13.5	60	107	14	2	CDHC21350F
14.0	60	107	14	2	CDHC21400F
14.5	65	115	16	2	CDHC21450F
15.0	65	115	16	2	CDHC21500F
15.5	65	115	16	2	CDHC21550F
16.0	65	115	16	2	CDHC21600F
16.5	73	123	18	2	CDHC21650F
17.0	73	123	18	2	CDHC21700F
17.5	73	123	18	2	CDHC21750F
18.0	73	123	18	2	CDHC21800F
18.5	79	131	20	2	CDHC21850F
19.0	79	131	20	2	CDHC21900F
19.5	79	131	20	2	CDHC21950F
20.0	79	131	20	2	CDHC22000F

➡ 切削條件表 Cutting Condition P.562
➡ 技術資料 Technical Data P.630

鎢鋼高速內冷鑽頭- 標準型- 2刃(5倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Coolant Hole- Standard- 2F(5×d)

· CDHCF20000F

規格DIN6537

※ 有效加工深度= 5倍刃徑。
Cutting effective length = 5xd

※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

55

刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	36	74	6	2	CDHCF20400F
4.5	36	74	6	2	CDHCF20450F
5.0	44	82	6	2	CDHCF20500F
5.5	44	82	6	2	CDHCF20550F
6.0	44	82	6	2	CDHCF20600F
6.5	53	91	8	2	CDHCF20650F
7.0	53	91	8	2	CDHCF20700F
7.5	53	91	8	2	CDHCF20750F
8.0	53	91	8	2	CDHCF20800F
8.5	61	103	10	2	CDHCF20850F
9.0	61	103	10	2	CDHCF20900F
9.5	61	103	10	2	CDHCF20950F
10.0	61	103	10	2	CDHCF21000F
10.5	71	118	12	2	CDHCF21050F
11.0	71	118	12	2	CDHCF21100F
11.5	71	118	12	2	CDHCF21150F
12.0	71	118	12	2	CDHCF21200F
12.5	77	127	14	2	CDHCF21250F
13.0	77	127	14	2	CDHCF21300F
13.5	77	127	14	2	CDHCF21350F
14.0	77	127	14	2	CDHCF21400F
14.5	83	133	16	2	CDHCF21450F
15.0	83	133	16	2	CDHCF21500F
15.5	83	133	16	2	CDHCF21550F
16.0	83	133	16	2	CDHCF21600F
16.5	93	143	18	2	CDHCF21650F
17.0	93	143	18	2	CDHCF21700F
17.5	93	143	18	2	CDHCF21750F
18.0	93	143	18	2	CDHCF21800F
18.5	101	153	20	2	CDHCF21850F
19.0	101	153	20	2	CDHCF21900F
19.5	101	153	20	2	CDHCF21950F
20.0	101	153	20	2	CDHCF22000F

➡ 切削條件表 Cutting Condition P.562
➡ 技術資料 Technical Data P.630

鎢鋼高速內冷鑽頭- 長刃型- 2刃(7倍長)

CARBIDE HIGH SPEED DRILLS- End Mill Shank- Coolant Hole- Long Flute- 2F(7×d)

· CDHCS20000F

※ 有效加工深度 = 7倍刃徑。
Cutting effective length = 7xd
※ 有效加工深度(10、12、15)倍長依需求生產。
Cutting effective length(10xd, 12xd, 15xd) are on request.
※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	h7

56

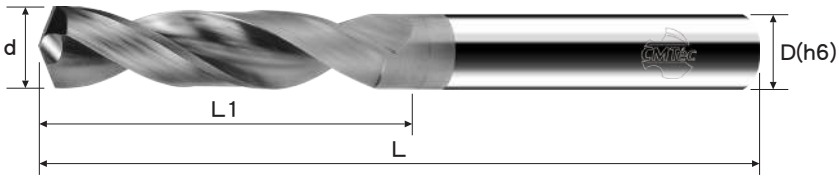
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
5.0	50	90	6	2	CDHCS20500F
5.1	50	90	6	2	CDHCS20510F
5.3	50	90	6	2	CDHCS20530F
5.5	57	97	6	2	CDHCS20550F
6.0	57	97	6	2	CDHCS20600F
6.5	66	106	8	2	CDHCS20650F
6.8	66	106	8	2	CDHCS20680F
6.9	66	106	8	2	CDHCS20690F
7.0	76	116	8	2	CDHCS20700F
7.5	76	116	8	2	CDHCS20750F
7.6	76	116	8	2	CDHCS20760F
7.7	76	116	8	2	CDHCS20770F
7.8	76	116	8	2	CDHCS20780F
8.0	76	116	8	2	CDHCS20800F
8.2	87	131	10	2	CDHCS20820F
8.5	87	131	10	2	CDHCS20850F
8.6	87	131	10	2	CDHCS20860F
9.0	87	131	10	2	CDHCS20900F
9.2	87	131	10	2	CDHCS20920F
9.5	95	139	10	2	CDHCS20950F
9.8	95	139	10	2	CDHCS20980F
10.0	95	139	10	2	CDHCS21000F
10.2	106	155	12	2	CDHCS21020F
10.3	106	155	12	2	CDHCS21030F
10.5	106	155	12	2	CDHCS21050F
10.7	106	155	12	2	CDHCS21070F
11.0	106	155	12	2	CDHCS21100F
11.5	114	163	12	2	CDHCS21150F
12.0	114	163	12	2	CDHCS21200F
12.1	133	182	14	2	CDHCS21210F
12.3	133	182	14	2	CDHCS21230F
12.5	133	182	14	2	CDHCS21250F
13.0	133	182	14	2	CDHCS21300F
13.5	133	182	14	2	CDHCS21350F
14.0	133	182	14	2	CDHCS21400F
14.1	152	204	16	2	CDHCS21410F
14.5	152	204	16	2	CDHCS21450F
15.0	152	204	16	2	CDHCS21500F
15.5	152	204	16	2	CDHCS21550F
15.7	152	204	16	2	CDHCS21570F
16.0	152	204	16	2	CDHCS21600F

➡ 切削條件表 Cutting Condition P.563
➡ 技術資料 Technical Data P.630

粉末高速鋼鑽頭- 短刃型- 2刃(3倍長)

POWDER HIGH SPEED STEEL DRILLS- Short Flute- 2F(3×d)

· JDG20000A



刃徑 d	鑽尖角度 Point Angle
Φ<2.0	118°
Φ≧2.0	135°

刃徑 d	公差 Tolerance
Φ	h7

3xD CPM AlTiCrN 118° 135° 30° Milling Table 86

NEW

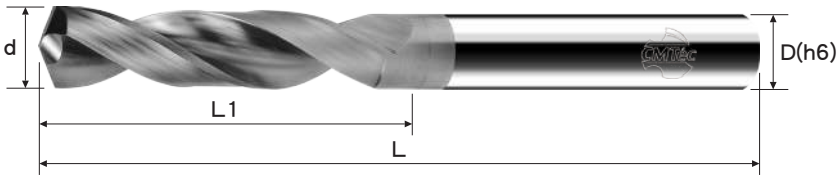
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
1.00	6	38	3	2	JDG20100A
1.05	6	38	3	2	JDG20105A
1.10	7	39	3	2	JDG20110A
1.15	7	39	3	2	JDG20115A
1.20	8	40	3	2	JDG20120A
1.25	8	40	3	2	JDG20125A
1.30	8	40	3	2	JDG20130A
1.35	9	41	3	2	JDG20135A
1.40	9	41	3	2	JDG20140A
1.45	9	41	3	2	JDG20145A
1.50	9	41	3	2	JDG20150A
1.55	10	42	3	2	JDG20155A
1.60	10	42	3	2	JDG20160A
1.65	10	42	3	2	JDG20165A
1.70	10	42	3	2	JDG20170A
1.75	11	43	3	2	JDG20175A
1.80	11	43	3	2	JDG20180A
1.85	11	43	3	2	JDG20185A
1.90	11	43	3	2	JDG20190A
1.95	12	44	3	2	JDG20195A
2.00	12	44	3	2	JDG20200A
2.05	12	44	3	2	JDG20205A
2.10	12	44	3	2	JDG20210A
2.15	13	45	3	2	JDG20215A
2.20	13	45	3	2	JDG20220A
2.25	13	45	3	2	JDG20225A
2.30	13	45	3	2	JDG20230A
2.35	13	45	3	2	JDG20235A
2.40	14	46	3	2	JDG20240A
2.45	14	46	3	2	JDG20245A
2.50	14	46	3	2	JDG20250A
2.55	14	46	3	2	JDG20255A
2.60	14	46	3	2	JDG20260A
2.65	14	46	3	2	JDG20265A
2.70	16	48	3	2	JDG20270A
2.75	16	48	3	2	JDG20275A
2.80	16	48	3	2	JDG20280A

→ 切削條件表 Cutting Condition P.582 → 技術資料 Technical Data P.630

粉末高速鋼鑽頭- 短刃型- 2刃(3倍長)

POWDER HIGH SPEED STEEL DRILLS- Short Flute- 2F(3×d)

· JDG20000A



刃徑 d	鑽尖角度 Point Angle
Φ<2.0	118°
Φ≧2.0	135°

刃徑 d	公差 Tolerance
Φ	h7

3xD CPM AlTiCrN 118° 135° 30° Milling Table 86

NEW

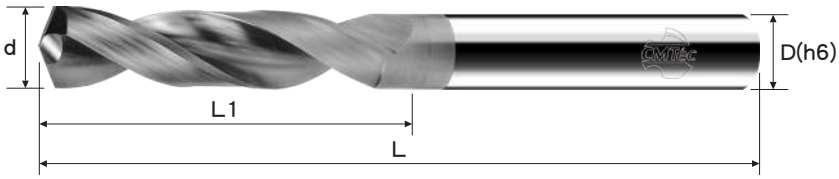
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
2.85	16	48	3	2	JDG20285A
2.90	16	48	3	2	JDG20290A
2.95	16	48	3	2	JDG20295A
3.00	16	48	3	2	JDG20300A
3.05	18	50	4	2	JDG20305A
3.10	18	50	4	2	JDG20310A
3.15	18	50	4	2	JDG20315A
3.20	18	50	4	2	JDG20320A
3.25	18	50	4	2	JDG20325A
3.30	18	50	4	2	JDG20330A
3.35	18	50	4	2	JDG20335A
3.40	20	52	4	2	JDG20340A
3.45	20	52	4	2	JDG20345A
3.50	20	52	4	2	JDG20350A
3.55	20	52	4	2	JDG20355A
3.60	20	52	4	2	JDG20360A
3.65	20	52	4	2	JDG20365A
3.70	20	52	4	2	JDG20370A
3.75	20	52	4	2	JDG20375A
3.80	22	54	4	2	JDG20380A
3.85	22	54	4	2	JDG20385A
3.90	22	54	4	2	JDG20390A
3.95	22	54	4	2	JDG20395A
4.00	22	54	4	2	JDG20400A
4.05	22	66	6	2	JDG20405A
4.10	22	66	6	2	JDG20410A
4.15	22	66	6	2	JDG20415A
4.20	22	66	6	2	JDG20420A
4.25	22	66	6	2	JDG20425A
4.30	24	68	6	2	JDG20430A
4.35	24	68	6	2	JDG20435A
4.40	24	68	6	2	JDG20440A
4.45	24	68	6	2	JDG20445A
4.50	24	68	6	2	JDG20450A
4.55	24	68	6	2	JDG20455A
4.60	24	68	6	2	JDG20460A
4.65	24	68	6	2	JDG20465A

➡ 切削條件表 Cutting Condition P.582 ➡ 技術資料 Technical Data P.630

粉末高速鋼鑽頭- 短刃型- 2刃(3倍長)

POWDER HIGH SPEED STEEL DRILLS- Short Flute- 2F(3×d)

· JDG20000A



刃徑 d	鑽尖角度 Point Angle
Φ<2.0	118°
Φ≧2.0	135°

刃徑 d	公差 Tolerance
Φ	h7

86

NEW

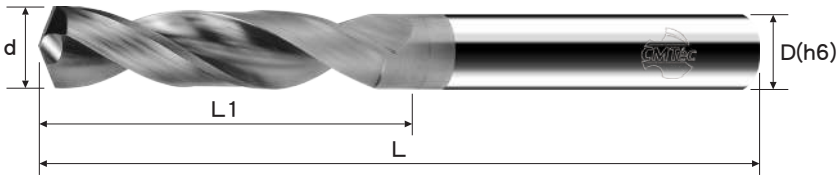
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.70	24	68	6	2	JDG20470A
4.75	24	68	6	2	JDG20475A
4.80	26	70	6	2	JDG20480A
4.85	26	70	6	2	JDG20485A
4.90	26	70	6	2	JDG20490A
4.95	26	70	6	2	JDG20495A
5.00	26	70	6	2	JDG20500A
5.05	26	70	6	2	JDG20505A
5.10	26	70	6	2	JDG20510A
5.15	26	70	6	2	JDG20515A
5.20	26	70	6	2	JDG20520A
5.25	26	70	6	2	JDG20525A
5.30	26	70	6	2	JDG20530A
5.35	28	72	6	2	JDG20535A
5.40	28	72	6	2	JDG20540A
5.45	28	72	6	2	JDG20545A
5.50	28	72	6	2	JDG20550A
5.55	28	72	6	2	JDG20555A
5.60	28	72	6	2	JDG20560A
5.65	28	72	6	2	JDG20565A
5.70	28	72	6	2	JDG20570A
5.75	28	72	6	2	JDG20575A
5.80	28	72	6	2	JDG20580A
5.85	28	72	6	2	JDG20585A
5.90	28	72	6	2	JDG20590A
5.95	28	72	6	2	JDG20595A
6.00	28	72	6	2	JDG20600A
6.10	31	75	8	2	JDG20610A
6.20	31	75	8	2	JDG20620A
6.30	31	75	8	2	JDG20630A
6.40	31	75	8	2	JDG20640A
6.50	31	75	8	2	JDG20650A
6.60	31	75	8	2	JDG20660A
6.70	31	75	8	2	JDG20670A
6.75	31	75	8	2	JDG20675A
6.80	34	78	8	2	JDG20680A
6.90	34	78	8	2	JDG20690A
7.00	34	78	8	2	JDG20700A

➡ 切削條件表 Cutting Condition P.582
➡ 技術資料 Technical Data P.630

粉末高速鋼鑽頭- 短刃型- 2刃(3倍長)

POWDER HIGH SPEED STEEL DRILLS- Short Flute- 2F(3×d)

· JDG20000A



刃徑 d	鑽尖角度 Point Angle
Φ<2.0	118°
Φ≧2.0	135°

刃徑 d	公差 Tolerance
Φ	h7

3xD CPM AlTiCrN 118° 135° 30° Milling Table 86

NEW

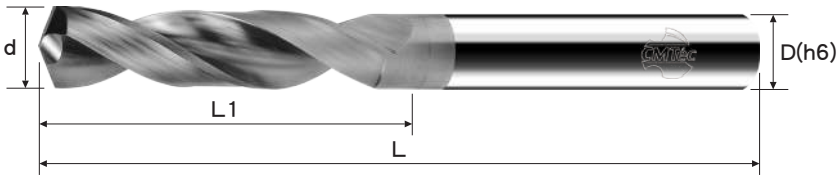
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
7.1	34	78	8	2	JDG20710A
7.2	34	78	8	2	JDG20720A
7.3	34	78	8	2	JDG20730A
7.4	34	78	8	2	JDG20740A
7.5	34	78	8	2	JDG20750A
7.6	37	81	8	2	JDG20760A
7.7	37	81	8	2	JDG20770A
7.8	37	81	8	2	JDG20780A
7.9	37	81	8	2	JDG20790A
8.0	37	81	8	2	JDG20800A
8.1	37	87	10	2	JDG20810A
8.2	37	87	10	2	JDG20820A
8.3	37	87	10	2	JDG20830A
8.4	37	87	10	2	JDG20840A
8.5	37	87	10	2	JDG20850A
8.6	40	90	10	2	JDG20860A
8.7	40	90	10	2	JDG20870A
8.8	40	90	10	2	JDG20880A
8.9	40	90	10	2	JDG20890A
9.0	40	90	10	2	JDG20900A
9.1	40	90	10	2	JDG20910A
9.2	40	90	10	2	JDG20920A
9.3	40	90	10	2	JDG20930A
9.4	40	90	10	2	JDG20940A
9.5	40	90	10	2	JDG20950A
9.6	43	93	10	2	JDG20960A
9.7	43	93	10	2	JDG20970A
9.8	43	93	10	2	JDG20980A
9.9	43	93	10	2	JDG20990A
10.0	43	93	10	2	JDG21000A
10.1	43	100	12	2	JDG21010A
10.2	43	100	12	2	JDG21020A
10.3	43	100	12	2	JDG21030A
10.4	43	100	12	2	JDG21040A
10.5	43	100	12	2	JDG21050A
10.6	43	100	12	2	JDG21060A
10.7	47	104	12	2	JDG21070A

➡ 切削條件表 Cutting Condition P.582 ➡ 技術資料 Technical Data P.630

粉末高速鋼鑽頭- 短刃型- 2刃(3倍長)

POWDER HIGH SPEED STEEL DRILLS- Short Flute- 2F(3×d)

· JDG20000A



刃徑 d	鑽尖角度 Point Angle
Φ<2.0	118°
Φ≧2.0	135°

刃徑 d	公差 Tolerance
Φ	h7

3xD CPM AlTiCrN 118° 135° 30° Milling Table 86

NEW

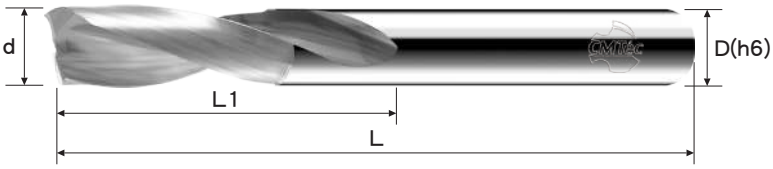
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
10.8	47	104	12	2	JDG21080A
10.9	47	104	12	2	JDG21090A
11.0	47	104	12	2	JDG21100A
11.1	47	104	12	2	JDG21110A
11.2	47	104	12	2	JDG21120A
11.3	47	104	12	2	JDG21130A
11.4	47	104	12	2	JDG21140A
11.5	47	104	12	2	JDG21150A
11.6	47	104	12	2	JDG21160A
11.7	47	104	12	2	JDG21170A
11.8	47	104	12	2	JDG21180A
11.9	51	108	12	2	JDG21190A
12.0	51	108	12	2	JDG21200A
12.1	51	108	12	2	JDG21210A
12.2	51	108	12	2	JDG21220A
12.3	51	108	12	2	JDG21230A
12.4	51	108	12	2	JDG21240A
12.5	51	108	12	2	JDG21250A
12.6	51	108	12	2	JDG21260A
12.7	51	108	12	2	JDG21270A
12.8	51	108	12	2	JDG21280A
12.9	51	108	12	2	JDG21290A
13.0	51	108	12	2	JDG21300A
13.5	72	132	16	2	JDG21350A
14.0	72	132	16	2	JDG21400A
14.5	76	136	16	2	JDG21450A
15.0	76	142	20	2	JDG21500A
15.5	80	146	20	2	JDG21550A
16.0	80	146	20	2	JDG21600A
16.5	84	150	20	2	JDG21650A
17.0	84	150	20	2	JDG21700A
17.5	87	153	20	2	JDG21750A
18.0	87	153	20	2	JDG21800A
18.5	90	156	20	2	JDG21850A
19.0	90	164	25	2	JDG21900A
19.5	94	168	25	2	JDG21950A
20.0	94	168	25	2	JDG22000A

➡ 切削條件表 Cutting Condition P.582 ➡ 技術資料 Technical Data P.630

鎢鋼鋁用平底型鑽頭- 短刃型- 2刃(3倍長)

CARBIDE FLAT DRILL- For Aluminum- Short Flute- 2F(3xd)

· CDFN2



刃徑 d	公差 Tolerance
Φ	h7

3xD MG 180° 20° Milling Table 79

NEW SIZE

切削實例 CUT EXAMPLES

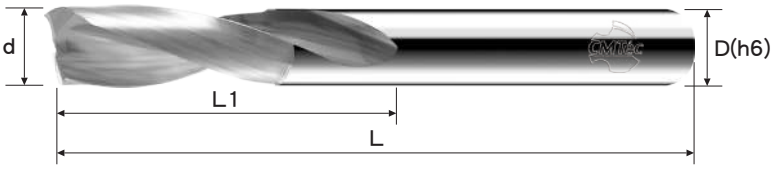
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
1.00	3.3	50	3	2	CDFN20100
1.10	3.5	50	3	2	CDFN20110
1.20	3.9	50	3	2	CDFN20120
1.30	4.2	50	3	2	CDFN20130
1.40	4.6	50	3	2	CDFN20140
1.50	4.9	50	3	2	CDFN20150
1.60	5.2	50	3	2	CDFN20160
1.70	5.5	50	3	2	CDFN20170
1.80	5.8	50	3	2	CDFN20180
1.90	6.2	50	3	2	CDFN20190
2.00	9.0	50	4	2	CDFN20200
2.05	11.0	50	4	2	CDFN20205
2.10	11.0	50	4	2	CDFN20210
2.15	11.0	50	4	2	CDFN20215
2.20	11.0	50	4	2	CDFN20220
2.25	11.0	50	4	2	CDFN20225
2.30	11.0	50	4	2	CDFN20230
2.40	11.0	50	4	2	CDFN20240
2.50	11.0	50	4	2	CDFN20250
2.60	11.0	50	4	2	CDFN20260
2.65	11.0	50	4	2	CDFN20265
2.70	14.0	50	4	2	CDFN20270
2.80	14.0	50	4	2	CDFN20280
2.90	14.0	50	4	2	CDFN20290
3.00	14.0	60	6	2	CDFN20300
3.10	15.0	60	6	2	CDFN20310
3.15	15.0	60	6	2	CDFN20315
3.20	15.0	60	6	2	CDFN20320
3.30	15.0	60	6	2	CDFN20330
3.40	16.0	60	6	2	CDFN20340
3.50	16.0	60	6	2	CDFN20350
3.60	16.0	60	6	2	CDFN20360
3.70	18.0	60	6	2	CDFN20370
3.75	18.0	60	6	2	CDFN20375
3.80	18.0	60	6	2	CDFN20380
3.90	18.0	60	6	2	CDFN20390
4.00	18.0	60	6	2	CDFN20400

➡ 切削條件表 Cutting Condition P.577
➡ 技術資料 Technical Data P.630

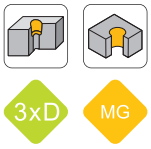
鎢鋼鋁用平底型鑽頭- 短刃型- 2刃(3倍長)

CARBIDE FLAT DRILL- For Aluminum- Short Flute- 2F(3xd)

· CDFN20000



刃徑 d	公差 Tolerance
Φ	h7



79

NEW SIZE

切削實例 CUT EXAMPLES

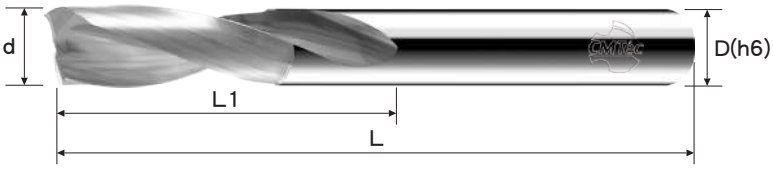
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
4.10	19	60	6	2	CDFN20410
4.20	19	60	6	2	CDFN20420
4.25	19	60	6	2	CDFN20425
4.30	19	60	6	2	CDFN20430
4.40	21	60	6	2	CDFN20440
4.50	21	60	6	2	CDFN20450
4.60	21	60	6	2	CDFN20460
4.70	22	60	6	2	CDFN20470
4.75	22	60	6	2	CDFN20475
4.80	23	60	6	2	CDFN20480
4.90	23	60	6	2	CDFN20490
5.00	23	60	6	2	CDFN20500
5.10	24	60	6	2	CDFN20510
5.20	24	60	6	2	CDFN20520
5.25	24	60	6	2	CDFN20525
5.30	24	60	6	2	CDFN20530
5.40	25	60	6	2	CDFN20540
5.50	25	60	6	2	CDFN20550
5.60	25	60	6	2	CDFN20560
5.70	27	60	6	2	CDFN20570
5.80	27	60	6	2	CDFN20580
5.90	27	60	6	2	CDFN20590
6.00	27	60	6	2	CDFN20600
6.10	28	75	8	2	CDFN20610
6.20	28	75	8	2	CDFN20620
6.30	28	75	8	2	CDFN20630
6.40	30	75	8	2	CDFN20640
6.50	30	75	8	2	CDFN20650
6.60	30	75	8	2	CDFN20660
6.70	31	75	8	2	CDFN20670
6.80	31	75	8	2	CDFN20680
6.90	31	75	8	2	CDFN20690
7.00	32	75	8	2	CDFN20700
7.10	33	75	8	2	CDFN20710
7.20	33	75	8	2	CDFN20720
7.30	33	75	8	2	CDFN20730
7.40	34	75	8	2	CDFN20740

切削條件表 Cutting Condition P.577 技術資料 Technical Data P.630

鎢鋼鋁用平底型鑽頭- 短刃型- 2刃(3倍長)

CARBIDE FLAT DRILL- For Aluminum- Short Flute- 2F(3xd)

· CDFN20000



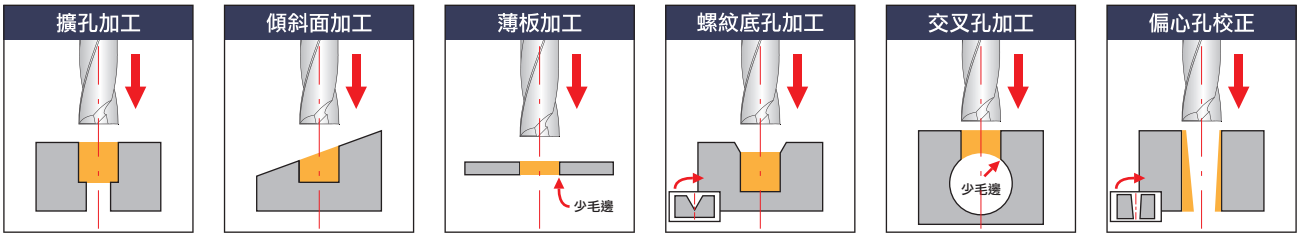
刃徑 d	公差 Tolerance
Φ	h7

3xD MG 180° 20° Milling Table 79

NEW SIZE

切削實例 CUT EXAMPLES

刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
7.50	34	75	8	2	CDFN20750
7.60	34	75	8	2	CDFN20760
7.70	36	75	8	2	CDFN20770
7.80	36	75	8	2	CDFN20780
7.90	36	75	8	2	CDFN20790
8.00	36	75	8	2	CDFN20800
8.10	37	100	10	2	CDFN20810
8.30	37	100	10	2	CDFN20830
8.50	39	100	10	2	CDFN20850
8.60	39	100	10	2	CDFN20860
8.70	40	100	10	2	CDFN20870
8.80	40	100	10	2	CDFN20880
9.00	41	100	10	2	CDFN20900
9.50	43	100	10	2	CDFN20950
9.90	45	100	10	2	CDFN20990
10.00	45	100	10	2	CDFN21000
10.30	46	100	12	2	CDFN21030
10.50	48	100	12	2	CDFN21050
10.80	49	100	12	2	CDFN21080
11.00	50	100	12	2	CDFN21100
11.50	52	100	12	2	CDFN21150
12.00	54	100	12	2	CDFN21200
13.00	59	100	14	2	CDFN21300
14.00	63	100	16	2	CDFN21400

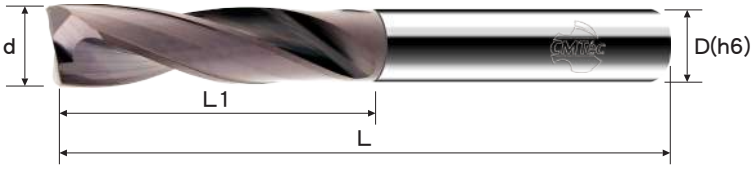


切削條件表 Cutting Condition P.577
技術資料 Technical Data P.630

鎢鋼鋼用平底型鑽頭- 短刃型- 2刃(3倍長)

CARBIDE FLAT DRILL- For Steel- Short Flute- 2F(3xd)

· CDF20000F



刃徑 d	公差 Tolerance
Φ	h7

3xD MG FIRE 180° 20° HRC 45 Milling Table 79

NEW

切削實例 CUT EXAMPLES

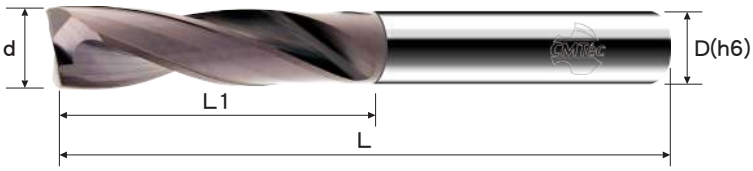
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
1.00	3.3	50	3	2	CDF20100F
1.10	3.5	50	3	2	CDF20110F
1.20	3.9	50	3	2	CDF20120F
1.30	4.2	50	3	2	CDF20130F
1.40	4.6	50	3	2	CDF20140F
1.50	4.9	50	3	2	CDF20150F
1.60	5.2	50	3	2	CDF20160F
1.70	5.5	50	3	2	CDF20170F
1.80	5.8	50	3	2	CDF20180F
1.90	6.2	50	3	2	CDF20190F
2.00	9.0	50	4	2	CDF20200F
2.05	11.0	50	4	2	CDF20205F
2.10	11.0	50	4	2	CDF20210F
2.15	11.0	50	4	2	CDF20215F
2.20	11.0	50	4	2	CDF20220F
2.25	11.0	50	4	2	CDF20225F
2.30	11.0	50	4	2	CDF20230F
2.40	11.0	50	4	2	CDF20240F
2.50	11.0	50	4	2	CDF20250F
2.60	11.0	50	4	2	CDF20260F
2.65	11.0	50	4	2	CDF20265F
2.70	14.0	50	4	2	CDF20270F
2.80	14.0	50	4	2	CDF20280F
2.90	14.0	50	4	2	CDF20290F
3.00	14.0	60	6	2	CDF20300F
3.10	15.0	60	6	2	CDF20310F
3.15	15.0	60	6	2	CDF20315F
3.20	15.0	60	6	2	CDF20320F
3.30	15.0	60	6	2	CDF20330F
3.40	16.0	60	6	2	CDF20340F
3.50	16.0	60	6	2	CDF20350F
3.60	16.0	60	6	2	CDF20360F
3.70	18.0	60	6	2	CDF20370F
3.75	18.0	60	6	2	CDF20375F
3.80	18.0	60	6	2	CDF20380F
3.90	18.0	60	6	2	CDF20390F
4.00	18.0	60	6	2	CDF20400F

➡ 切削條件表 Cutting Condition P.577
➡ 技術資料 Technical Data P.630

鎢鋼鋼用平底型鑽頭- 短刃型- 2刃(3倍長)

CARBIDE FLAT DRILL- For Steel- Short Flute- 2F(3xd)

· CDF20000F



刃徑 d	公差 Tolerance
Φ	h7

3xD MG FIRE 180° 20° HRC 45 Milling Table 79

NEW

切削實例 CUT EXAMPLES

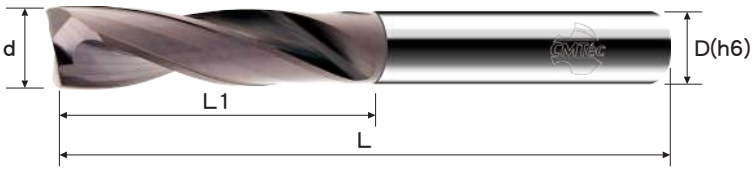
刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.10	19	60	6	2	CDF20410F
4.20	19	60	6	2	CDF20420F
4.25	19	60	6	2	CDF20425F
4.30	19	60	6	2	CDF20430F
4.40	21	60	6	2	CDF20440F
4.50	21	60	6	2	CDF20450F
4.60	21	60	6	2	CDF20460F
4.70	22	60	6	2	CDF20470F
4.75	22	60	6	2	CDF20475F
4.80	23	60	6	2	CDF20480F
4.90	23	60	6	2	CDF20490F
5.00	23	60	6	2	CDF20500F
5.10	24	60	6	2	CDF20510F
5.20	24	60	6	2	CDF20520F
5.25	24	60	6	2	CDF20525F
5.30	24	60	6	2	CDF20530F
5.40	25	60	6	2	CDF20540F
5.50	25	60	6	2	CDF20550F
5.60	25	60	6	2	CDF20560F
5.70	27	60	6	2	CDF20570F
5.80	27	60	6	2	CDF20580F
5.90	27	60	6	2	CDF20590F
6.00	27	60	6	2	CDF20600F
6.10	28	75	8	2	CDF20610F
6.20	28	75	8	2	CDF20620F
6.30	28	75	8	2	CDF20630F
6.40	30	75	8	2	CDF20640F
6.50	30	75	8	2	CDF20650F
6.60	30	75	8	2	CDF20660F
6.70	31	75	8	2	CDF20670F
6.80	31	75	8	2	CDF20680F
6.90	31	75	8	2	CDF20690F
7.00	32	75	8	2	CDF20700F
7.10	33	75	8	2	CDF20710F
7.20	33	75	8	2	CDF20720F
7.30	33	75	8	2	CDF20730F
7.40	34	75	8	2	CDF20740F

→ 切削條件表 Cutting Condition P.577
→ 技術資料 Technical Data P.630

鎢鋼鋼用平底型鑽頭- 短刃型- 2刃(3倍長)

CARBIDE FLAT DRILL- For Steel- Short Flute- 2F(3xd)

· CDF20000F



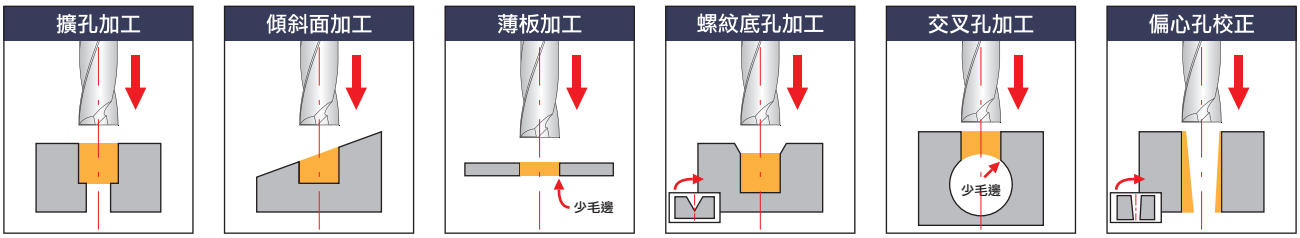
刃徑 d	公差 Tolerance
Φ	h7

3xD MG FIRE 180° 20° HRC 45 Milling Table 79

NEW

切削實例 CUT EXAMPLES

刃徑 d	溝長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
7.50	34	75	8	2	CDF20750F
7.60	34	75	8	2	CDF20760F
7.70	36	75	8	2	CDF20770F
7.80	36	75	8	2	CDF20780F
7.90	36	75	8	2	CDF20790F
8.00	36	75	8	2	CDF20800F
8.10	37	100	10	2	CDF20810F
8.30	37	100	10	2	CDF20830F
8.50	39	100	10	2	CDF20850F
8.60	39	100	10	2	CDF20860F
8.70	40	100	10	2	CDF20870F
8.80	40	100	10	2	CDF20880F
9.00	41	100	10	2	CDF20900F
9.50	43	100	10	2	CDF20950F
9.90	45	100	10	2	CDF20990F
10.00	45	100	10	2	CDF21000F
10.30	46	100	12	2	CDF21030F
10.50	48	100	12	2	CDF21050F
10.80	49	100	12	2	CDF21080F
11.00	50	100	12	2	CDF21100F
11.50	52	100	12	2	CDF21150F
12.00	54	100	12	2	CDF21200F
13.00	59	100	14	2	CDF21300F
14.00	63	100	16	2	CDF21400F

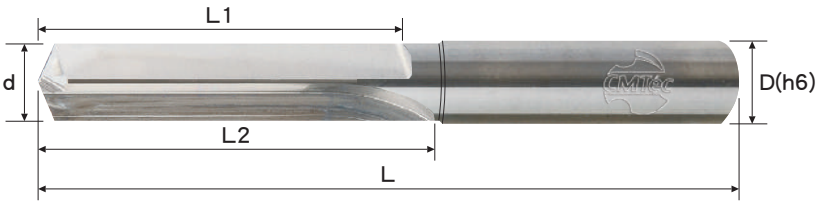


切削條件表 Cutting Condition P.577
技術資料 Technical Data P.630

鎢鋼鋁銅用直刃鑽鉸刀- 標準型- 2刃(5倍長)

CARBIDE STRAIGHT FLUTE DRILLS- For Aluminum & Copper- 2F(5×d)

· CDR20000



※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
Φ	+0.005

5xD MG 130° Milling Table 57

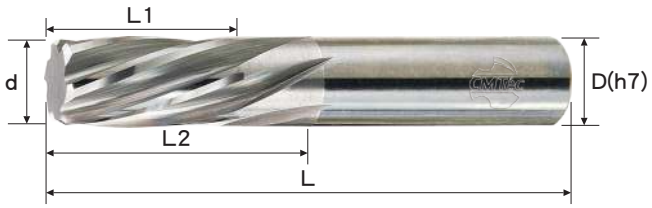
刃徑 d	刃長 L1	溝長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
4.00	29	36	74	6	2	CDR20400
4.20	29	36	74	6	2	CDR20420
5.00	35	44	82	6	2	CDR20500
6.00	35	44	82	6	2	CDR20600
6.75	43	53	91	8	2	CDR20675
7.00	43	53	91	8	2	CDR20700
8.00	43	53	91	8	2	CDR20800
8.50	49	61	103	10	2	CDR20850
9.00	49	61	103	10	2	CDR20900
10.00	49	61	103	10	2	CDR21000
10.25	56	71	118	12	2	CDR21025
11.00	56	71	118	12	2	CDR21100
12.00	56	71	118	12	2	CDR21200
13.00	60	77	124	14	2	CDR21300

➡ 切削條件表 Cutting Condition P.563
➡ 技術資料 Technical Data P.630

鎢鋼螺旋機械鉸刀- 短刃型- 4/6刃

CARBIDE MACHINE REAMERS- Short Flute- 4/6F

- CRD4 0000
- CRD6 0000



刃徑 d	公差 Tolerance
6≧Φ	+0.004
6＜Φ	+0.005

58

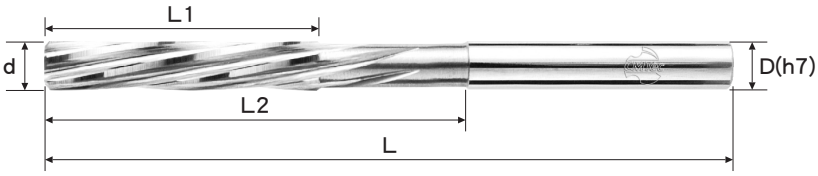
刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.
2.98	15	20	50	4	4	CRD40298
2.99	15	20	50	4	4	CRD40299
3.00	15	20	50	4	4	CRD40300
3.01	15	20	50	4	4	CRD40301
3.02	15	20	50	4	4	CRD40302
3.98	15	22	50	4	6	CRD60398
3.99	15	22	50	4	6	CRD60399
4.00	15	22	50	4	6	CRD60400
4.01	15	22	50	4	6	CRD60401
4.02	15	22	50	4	6	CRD60402
4.98	20	30	60	6	6	CRD60498
4.99	20	30	60	6	6	CRD60499
5.00	20	30	60	6	6	CRD60500
5.01	20	30	60	6	6	CRD60501
5.02	20	30	60	6	6	CRD60502
5.98	20	30	60	6	6	CRD60598
5.99	20	30	60	6	6	CRD60599
6.00	20	30	60	6	6	CRD60600
6.01	20	30	60	6	6	CRD60601
6.02	20	30	60	6	6	CRD60602
6.98	20	30	60	8	6	CRD60698
6.99	20	30	60	8	6	CRD60699
7.00	20	30	60	8	6	CRD60700
7.01	20	30	60	8	6	CRD60701
7.02	20	30	60	8	6	CRD60702
7.98	20	30	60	8	6	CRD60798
7.99	20	30	60	8	6	CRD60799
8.00	20	30	60	8	6	CRD60800
8.01	20	30	60	8	6	CRD60801
8.02	20	30	60	8	6	CRD60802
8.98	20	30	60	10	6	CRD60898
8.99	20	30	60	10	6	CRD60899
9.00	20	30	60	10	6	CRD60900
9.01	20	30	60	10	6	CRD60901
9.02	20	30	60	10	6	CRD60902
9.98	20	30	60	10	6	CRD60998
9.99	20	30	60	10	6	CRD60999
10.00	20	30	60	10	6	CRD61000
10.01	20	30	60	10	6	CRD61001
10.02	20	30	60	10	6	CRD61002
11.98	20	30	60	12	6	CRD61198
11.99	20	30	60	12	6	CRD61199
12.00	20	30	60	12	6	CRD61200
12.01	20	30	60	12	6	CRD61201
12.02	20	30	60	12	6	CRD61202

➡ 切削條件表 Cutting Condition P.564
➡ 技術資料 Technical Data P.635

鎢鋼螺旋機械鉸刀- 標準型- 4/6刃

CARBIDE MACHINE REAMERS- 4/6F

- CRS40000
- CRS60000



※ 其他刃徑公差規格依需求生產。
Special tolerance(ϕ) is on request.

刃徑 d	公差 Tolerance
6≧Φ	+0.004
6＜Φ	+0.005

MG 12° HRC 45 Milling Table 58

刃徑 d	刃長 L1	有效長 L2	全長 L	柄徑 D	刃數 F	白刃訂購編號 Uncoated Order No.
3.0	15	20	61	3.0	4	CRS40300
3.5	18	20	70	3.5	4	CRS40350
4.0	19	30	75	4.0	4	CRS40400
4.5	21	30	80	4.5	4	CRS40450
5.0	23	30	86	5.0	4	CRS40500
5.5	26	30	93	5.5	4	CRS40550
6.0	26	40	93	6.0	4	CRS40600
6.5	28	40	101	6.5	4	CRS40650
7.0	31	40	109	7.0	6	CRS60700
7.5	31	40	109	7.5	6	CRS60750
8.0	33	50	117	8.0	6	CRS60800
8.5	33	50	117	8.5	6	CRS60850
9.0	36	50	125	9.0	6	CRS60900
9.5	36	50	125	9.5	6	CRS60950
10.0	38	50	133	10.0	6	CRS61000
10.5	38	50	133	10.5	6	CRS61050
11.0	41	60	142	11.0	6	CRS61100
11.5	41	60	142	11.5	6	CRS61150
12.0	44	60	151	12.0	6	CRS61200
12.7	44	60	151	12.7	6	CRS61270
13.0	44	60	151	13.0	6	CRS61300

切削條件表 Cutting Condition P.564
技術資料 Technical Data P.635

MEMO

鑽削刀桿系列

Drilling Toolholders Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

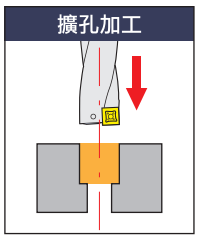
產品選擇表
Product Selection Table

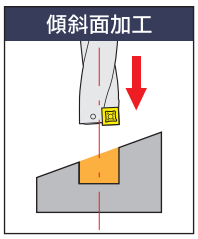
鎢鋼鑽刀片 Carbide Drilling Inserts

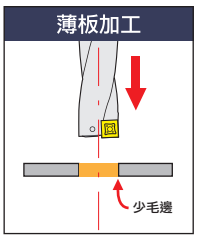
刀片單面使用
Single-Sided
Inserts

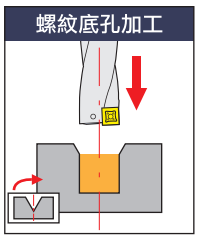
多功能鑽削加工 Multipurpose Drilling

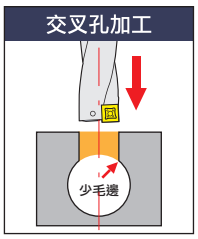
刀片單面使用
Single-Sided
Inserts

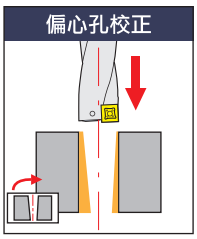












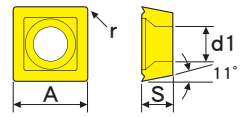
鑽削加工 Drilling

刀片單面使用
Single-Sided
Inserts

鎢鋼鑽刀片

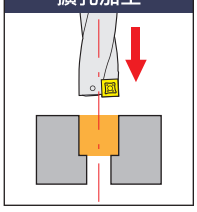
CARBIDE DRILLING INSERTS

加工材質											
P	鋼材 Alloy Steels						◎	◎	◎	◎：第一推薦 First Recommend ○：第二推薦 Second Recommend －：不推薦 NO Recommend	
M	不銹鋼 Stainless Steels						◎	◎	◎		
K	鑄鐵 Cast Iron						◎	◎	◎		
N	鋁合金 Aluminum Alloys						－	－	－	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing	
S	高溫合金 High-Temp Alloys						◎	◎	◎		
H	調質鋼 Hardened Steels						◎	◎	－		

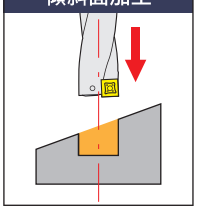
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於盲孔加工、穿孔加工【刀片單面使用】。 Blind Hole Drilling & Through Hole Drilling【Single-Sided Inserts】.																
T	SPMG050204-MG						●	●	●	5.00	－	2.38	0.4	2.30		402 ~ 407
F S M R																
T	SPMG060204-MG						●	●	●	6.00	－	2.38	0.4	2.65		
F S M R																
T	SPMG07T308-MG						●	●	●	7.94	－	3.97	0.8	2.85		
F S M R																
T	SPMG090408-MG						●	●	●	9.80	－	4.30	0.8	4.05		
F S M R																
T	SPMG090408-RG						●	●	●	9.80	－	4.30	0.8	4.05		
F S M R																
T	SPMG110408-MG						●	●	●	11.5	－	4.80	0.8	4.45		
F S M R																
T	SPMG110408-RG						●	●	●	11.5	－	4.80	0.8	4.45		
F S M R																

➡ 切削條件表 Cutting Condition P.610

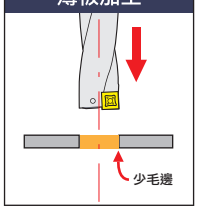
擴孔加工



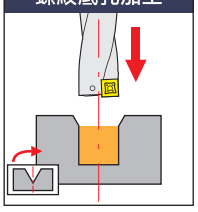
傾斜面加工



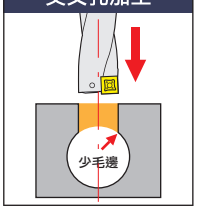
薄板加工



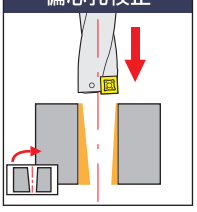
螺紋底孔加工



交叉孔加工



偏心孔校正



鎢鋼鑽刀片

CARBIDE DRILLING INSERTS

加工材質											
P	鋼材 Alloy Steels							◎		◎：第一推薦 First Recommend ○：第二推薦 Second Recommend －：不推薦 NO Recommend	
M	不銹鋼 Stainless Steels							◎			
K	鑄鐵 Cast Iron							◎			
N	鋁合金 Aluminum Alloys							－		F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing	
S	高溫合金 High-Temp Alloys							◎			
H	調質鋼 Hardened Steels							◎			

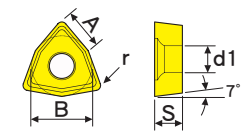
刀 片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於盲孔加工、穿孔加工【刀片單面使用】。 Blind Hole Drilling & Through Hole Drilling【Single-Sided Inserts】.																
S	WDXT042004-MG							●		4.2	－	2.0	0.4	－	A r S	408 ~ 412
F S M R																
S	WDXT052504-MG							●		5.0	－	2.5	0.4	－		
F S M R																
S	WDXT063006-MG							●		6.0	－	3.0	0.6	－		
F S M R																
S	WDXT073506-MG							●		7.5	－	3.5	0.6	－		
F S M R																

➡ 切削條件表 Cutting Condition P.610

鎢鋼鑽刀片

CARBIDE DRILLING INSERTS

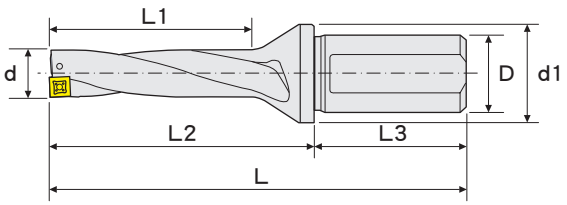
加工材質											
P	鋼材 Alloy Steels						◎	◎	◎	◎：第一推薦 First Recommend ○：第二推薦 Second Recommend －：不推薦 NO Recommend	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
M	不銹鋼 Stainless Steels						◎	◎	◎		
K	鑄鐵 Cast Iron						◎	◎	◎		
N	鋁合金 Aluminum Alloys						－	－	－		
S	高溫合金 High-Temp Alloys						◎	◎	◎		
H	調質鋼 Hardened Steels						◎	◎	－		

刀片 Insert	訂購編號 Order No.	材質碼 Grade								尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD		PVD											
		CM10	CM6337	CM6347	CM6213	CM6223	CM6032	CM6233	CM6243	A	B	S	r	d1		
應用於盲孔加工、穿孔加工【刀片單面使用】。 Blind Hole Drilling & Through Hole Drilling【Single-Sided Inserts】.																
S	WCMT030208-MM						●	●	●	3.8	5.56	2.38	0.8	2.8		413 ~ 415
F S M R																
S	WCMT040208-SG						●	●	●	4.3	6.35	2.38	0.8	3.0		
F S M R																
S	WCMT040208-MM						●	●	●	4.3	6.35	2.38	0.8	3.0		
F S M R																
S	WCMT050308-SG						●	●	●	5.4	7.94	3.18	0.8	3.4		
F S M R																
S	WCMT050308-MM						●	●	●	5.4	7.94	3.18	0.8	3.4		
F S M R																
S	WCMT06T308-SG						●	●	●	6.5	9.53	3.97	0.8	4.0		
F S M R																
S	WCMT06T308-MM						●	●	●	6.5	9.53	3.97	0.8	4.0		
F S M R																
S	WCMT080412-SG						●	●	●	8.7	12.7	4.76	1.2	4.3		—
F S M R																
S	WCMT080412-MM						●	●	●	8.7	12.7	4.76	1.2	4.3		
F S M R																

切削條件表 Cutting Condition P.610

DSP 快速鑽頭 - 2 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 2xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DSP05-020125-02D-C	12.5	26	44	50	94	20	25	SPMG0502..	TS2003	ETF06
DSP05-02013-02D-C	13.0	26	44	50	94	20	25			
DSP05-020135-02D-C	13.5	28	46	50	96	20	25			
DSP05-02014-02D-C	14.0	28	46	50	96	20	25			
DSP05-020145-02D-C	14.5	30	49	50	99	20	25			
DSP05-02015-02D-C	15.0	30	49	50	99	20	25			
DSP06-020155-02D-C	15.5	32	52	56	108	25	33	SPMG0602..	TS2205	ETF06
DSP06-02016-02D-C	16.0	32	52	56	108	25	33			
DSP06-020165-02D-C	16.5	34	54	56	110	25	33			
DSP06-02017-02D-C	17.0	34	54	56	110	25	33			
DSP06-020175-02D-C	17.5	36	57	56	113	25	33			
DSP06-02018-02D-C	18.0	36	57	56	113	25	33			
DSP06-020185-02D-C	18.5	38	59	56	115	25	33			
DSP06-02019-02D-C	19.0	38	59	56	115	25	33			
DSP06-020195-02D-C	19.5	40	63	56	119	25	33			
DSP06-02020-02D-C	20.0	40	63	56	119	25	33			
DSP06-020205-02D-C	20.5	42	65	56	121	25	33			
DSP06-02021-02D-C	21.0	42	65	56	121	25	33			
DSP06-020215-02D-C	21.5	44	67	56	123	25	33			
DSP07-02022-02D-C	22.0	44	67	56	123	25	43	SPMG07T3..	TS2511	ETF08
DSP07-020225-02D-C	22.5	46	71	60	131	32	43			
DSP07-02023-02D-C	23.0	46	71	60	131	32	43			
DSP07-020235-02D-C	23.5	48	74	60	134	32	43			
DSP07-02024-02D-C	24.0	48	74	60	134	32	43			
DSP07-020245-02D-C	24.5	50	77	60	137	32	43			
DSP07-02025-02D-C	25.0	50	77	60	137	32	43			
DSP07-020255-02D-C	25.5	52	79	60	139	32	43			
DSP07-02026-02D-C	26.0	52	79	60	139	32	43			
DSP07-020265-02D-C	26.5	54	81	60	142	32	43			
DSP07-02027-02D-C	27.0	54	81	60	142	32	43			
DSP07-020275-02D-C	27.5	56	84	60	144	32	43			

➡ 搭配刀片 Insert P.399 ➡ 切削條件表 Cutting Condition P.610

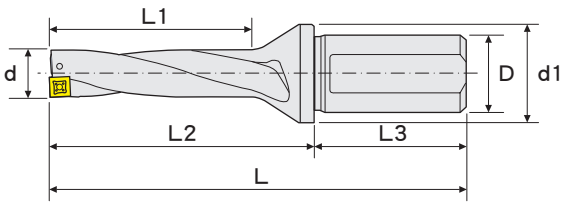
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DSP 快速鑽頭 - 2 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 2xd



訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DSP09-02028-02D-C	28.0	56	84	60	144	32	43	SPMG0904..	TS3504	ETF15
DSP09-020285-02D-C	28.5	58	86	60	146	32	43			
DSP09-02029-02D-C	29.0	58	86	60	146	32	43			
DSP09-020295-02D-C	29.5	60	88	60	148	32	43			
DSP09-02030-02D-C	30.0	60	88	60	148	32	43			
DSP09-020305-02D-C	30.5	62	90	60	150	32	43			
DSP09-02031-02D-C	31.0	62	90	60	150	32	43			
DSP09-020315-02D-C	31.5	64	92	60	152	32	43			
DSP09-02032-02D-C	32.0	64	92	60	152	32	43			
DSP09-020325-02D-C	32.5	66	94	60	154	32	43			
DSP09-02033-02D-C	33.0	66	94	60	154	32	43			
DSP11-02034-02D-C	34.0	68	96	60	156	32	43	SPMG1104..	TS4006	ETF15
DSP11-02035-02D-C	35.0	70	98	60	158	32	43			
DSP11-02036-02D-C	36.0	72	100	60	160	32	43			
DSP11-02037-02D-C	37.0	74	102	60	162	32	43			
DSP11-02038-02D-C	38.0	76	104	60	164	32	43			
DSP11-02039-02D-C	39.0	78	106	60	166	32	43			
DSP11-02040-02D-C	40.0	80	115	60	175	40	53			
DSP11-02041-02D-C	41.0	82	117	60	177	40	53			

➡ 搭配刀片 Insert P.399 ➡ 切削條件表 Cutting Condition P.610

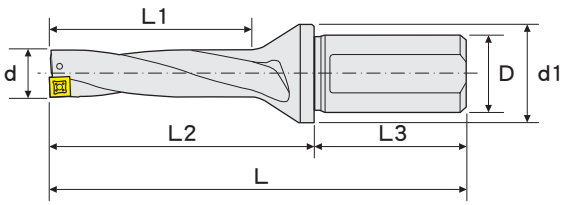
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DSP 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 3xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DSP05-020125-03D-C	12.5	39	57	50	107	20	25	SPMG0502..	TS2003	ETF06
DSP05-02013-03D-C	13.0	39	57	50	107	20	25			
DSP05-020135-03D-C	13.5	42	60	50	110	20	25			
DSP05-02014-03D-C	14.0	42	60	50	110	20	25			
DSP05-020145-03D-C	14.5	45	64	50	114	20	25			
DSP05-02015-03D-C	15.0	45	64	50	114	20	25			
DSP06-020155-03D-C	15.5	48	68	56	124	25	33	SPMG0602..	TS2205	ETF06
DSP06-02016-03D-C	16.0	48	68	56	124	25	33			
DSP06-020165-03D-C	16.5	51	71	56	127	25	33			
DSP06-02017-03D-C	17.0	51	71	56	127	25	33			
DSP06-020175-03D-C	17.5	54	75	56	131	25	33			
DSP06-02018-03D-C	18.0	54	75	56	131	25	33			
DSP06-020185-03D-C	18.5	57	78	56	134	25	33			
DSP06-02019-03D-C	19.0	57	78	56	134	25	33			
DSP06-020195-03D-C	19.5	60	83	56	139	25	33			
DSP06-02020-03D-C	20.0	60	83	56	139	25	33			
DSP06-020205-03D-C	20.5	63	86	56	142	25	33			
DSP06-02021-03D-C	21.0	63	86	56	142	25	33			
DSP06-020215-03D-C	21.5	66	89	56	145	25	33			
DSP07-02022-03D-C	22.0	66	89	56	145	25	43	SPMG07T3..	TS2511	ETF08
DSP07-020225-03D-C	22.5	69	94	60	154	32	43			
DSP07-02023-03D-C	23.0	69	94	60	154	32	43			
DSP07-020235-03D-C	23.5	72	98	60	158	32	43			
DSP07-02024-03D-C	24.0	72	98	60	158	32	43			
DSP07-020245-03D-C	24.5	75	102	60	162	32	43			
DSP07-02025-03D-C	25.0	75	102	60	162	32	43			
DSP07-020255-03D-C	25.5	78	105	60	165	32	43			
DSP07-02026-03D-C	26.0	78	105	60	165	32	43			
DSP07-020265-03D-C	26.5	81	108	60	168	32	43			
DSP07-02027-03D-C	27.0	81	108	60	168	32	43			
DSP07-020275-03D-C	27.5	84	112	60	172	32	43			

搭配刀片 Insert P.399　切削條件表 Cutting Condition P.610

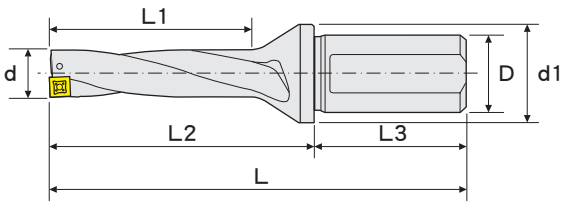
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

DSP 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 3xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DSP09-02028-03D-C	28.0	84	112	60	172	32	43	SPMG0904..	TS3504	ETF15
DSP09-020285-03D-C	28.5	87	115	60	175	32	43			
DSP09-02029-03D-C	29.0	87	115	60	175	32	43			
DSP09-020295-03D-C	29.5	90	118	60	178	32	43			
DSP09-02030-03D-C	30.0	90	118	60	178	32	43			
DSP09-020305-03D-C	30.5	93	121	60	181	32	43			
DSP09-02031-03D-C	31.0	93	121	60	181	32	43			
DSP09-020315-03D-C	31.5	96	124	60	184	32	43			
DSP09-02032-03D-C	32.0	96	124	60	184	32	43			
DSP09-020325-03D-C	32.5	99	127	60	187	32	43			
DSP09-02033-03D-C	33.0	99	127	60	187	32	43			
DSP11-02034-03D-C	34.0	102	130	60	190	32	43	SPMG1104..	TS4006	ETF15
DSP11-02035-03D-C	35.0	105	133	60	193	32	43			
DSP11-02036-03D-C	36.0	108	136	60	196	32	43			
DSP11-02037-03D-C	37.0	111	139	60	199	32	43			
DSP11-02038-03D-C	38.0	114	142	60	202	32	43			
DSP11-02039-03D-C	39.0	117	145	60	205	32	43			
DSP11-02040-03D-C	40.0	120	155	60	215	40	53			
DSP11-02041-03D-C	41.0	123	158	60	218	40	53			

搭配刀片 Insert P.399　切削條件表 Cutting Condition P.610

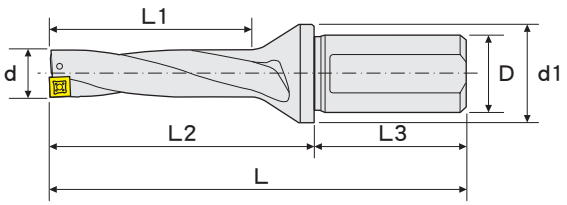
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

DSP 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 4xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DSP05-020125-04D-C	12.5	52	70	50	120	20	25	SPMG0502..	TS2003	ETF06
DSP05-02013-04D-C	13.0	52	70	50	120	20	25			
DSP05-020135-04D-C	13.5	56	74	50	124	20	25			
DSP05-02014-04D-C	14.0	56	74	50	124	20	25			
DSP05-020145-04D-C	14.5	60	79	50	129	20	25			
DSP05-02015-04D-C	15.0	60	79	50	129	20	25			
DSP06-020155-04D-C	15.5	64	84	56	140	25	33	SPMG0602..	TS2205	ETF06
DSP06-02016-04D-C	16.0	64	84	56	140	25	33			
DSP06-020165-04D-C	16.5	68	88	56	144	25	33			
DSP06-02017-04D-C	17.0	68	88	56	144	25	33			
DSP06-020175-04D-C	17.5	72	92	56	148	25	33			
DSP06-02018-04D-C	18.0	72	92	56	148	25	33			
DSP06-020185-04D-C	18.5	76	96	56	152	25	33			
DSP06-02019-04D-C	19.0	76	96	56	152	25	33			
DSP06-020195-04D-C	19.5	80	100	56	156	25	33			
DSP06-02020-04D-C	20.0	80	100	56	156	25	33			
DSP06-020205-04D-C	20.5	84	104	56	160	25	33			
DSP06-02021-04D-C	21.0	84	104	56	160	25	33			
DSP06-020215-04D-C	21.5	88	108	56	164	25	33			
DSP07-02022-04D-C	22.0	88	108	56	164	25	43	SPMG07T3..	TS2511	ETF08
DSP07-020225-04D-C	22.5	92	117	60	177	32	43			
DSP07-02023-04D-C	23.0	92	117	60	177	32	43			
DSP07-020235-04D-C	23.5	96	121	60	181	32	43			
DSP07-02024-04D-C	24.0	96	121	60	181	32	43			
DSP07-020245-04D-C	24.5	100	125	60	185	32	43			
DSP07-02025-04D-C	25.0	100	125	60	185	32	43			
DSP07-020255-04D-C	25.5	104	129	60	189	32	43			
DSP07-02026-04D-C	26.0	104	129	60	189	32	43			
DSP07-020265-04D-C	26.5	108	136	60	196	32	43			
DSP07-02027-04D-C	27.0	108	136	60	196	32	43			
DSP07-020275-04D-C	27.5	112	140	60	200	32	43			

➡ 搭配刀片 Insert P.399 ➡ 切削條件表 Cutting Condition P.610

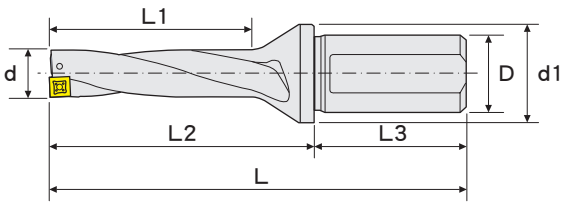
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DSP 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DSP- 4xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DSP09-02028-04D-C	28.0	112	140	60	200	32	43	SPMG0904..	TS3504	ETF15
DSP09-020285-04D-C	28.5	116	144	60	204	32	43			
DSP09-02029-04D-C	29.0	116	144	60	204	32	43			
DSP09-020295-04D-C	29.5	120	148	60	208	32	43			
DSP09-02030-04D-C	30.0	120	148	60	208	32	43			
DSP09-020305-04D-C	30.5	124	152	60	212	32	43			
DSP09-02031-04D-C	31.0	124	152	60	212	32	43			
DSP09-020315-04D-C	31.5	128	156	60	216	32	43			
DSP09-02032-04D-C	32.0	128	156	60	216	32	43			
DSP09-020325-04D-C	32.5	132	160	60	220	32	43			
DSP09-02033-04D-C	33.0	132	160	60	220	32	43			
DSP11-02034-04D-C	34.0	136	164	60	224	32	43	SPMG1104..	TS4006	ETF15
DSP11-02035-04D-C	35.0	140	168	60	228	32	43			
DSP11-02036-04D-C	36.0	144	172	60	232	32	43			
DSP11-02037-04D-C	37.0	148	176	60	236	32	43			
DSP11-02038-04D-C	38.0	152	180	60	240	32	43			
DSP11-02039-04D-C	39.0	156	184	60	244	32	43			
DSP11-02040-04D-C	40.0	160	195	60	265	40	53			
DSP11-02041-04D-C	41.0	164	199	60	269	40	53			

搭配刀片 Insert P.399 切削條件表 Cutting Condition P.610

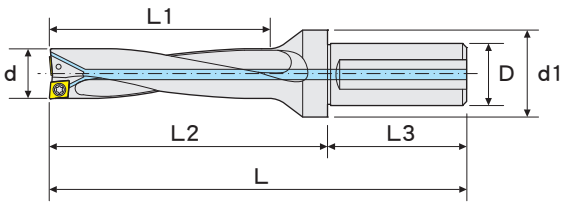
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DWD 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 3xd



Milling Table 184

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD04-02013-03D-C	13.0	39	57	50	107	20	27	WD..0420..	TS1801	ETF06
DWD04-020135-03D-C	13.5	42	60	50	110	20	27			
DWD04-02014-03D-C	14.0	42	60	50	110	20	27			
DWD04-020145-03D-C	14.5	45	64	50	114	20	27			
DWD04-02015-03D-C	15.0	45	64	50	114	20	27			
DWD05-020155-03D-C	15.5	48	67	50	117	20	27	WD..0525..	TS2003	ETF06
DWD05-02016-03D-C	16.0	48	67	50	117	20	27			
DWD05-020165-03D-C	16.5	51	70	50	120	20	27			
DWD05-02017-03D-C	17.0	51	70	50	120	20	27			
DWD05-020175-03D-C	17.5	54	73	50	123	20	27			
DWD05-02018-03D-C	18.0	54	73	50	123	20	27			
DWD06-020185-03D-C	18.5	57	76	50	126	20	27	WD..0630..	TS2203	ETF07
DWD06-02019-03D-C	19.0	57	76	50	126	20	27			
DWD06-020195-03D-C	19.5	60	79	50	129	20	27			
DWD06-02020-03D-C	20.0	60	79	50	129	20	27			
DWD06-020205-03D-C	20.5	63	87	56	143	25	33			
DWD06-02021-03D-C	21.0	63	87	56	143	25	33			
DWD06-020215-03D-C	21.5	66	90	56	146	25	33			
DWD06-02022-03D-C	22.0	66	90	56	146	25	33			
DWD06-020225-03D-C	22.5	69	93	56	149	32	43			
DWD07-02023-03D-C	23.0	69	93	56	149	32	43	WD..0735..	TS2511	ETF08
DWD07-020235-03D-C	23.5	72	96	56	152	32	43			
DWD07-02024-03D-C	24.0	72	96	56	152	32	43			
DWD07-020245-03D-C	24.5	75	99	56	155	32	43			
DWD07-02025-03D-C	25.0	75	99	56	155	32	43			
DWD07-020255-03D-C	25.5	78	105	60	165	32	43			
DWD07-02026-03D-C	26.0	78	105	60	165	32	43			
DWD07-020265-03D-C	26.5	81	109	60	169	32	43			
DWD07-02027-03D-C	27.0	81	109	60	169	32	43			
DWD07-020275-03D-C	27.5	84	112	60	172	32	43			
DWD07-02028-03D-C	28.0	84	112	60	172	32	43			

搭配刀片 Insert P.400　切削條件表 Cutting Condition P.610

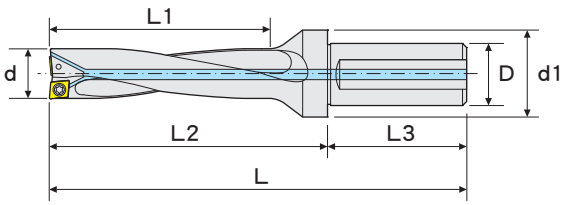
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

DWD 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 3xd



Milling Table 184

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD07-020285-03D-C	28.5	87	115	60	175	32	43	WD..0735..	TS2511	ETF08
DWD09-02029-03D-C	29.0	87	115	60	175	32	43	WD..0940..	TS3510	ETF15
DWD09-020295-03D-C	29.5	90	108	60	178	32	43			
DWD09-02030-03D-C	30.0	90	108	60	178	32	43			
DWD09-020305-03D-C	30.5	93	121	60	181	32	43			
DWD09-02031-03D-C	31.0	93	121	60	181	32	43			
DWD09-020315-03D-C	31.5	96	124	60	184	32	43			
DWD09-02032-03D-C	32.0	96	124	60	184	32	43			
DWD09-020325-03D-C	32.5	99	127	60	187	32	43			
DWD09-02033-03D-C	33.0	99	127	60	187	32	43			
DWD09-02034-03D-C	34.0	102	130	60	190	32	43			
DWD09-02035-03D-C	35.0	105	133	60	193	32	43			
DWD09-02036-03D-C	36.0	108	136	60	196	32	43			

搭配刀片 Insert P.400　切削條件表 Cutting Condition P.610

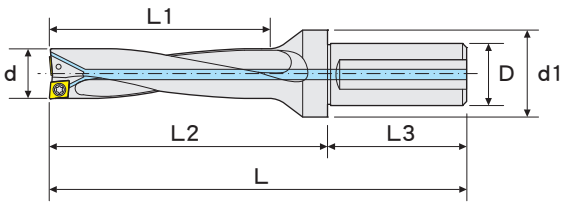
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend　○：第二推薦 Second Recommend　—：不推薦 NO Recommend

DWD 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 4xd



Milling Table 184

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD04-02013-04D-C	13.0	52	70	50	120	20	27	WD..0420..	TS1801	ETF06
DWD04-020135-04D-C	13.5	56	74	50	124	20	27			
DWD04-02014-04D-C	14.0	56	74	50	124	20	27			
DWD04-020145-04D-C	14.5	60	79	50	129	20	27			
DWD04-02015-04D-C	15.0	60	79	50	129	20	27			
DWD05-020155-04D-C	15.5	64	83	50	133	20	27	WD..0525..	TS2003	ETF06
DWD05-02016-04D-C	16.0	64	83	50	133	20	27			
DWD05-020165-04D-C	16.5	68	87	50	137	20	27			
DWD05-02017-04D-C	17.0	68	87	50	137	20	27			
DWD05-020175-04D-C	17.5	72	91	50	141	20	27			
DWD05-02018-04D-C	18.0	72	91	50	141	20	27			
DWD06-020185-04D-C	18.5	76	95	50	145	20	27	WD..0630..	TS2203	ETF07
DWD06-02019-04D-C	19.0	76	95	50	145	20	27			
DWD06-020195-04D-C	19.5	80	99	50	149	20	27			
DWD06-02020-04D-C	20.0	80	99	50	149	20	27			
DWD06-020205-04D-C	20.5	63	108	56	164	25	33			
DWD06-02021-04D-C	21.0	63	108	56	164	25	33			
DWD06-020215-04D-C	21.5	66	112	56	168	25	33			
DWD06-02022-04D-C	22.0	66	112	56	168	25	33			
DWD06-020225-04D-C	22.5	69	116	56	172	25	33			
DWD07-02023-04D-C	23.0	69	116	56	172	25	33	WD..0735..	TS2511	ETF08
DWD07-020235-04D-C	23.5	72	120	56	176	25	33			
DWD07-02024-04D-C	24.0	72	120	56	176	25	33			
DWD07-020245-04D-C	24.5	75	124	56	180	25	33			
DWD07-02025-04D-C	25.0	75	124	56	180	25	33			
DWD07-020255-04D-C	25.5	78	131	60	191	32	43			
DWD07-02026-04D-C	26.0	78	131	60	191	32	43			
DWD07-020265-04D-C	26.5	81	136	60	196	32	43			
DWD07-02027-04D-C	27.0	81	136	60	196	32	43			
DWD07-020275-04D-C	27.5	84	140	60	200	32	43			
DWD07-02028-04D-C	28.0	84	140	60	200	32	43			

➡ 搭配刀片 Insert P.400 ➡ 切削條件表 Cutting Condition P.610

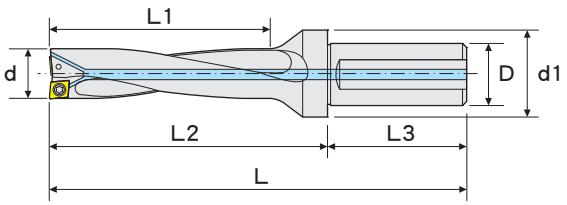
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DWD 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 4xd



Milling Table 184

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD07-020285-04D-C	28.5	87	144	60	204	32	43	WD..0735..	TS2511	ETF08
DWD09-02029-04D-C	29.0	87	144	60	204	32	43	WD..0940..	TS3510	ETF15
DWD09-020295-04D-C	29.5	90	148	60	208	32	43			
DWD09-02030-04D-C	30.0	90	148	60	208	32	43			
DWD09-020305-04D-C	30.5	93	152	60	212	32	43			
DWD09-02031-04D-C	31.0	93	152	60	212	32	43			
DWD09-020315-04D-C	31.5	96	156	60	216	32	43			
DWD09-02032-04D-C	32.0	96	156	60	216	32	43			
DWD09-020325-04D-C	32.5	99	160	60	220	32	43			
DWD09-02033-04D-C	33.0	99	160	60	220	32	43			
DWD09-02034-04D-C	34.0	102	164	60	224	32	43			
DWD09-02035-04D-C	35.0	105	168	60	228	32	43			
DWD09-02036-04D-C	36.0	108	172	60	232	32	43			

搭配刀片 Insert P.400 切削條件表 Cutting Condition P.610

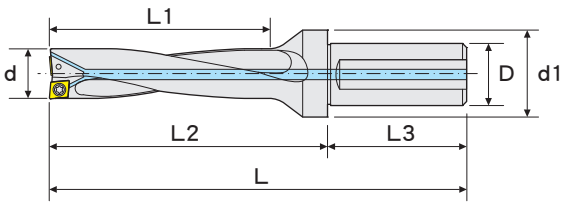
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DWD 快速鑽頭 - 5 倍長

INDEXABLE- HIGH SPEED DRILLS- DWD- 5xd



Milling Table 184

訂購編號 Order No.	尺寸 Dimensions (mm)							搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	L	D	d1			
DWD04-02013-05D-C	13	65	83	50	133	20	25	WD..0420..	TS1801	ETF06
DWD04-02014-05D-C	14	70	88	50	138	20	25			
DWD04-02015-05D-C	15	75	94	50	144	20	25			
DWD05-02016-05D-C	16	80	100	50	149	20	25	WD..0525..	TS2003	ETF06
DWD05-02017-05D-C	17	85	105	50	154	20	25			
DWD05-02018-05D-C	18	90	110	50	159	20	25			
DWD06-02019-05D-C	19	95	115	50	164	20	25	WD..0630..	TS2203	ETF07
DWD06-02020-05D-C	20	100	120	50	169	20	25			
DWD06-02021-05D-C	21	105	125	56	185	25	33			
DWD06-02022-05D-C	22	110	130	56	190	25	33			
DWD07-02023-05D-C	23	115	140	56	195	25	33	WD..0735..	TS2511	ETF08
DWD07-02024-05D-C	24	120	145	56	200	25	33			
DWD07-02025-05D-C	25	125	150	56	205	25	33			
DWD07-02026-05D-C	26	130	155	60	217	32	43			
DWD07-02027-05D-C	27	135	163	60	223	32	43			
DWD07-02028-05D-C	28	140	168	60	228	32	43			
DWD09-02029-05D-C	29	145	173	60	233	32	43	WD..0940..	TS3510	ETF15
DWD09-02030-05D-C	30	150	178	60	238	32	43			
DWD09-02031-05D-C	31	155	183	60	243	32	43			
DWD09-02032-05D-C	32	160	188	60	248	32	43			
DWD09-02033-05D-C	33	165	193	60	253	32	43			
DWD09-02034-05D-C	34	170	198	60	257	32	43			
DWD09-02035-05D-C	35	175	203	60	263	32	43			
DWD09-02036-05D-C	36	180	208	60	268	32	43			
DWD12-02044-05D-C	44	220	255	70	325	40	53	WD..1250..	TS5008	ETF20

➡ 搭配刀片 Insert P.400 ➡ 切削條件表 Cutting Condition P.610

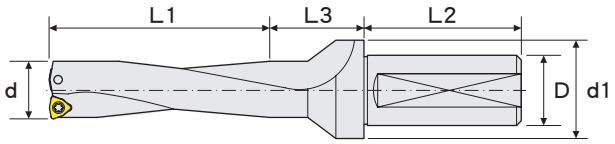
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DW 快速鑽頭 - 2 倍長

INDEXABLE- HIGH SPEED DRILLS- DW- 2xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)						搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	D	d1			
DW03-02018-02D-C	18.0	36	52	24	20	29	WC..0302..	MS2506E	ETF08
DW03-02019-02D-C	19.0	38	52	24	20	29			
DW03-02020-02D-C	20.0	40	52	24	20	29			
DW03-02018-02D-116L-C	18.0	36	56	24	25	35			
DW03-02018-02D-117L-C	18.5	37	56	24	25	35			
DW03-02019-02D-118L-C	19.0	38	56	24	25	35			
DW03-02020-02D-120L-C	20.0	40	56	24	25	35			
DW04-02021-02D-C	21.0	42	56	24	25	35	WC..0402..	MS2506E	ETF08
DW04-02022-02D-C	22.0	44	56	24	25	35			
DW04-02023-02D-C	23.0	46	56	24	25	35			
DW04-02024-02D-C	24.0	48	56	24	25	35			
DW04-02025-02D-C	25.0	50	56	24	25	35			
DW05-02026-02D-C	26.0	52	60	29	32	43	WC..0503..	MS3008E	ETF09
DW05-02027-02D-C	27.0	54	60	29	32	43			
DW05-02028-02D-C	28.0	56	60	29	32	43			
DW05-02029-02D-C	29.0	58	60	29	32	43			
DW05-02030-02D-C	30.0	60	60	29	32	43			
DW06-02031-02D-C	31.0	62	60	29	32	43	WC..06T3..	MS3510E	ETF10
DW06-02032-02D-C	32.0	64	60	29	32	43			
DW06-02033-02D-C	33.0	66	60	29	32	43			
DW06-02034-02D-C	34.0	68	60	29	32	43			
DW06-02035-02D-C	35.0	70	60	29	32	43			
DW06-02036-02D-C	36.0	72	60	29	32	43			
DW06-02037-02D-C	37.0	74	60	29	32	43			
DW06-02038-02D-C	38.0	76	60	29	32	43			
DW06-02039-02D-C	39.0	78	60	29	32	43			
DW06-02040-02D-C	40.0	80	60	29	32	43			

➡ 搭配刀片 Insert P.401 ➡ 切削條件表 Cutting Condition P.610

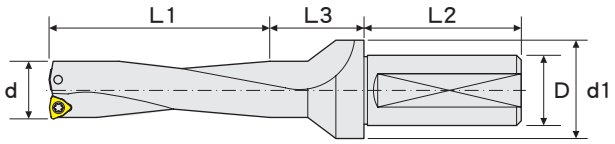
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DW 快速鑽頭 - 3 倍長

INDEXABLE- HIGH SPEED DRILLS- DW- 3xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)						搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	D	d1			
DW03-02018-03D-C	18.0	54	52	24	20	29	WC..0302..	MS2506E	ETF08
DW03-02019-03D-C	19.0	57	52	24	20	29			
DW03-02020-03D-C	20.0	60	52	24	20	29			
DW03-02018-03D-134L-C	18.0	54	56	24	25	35			
DW03-02018-03D-135L-C	18.5	55.5	56	24	25	35			
DW03-02019-03D-137L-C	19.0	57	56	24	25	35			
DW03-02020-03D-140L-C	20.0	60	56	24	25	35			
DW04-02021-03D-C	21.0	63	56	24	25	35	WC..0402..	MS2506E	ETF08
DW04-02022-03D-C	22.0	66	56	24	25	35			
DW04-02023-03D-C	23.0	69	56	24	25	35			
DW04-02024-03D-C	24.0	72	56	24	25	35			
DW04-02025-03D-C	25.0	75	56	24	25	35			
DW05-02026-03D-C	26.0	78	60	29	32	43	WC..0503..	MS3008E	ETF09
DW05-02027-03D-C	27.0	81	60	29	32	43			
DW05-02028-03D-C	28.0	84	60	29	32	43			
DW05-02029-03D-C	29.0	87	60	29	32	43			
DW05-02030-03D-C	30.0	90	60	29	32	43			
DW06-02031-03D-C	31.0	93	60	29	32	43	WC..06T3..	MS3510E	ETF10
DW06-02032-03D-C	32.0	96	60	29	32	43			
DW06-02033-03D-C	33.0	99	60	29	32	43			
DW06-02034-03D-C	34.0	102	60	29	32	43			
DW06-02035-03D-C	35.0	105	60	29	32	43			
DW06-02036-03D-C	36.0	108	60	29	32	43			
DW06-02037-03D-C	37.0	111	60	29	32	43			
DW06-02038-03D-C	38.0	114	60	29	32	43			
DW06-02039-03D-C	39.0	117	60	29	32	43			
DW06-02040-03D-C	40.0	120	60	29	32	43			

➡ 搭配刀片 Insert P.401 ➡ 切削條件表 Cutting Condition P.610

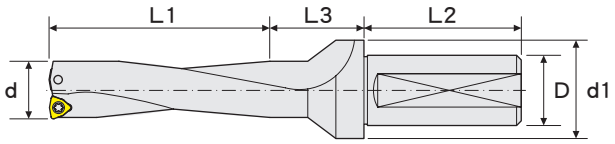
※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

DW 快速鑽頭 - 4 倍長

INDEXABLE- HIGH SPEED DRILLS- DW- 4xd



Milling Table 185

訂購編號 Order No.	尺寸 Dimensions (mm)						搭配刀片 Insert	Screw	Wrench
	d	L1	L2	L3	D	d1			
DW04-02021-04D-C	21.0	84	56	24	25	35	WC..0402..	MS2506E	ETF08
DW04-02022-04D-C	22.0	88	56	24	25	35			
DW04-02023-04D-C	23.0	92	56	24	25	35			
DW04-02024-04D-C	24.0	96	56	24	25	35			
DW04-02025-04D-C	25.0	100	56	24	25	35			
DW05-02026-04D-C	26.0	104	60	29	32	43	WC..0503..	MS3008E	ETF09
DW05-02027-04D-C	27.0	108	60	29	32	43			
DW05-02028-04D-C	28.0	112	60	29	32	43			
DW05-02029-04D-C	29.0	116	60	29	32	43			
DW05-02030-04D-C	30.0	120	60	29	32	43			
DW06-02031-04D-C	31.0	124	60	29	32	43	WC..06T3..	MS3510E	ETF10
DW06-02032-04D-C	32.0	128	60	29	32	43			
DW06-02033-04D-C	33.0	132	60	29	32	43			
DW06-02034-04D-C	34.0	136	60	29	32	43			
DW06-02035-04D-C	35.0	140	60	29	32	43			
DW06-02036-04D-C	36.0	144	60	29	32	43			
DW06-02037-04D-C	37.0	148	60	29	32	43			
DW06-02038-04D-C	38.0	152	60	29	32	43			
DW06-02039-04D-C	39.0	156	60	29	32	43			
DW06-02040-04D-C	40.0	160	60	29	32	43			

→ 搭配刀片 Insert P.401 → 切削條件表 Cutting Condition P.610

※ 型號後端 -C 為出水孔設計。 Product number end in -C are coolant-through design.

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63		HRC<30		HRC<30
	◎	◎	◎	—	—	○	◎	—	—

◎：第一推薦 First Recommend ○：第二推薦 Second Recommend —：不推薦 NO Recommend

MEMO

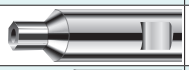
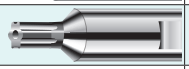
車削刀具系列

Turning Tools Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表 Product Selection Table

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
車床刀具系列 Carbide Tools For Automatic Lathe						
平刀 Square	二刃 2 Flutes	CLES20000A	小柄短刃型 -With Small Shank		Ø2 ~ Ø12	420
	三刃 3 Flutes	CLES30000A	小柄短刃型 -With Small Shank		Ø2 ~ Ø12	420
	四刃 4 Flutes	CLES40000A	小柄短刃型 -With Small Shank		Ø4 ~ Ø16	421
	六刃 6 Flutes	CLES60000A	小柄短刃型 -With Small Shank		Ø6 ~ Ø16	421
端面槽刀 Face Grooving	單刃 1 Flute	CLF000000A	NEW		Ø1.8 ~ Ø2.8	422
內孔端面槽刀 Internal Face Grooving	單刃 1 Flute	CLFI000000A	NEW		Ø1.8 ~ Ø2.8	423
內孔掃刀 Internal Copy Turning	單刃 1 Flute	CLB00000000A	7˚		Ø0.8 ~ Ø3.8	424
			15˚		Ø0.8 ~ Ø3.8	425
內孔槽刀 Internal Grooving	單刃 1 Flute	CLG000000A			Ø1.7 ~ Ø3.8	426
內孔圓鼻槽刀 Internal Radius Grooving	單刃 1 Flute	CLRG000000A			Ø1.7 ~ Ø2.8	427
內孔牙刀 Internal Threading	單刃 1 Flute	CLT0000000A	螺紋型-ISO規格 -Internal-ISO		Ø1.4 ~ Ø2.8	428
		CLT0000000000A	螺紋型-ISO規格 -Internal-ISO		Ø1.0 ~ Ø2.6	428
沖頭 Punch		CLPH00000	六角型 -Hexagon		T1.5 ~ T6.0	429
		CLPS00000	梅花型 -Six Lobe NEW		T6 ~ T30	429
雕刻剖半圓棒 Engraving Blanks Precision Ground	單刃 1 Flute	CLEBS0000	短刃型 -Short Flute		Ø2 ~ Ø12	430
	單刃 1 Flute	CLEBL0000	長刃型 -Long Flute		Ø2 ~ Ø12	430
扁型定位鑽 Flat Point Set	二刃 2 Flutes	CLPR00000	右刃型 -Right Hand Cutting		Ø3 ~ Ø6	431
	二刃 2 Flutes	CLPL00000	左刃型 -Left Hand Cutting		Ø6	431
T型刀 Slot Cutter		CLFS00000000	直刃型 -Flat Flute		Ø15 ~ Ø30	432

碳素鋼 Carbon Steels (<20HRC) P	合金鋼 Alloy Steels (20~30HRC) P	合金鋼 Alloy Steels (30~45HRC) P	調質鋼 Hardened Steels (45~55HRC) H	調質鋼 Hardened Steels (55~65HRC) H	不銹鋼 Stainless Steels M	鑄鐵 Cast Iron K	鋁合金 Aluminum Alloys N	銅 Copper N	非金屬 Non-metal X	高溫合金 High-Temp Alloys S	冷卻方式推薦 Suitable Coolant	加工型態 Type of Finishing			
												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)	○	◎	○	—
◎	◎	○	—	—	○	○	○	○	—	—	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)				

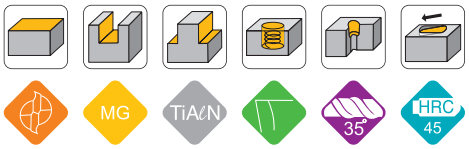
S220 鎢鋼平銑刀- 小柄短刃型- 2刃

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

· CLES20000A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



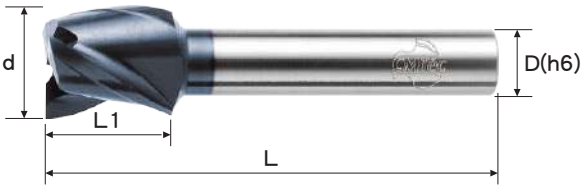
01

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	2	40	6	2	CLES20200	CLES20200A
3.0	3	40	6	2	CLES20300	CLES20300A
4.0	4	40	6	2	CLES20400	CLES20400A
5.0	5	40	6	2	CLES20500	CLES20500A
6.0	6	40	6	2	CLES20600	CLES20600A
7.0	7	40	6	2	CLES20700	CLES20700A
8.0	8	40	6	2	CLES20800	CLES20800A
9.0	9	40	6	2	CLES20900	CLES20900A
10.0	10	40	6	2	CLES21000	CLES21000A
12.0	12	40	10	2	CLES21200	CLES21200A

S220 鎢鋼平銑刀- 小柄短刃型- 3刃

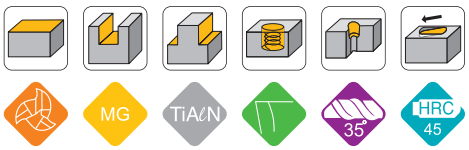
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- with small shank For Lathe- 3F

· CLES30000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



02

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
2.0	2	40	6	3	CLES30200	CLES30200A
3.0	3	40	6	3	CLES30300	CLES30300A
4.0	4	40	6	3	CLES30400	CLES30400A
5.0	5	40	6	3	CLES30500	CLES30500A
6.0	6	40	6	3	CLES30600	CLES30600A
7.0	7	40	6	3	CLES30700	CLES30700A
8.0	8	40	6	3	CLES30800	CLES30800A
9.0	9	40	6	3	CLES30900	CLES30900A
10.0	10	40	6	3	CLES31000	CLES31000A
12.0	12	40	10	3	CLES31200	CLES31200A

➡ 切削條件表 Cutting Condition P.534
➡ 技術資料 Technical Data P.622

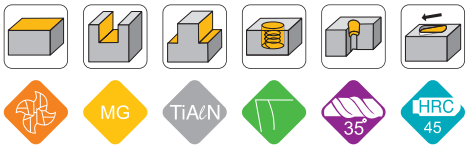
S220 鎢鋼平銑刀- 小柄短刃型- 4刃

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

· CLES40000A

刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.02
3≦Φ≦10	-0.01 ~ -0.03
10<Φ	-0.01 ~ -0.04

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



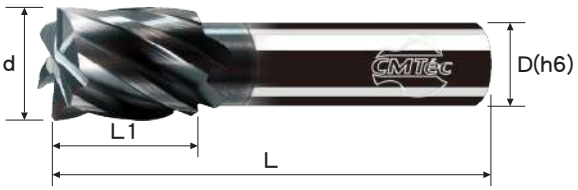
02

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
4.0	4	40	6	4	CLES40400	CLES40400A
5.0	5	40	6	4	CLES40500	CLES40500A
6.0	6	40	6	4	CLES40600	CLES40600A
7.0	7	40	6	4	CLES40700	CLES40700A
8.0	8	40	6	4	CLES40800	CLES40800A
8.0	8	40	8	4	CLES4080008	CLES4080008A
10.0	10	40	6	4	CLES41000	CLES41000A
10.0	10	40	10	4	CLES4100010	CLES4100010A
12.0	12	40	10	4	CLES41200	CLES41200A
16.0	16	40	10	4	CLES41600	CLES41600A

S220 鎢鋼平銑刀- 小柄短刃型- 6刃

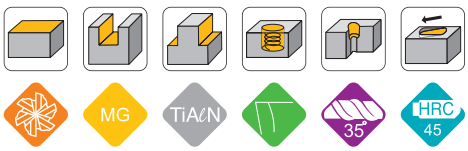
S220 MICRO GRAIN CARBIDE END MILLS- Square Type- with small shank For Lathe- 6F

· CLES60000A



刃徑 d	公差 Tolerance
Φ<3	0 ~ -0.03
3≦Φ≦10	-0.01 ~ -0.04
10<Φ	-0.01 ~ -0.05

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



10

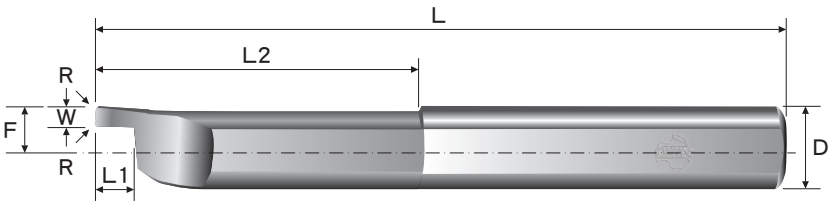
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
6.0	6	40	6	6	CLES60600	CLES60600A
7.0	7	40	6	6	CLES60700	CLES60700A
8.0	8	40	6	6	CLES60800	CLES60800A
9.0	9	40	6	6	CLES60900	CLES60900A
10.0	10	40	6	6	CLES61000	CLES61000A
12.0	12	40	10	6	CLES61200	CLES61200A
16.0	16	40	10	6	CLES61600	CLES61600A

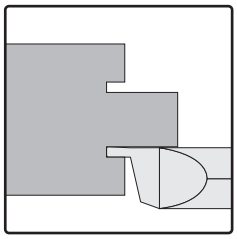
➡ 切削條件表 Cutting Condition P.534, 539
➡ 技術資料 Technical Data P.622

鎢鋼端面槽刀

CARBIDE FACE- Grooving

· CLF000000A





NEW

MG TiAlN Milling Table 87

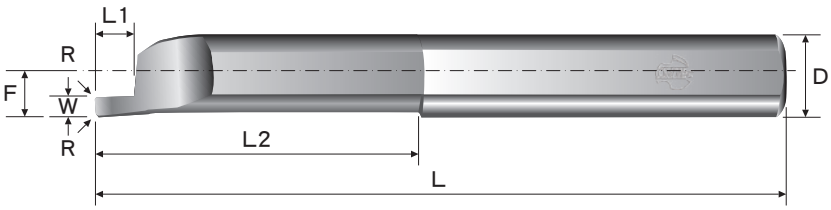
F	W	R	L1	L2	L	D	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
1.8	0.75	0.1	1.2	15	50	4	4	CLF151807A
1.8	1.00	0.1	1.5	15	50	4	4	CLF151810A
1.8	1.50	0.1	2.8	15	50	4	4	CLF151815A
2.3	0.75	0.1	1.2	22	50	5	5	CLF222307A
2.3	1.00	0.1	1.5	22	50	5	5	CLF222310A
2.3	1.50	0.1	2.5	22	50	5	5	CLF222315A
2.3	2.00	0.1	3.8	22	50	5	5	CLF222320A
2.8	1.00	0.1	1.5	22	50	6	6	CLF222810A
2.8	1.50	0.1	2.5	22	50	6	6	CLF222815A
2.8	2.00	0.1	3.0	22	50	6	6	CLF222820A
2.8	2.50	0.1	4.8	22	50	6	6	CLF222825A
2.8	3.00	0.1	6.0	30	60	6	6	CLF302830A

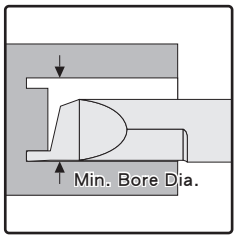
切削條件表 Cutting Condition P.582

鎢鋼內孔端面槽刀

CARBIDE INTERNAL- Face Grooving

· CLFI000000A





NEW

MG TiAlN Milling Table 87

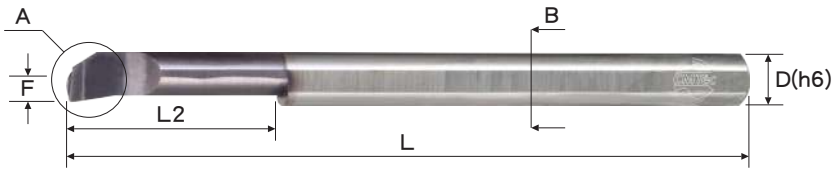
F	W	R	L1	L2	L	D	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
1.8	0.75	0.1	1.2	15	50	4	4	CLFI151807A
1.8	1.00	0.1	1.5	15	50	4	4	CLFI151810A
1.8	1.50	0.1	2.8	15	50	4	4	CLFI151815A
2.3	0.75	0.1	1.2	22	50	5	5	CLFI222307A
2.3	1.00	0.1	1.5	22	50	5	5	CLFI222310A
2.3	1.50	0.1	2.5	22	50	5	5	CLFI222315A
2.3	2.00	0.1	3.8	22	50	5	5	CLFI222320A
2.8	1.00	0.1	1.5	22	50	6	6	CLFI222810A
2.8	1.50	0.1	2.5	22	50	6	6	CLFI222815A
2.8	2.00	0.1	3.0	22	50	6	6	CLFI222820A
2.8	2.50	0.1	4.8	22	50	6	6	CLFI222825A
2.8	3.00	0.1	6.0	30	60	6	6	CLFI302830A

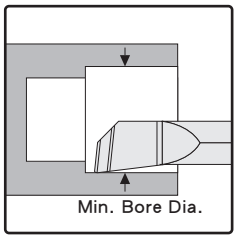
切削條件表 Cutting Condition P.582

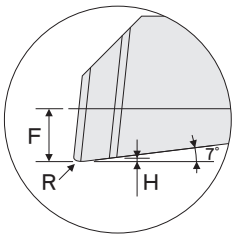
鎢鋼內孔掃刀

CARBIDE INTERNAL- Copy Turning

· CLB00000000A







細部放大圖 Detail A

細部放大圖 Detail B

MG TiAlN Milling Table 59

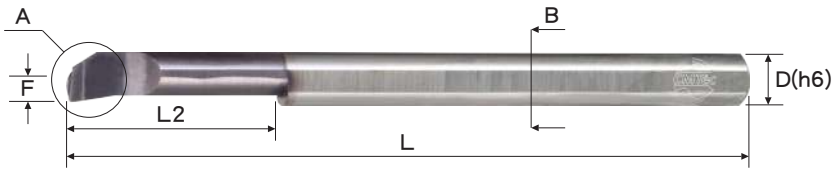
F	L2	L	R	D	H	D1	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
0.8	5	39	0.15	3	0.1	2.85	2.4	CLB05081507A
0.8	10	39	0.15	3	0.1	2.85	2.4	CLB10081507A
1.3	10	39	0.05	3	0.2	2.85	3.1	CLB10130507A
1.3	15	39	0.05	3	0.2	2.85	3.1	CLB15130507A
1.3	15	39	0.10	3	0.2	2.85	3.1	CLB15131007A
1.3	10	39	0.20	3	0.2	2.85	3.1	CLB10132007A
1.3	15	39	0.20	3	0.2	2.85	3.1	CLB15132007A
1.7	10	50	0.10	4	0.2	3.80	4.1	CLB10171007A
1.7	15	50	0.10	4	0.2	3.80	4.1	CLB15171007A
1.7	22	50	0.10	4	0.2	3.80	4.1	CLB22171007A
1.7	10	50	0.20	4	0.2	3.80	4.1	CLB10172007A
1.7	15	50	0.20	4	0.2	3.80	4.1	CLB15172007A
1.7	22	50	0.20	4	0.2	3.80	4.1	CLB22172007A
2.1	15	50	0.10	5	0.3	4.75	5.1	CLB15211007A
2.1	22	50	0.10	5	0.3	4.75	5.1	CLB22211007A
2.1	30	75	0.10	5	0.3	4.75	5.1	CLB30211007A
2.1	15	50	0.20	5	0.3	4.75	5.1	CLB15212007A
2.1	22	50	0.20	5	0.3	4.75	5.1	CLB22212007A
2.1	30	75	0.20	5	0.3	4.75	5.1	CLB30212007A
2.8	15	50	0.05	6	0.3	5.70	6.1	CLB15280507A
2.8	15	50	0.10	6	0.3	5.70	6.1	CLB15281007A
2.8	15	50	0.20	6	0.3	5.70	6.1	CLB15282007A
2.8	22	50	0.20	6	0.3	5.70	6.1	CLB22282007A
2.8	30	63	0.20	6	0.3	5.70	6.1	CLB30282007A
3.8	15	63	0.20	8	0.5	7.60	8.1	CLB15382007A
3.8	22	63	0.20	8	0.5	7.60	8.1	CLB22382007A

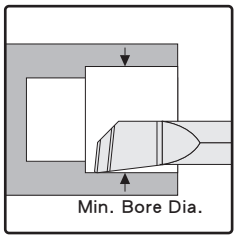
切削條件表 Cutting Condition P.564

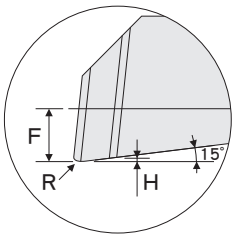
鎢鋼內孔掃刀

CARBIDE INTERNAL- Copy Turning

· CLB00000000A







細部放大圖 Detail A

細部放大圖 Detail B

MG TiAlN Milling Table 59

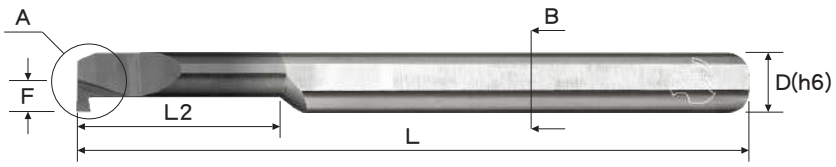
F	L2	L	R	D	H	D1	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
0.8	5	39	0.15	3	0.31	2.85	2.4	CLB05081515A
0.8	10	39	0.15	3	0.31	2.85	2.4	CLB10081515A
1.3	10	39	0.05	3	0.44	2.85	3.1	CLB10130515A
1.3	15	39	0.05	3	0.44	2.85	3.1	CLB15130515A
1.3	10	39	0.20	3	0.44	2.85	3.1	CLB10132015A
1.3	15	39	0.20	3	0.44	2.85	3.1	CLB15132015A
1.7	10	50	0.20	4	0.55	3.80	4.1	CLB10172015A
1.7	15	50	0.20	4	0.55	3.80	4.1	CLB15172015A
2.1	15	50	0.20	5	0.66	4.75	5.1	CLB15212015A
2.1	22	50	0.20	5	0.66	4.75	5.1	CLB22212015A
2.8	15	50	0.20	6	0.85	5.70	6.1	CLB15282015A
2.8	22	50	0.20	6	0.85	5.70	6.1	CLB22282015A
3.8	15	63	0.20	8	1.11	7.60	8.1	CLB15382015A
3.8	22	63	0.20	8	1.11	7.60	8.1	CLB22382015A

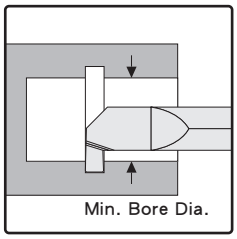
切削條件表 Cutting Condition P.564

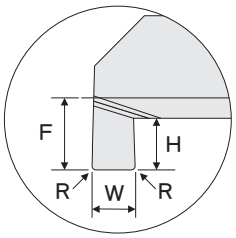
鎢鋼內孔槽刀

CARBIDE INTERNAL- Grooving

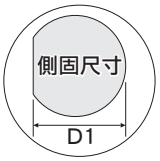
· CLG000000A







細部放大圖 Detail A



細部放大圖 Detail B

MG TiAlN Milling Table 59

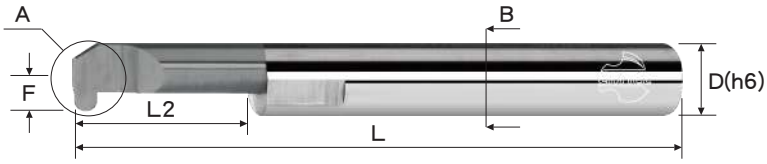
F	L2	L	W	R	D	H	D1	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
1.7	10	50	1.0	0.1	4	1.0	3.80	4.1	CLG101710A
1.7	10	50	1.5	0.1	4	1.0	3.80	4.1	CLG101715A
2.3	10	50	1.0	0.1	5	1.2	4.75	5.1	CLG102310A
2.3	10	50	1.5	0.1	5	1.2	4.75	5.1	CLG102315A
2.3	10	50	2.0	0.1	5	1.2	4.75	5.1	CLG102320A
2.8	20	50	1.0	0.1	6	1.4	5.70	6.1	CLG202810A
2.8	20	50	1.5	0.1	6	1.4	5.70	6.1	CLG202815A
2.8	20	50	2.0	0.1	6	1.4	5.70	6.1	CLG202820A
3.8	20	50	1.0	0.1	8	1.6	7.60	8.1	CLG203810A
3.8	20	50	1.5	0.1	8	1.6	7.60	8.1	CLG203815A
3.8	20	50	2.0	0.1	8	1.6	7.60	8.1	CLG203820A

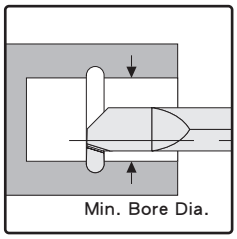
切削條件表 Cutting Condition P.564

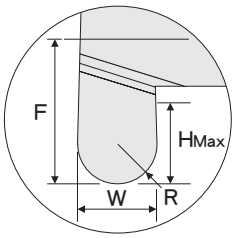
鎢鋼內孔外圓槽刀

CARBIDE INTERNAL- Full Radius Grooving

· CLRG000000A







細部放大圖 Detail A

細部放大圖 Detail B

MG TiAlN Milling Table 59

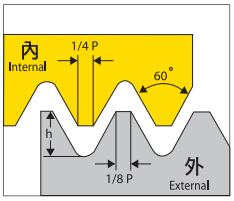
F	L2	L	R	W	D	H	D1	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
1.7	10	50	0.50	1.0	4	1.0	3.80	4.1	CLRG101710A
1.7	10	50	0.75	1.5	4	1.0	3.80	4.1	CLRG101715A
2.3	15	50	0.50	1.0	5	1.2	4.75	5.1	CLRG152310A
2.3	15	50	0.75	1.5	5	1.2	4.75	5.1	CLRG152315A
2.3	15	50	1.00	2.0	5	1.2	4.75	5.1	CLRG152320A
2.8	15	50	0.50	1.0	6	1.6	5.70	6.1	CLRG152810A
2.8	15	50	0.75	1.5	6	1.6	5.70	6.1	CLRG152815A
2.8	15	50	1.00	2.0	6	1.6	5.70	6.1	CLRG152820A

切削條件表 Cutting Condition P.564

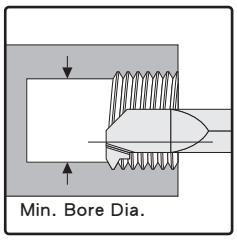
鎢鋼內孔牙刀- 螺距固定型- ISO 60°

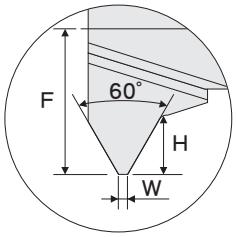
CARBIDE INTERNAL- Thread ISO Metric 60°

· CLT0000000A



Tolerance class(公差)
6g / 6H





細部放大圖 Detail B

細部放大圖 Detail A

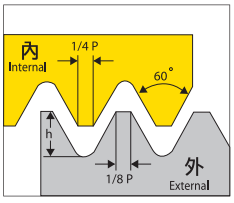
MG TiAlN Milling Table 59

F	螺距 Pitch	L2	W	L	D	H	D1	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
1.4	0.50	10	0.062	39	3	0.33	2.85	3.2	CLT1014050A
1.4	0.70	10	0.087	39	3	0.46	2.85	3.2	CLT1014070A
1.4	0.75	10	0.093	39	3	0.49	2.85	3.2	CLT1014075A
1.8	0.50	10	0.062	50	4	0.33	3.80	4.1	CLT1018050A
1.8	0.75	10	0.093	50	4	0.49	3.80	4.1	CLT1018075A
1.8	0.80	10	0.100	50	4	0.52	3.80	4.1	CLT1018080A
2.2	1.00	10	0.125	50	5	0.65	4.75	4.9	CLT1022100A
2.6	0.50	15	0.062	50	6	0.33	5.70	5.9	CLT1526050A
2.6	0.75	15	0.093	50	6	0.49	5.70	5.9	CLT1526075A
2.6	1.00	15	0.125	50	6	0.65	5.70	5.9	CLT1526100A
2.8	1.25	22	0.156	50	6	0.81	5.70	6.1	CLT2228125A

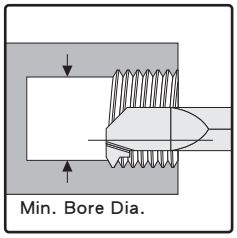
鎢鋼內孔牙刀- 螺距泛用型- ISO 60°

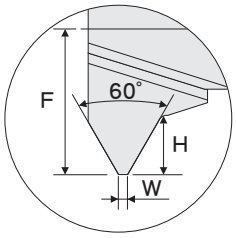
CARBIDE INTERNAL MULTIPURPOSE- Thread ISO Metric 60°

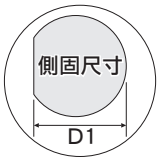
· CLT0000000000A



Tolerance class(公差)
6g / 6H







細部放大圖 Detail B

細部放大圖 Detail A

MG TiAlN Milling Table 59

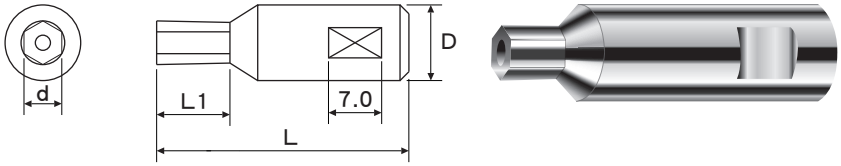
F	螺距 Pitch	L2	W	L	D	H	D1	最小車徑 Min. Bore Dia.	鍍膜訂購編號 Coated Order No.
1.0	0.45 ~ 0.70	8	0.056	39	3	0.45	2.85	2.6	CLT0810045070A
1.4	0.70 ~ 1.00	15	0.087	39	3	0.65	2.85	3.2	CLT1514070100A
1.8	0.80 ~ 1.00	15	0.100	50	4	0.65	3.80	4.1	CLT1518080100A
2.3	1.00 ~ 1.25	15	0.125	50	5	0.81	4.75	5.1	CLT1523100125A
2.6	1.00 ~ 1.50	15	0.125	50	6	0.97	5.70	6.0	CLT1526100150A

切削條件表 Cutting Condition P.564

鎢鋼沖頭- 六角型

CARBIDE PUNCH- Hexagon

· CLPH00000



刃徑 d	公差 Tolerance
Φ	±0.01

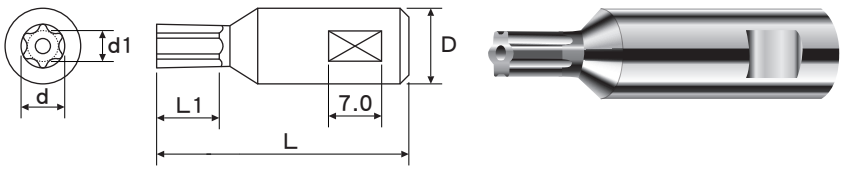
※ 特殊尺寸依需求生產。
Special size is on request.

規格 Drive Size	刃徑 d	刃長 L1	全長 L	柄徑 D	訂購編號 Order No.
T1.5	1.538	2.5	28	8	CLPH01508
T2	2.038	3.0	28	8	CLPH02008
T2.5	2.553	4.0	28	8	CLPH02508
T3	3.071	4.5	28	8	CLPH03008
T4	4.071	6.0	28	8	CLPH04008
T5	5.086	6.0	28	8	CLPH05008
T6	6.086	6.0	28	8	CLPH06008

鎢鋼沖頭- 梅花型

CARBIDE PUNCH- Six Lobe

· CLPS00000



NEW

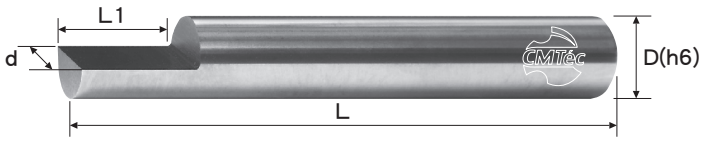
※ 特殊尺寸依需求生產。
Special size is on request.

規格 Drive Size	刃徑 d	內切圓 d1	刃長 L1	全長 L	柄徑 D	訂購編號 Order No.
T6	1.75	1.27	2.5	28	8	CLPS06008
T8	2.40	1.75	3.6	28	8	CLPS08008
T10	2.80	2.05	4.1	28	8	CLPS10008
T15	3.35	2.40	4.3	28	8	CLPS15008
T20	3.95	2.85	4.6	28	8	CLPS20008
T25	4.50	3.25	5.0	28	8	CLPS25008
T30	5.60	4.05	5.5	28	8	CLPS30008

鎢鋼雕刻剖半圓棒- 短刃型

CARBIDE ENGRAVING BLANKS PRECISION GROUND- Short Flute

· CLEBS0000



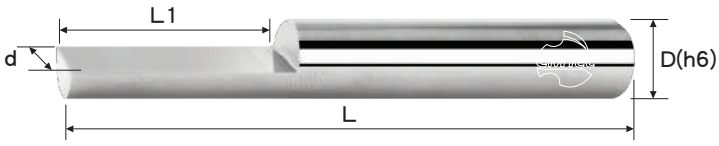
MG

刃徑 d	刃長 L1	全長 L	柄徑 D	訂購編號 Order No.
2.0	3	40	2.0	CLEBS0200
2.5	4	40	2.5	CLEBS0250
3.0	5	40	3.0	CLEBS0300
3.5	6	50	3.5	CLEBS0350
4.0	6	50	4.0	CLEBS0400
4.5	8	50	4.5	CLEBS0450
5.0	8	50	5.0	CLEBS0500
6.0	9	50	6.0	CLEBS0600
7.0	10	50	7.0	CLEBS0700
8.0	12	60	8.0	CLEBS0800
10.0	15	75	10.0	CLEBS1000
12.0	18	75	12.0	CLEBS1200

鎢鋼雕刻剖半圓棒- 長刃型

CARBIDE ENGRAVING BLANKS PRECISION GROUND- Long Flute

· CLEBL0000



MG

刃徑 d	刃長 L1	全長 L	柄徑 D	訂購編號 Order No.
2.0	6	40	2	CLEBL0200
3.0	9	40	3	CLEBL0300
4.0	12	50	4	CLEBL0400
5.0	15	50	5	CLEBL0500
6.0	18	50	6	CLEBL0600
7.0	21	50	7	CLEBL0700
8.0	24	60	8	CLEBL0800
10.0	30	75	10	CLEBL1000
12.0	36	75	12	CLEBL1200

鎢鋼扁型定位鑽- 右刃- 2刃

CARBIDE FLAT POINT SET- Right Hand Cutting- 2F

· CLPR00000

MG 60° 90° 120°

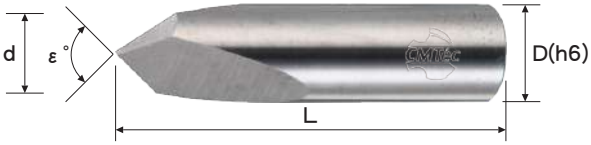
※ 加工範圍：軟材質
For soft material.

刃徑 d	尖端夾角 ε °	全長 L	柄徑 D	訂購編號 Order No.
3	60°	50	3	CLPR03060
4	60°	50	4	CLPR04060
5	60°	50	5	CLPR05060
6	60°	50	6	CLPR06060
3	90°	50	3	CLPR03090
4	90°	50	4	CLPR04090
5	90°	50	5	CLPR05090
6	90°	50	6	CLPR06090
3	120°	50	3	CLPR030C0
4	120°	50	4	CLPR040C0
5	120°	50	5	CLPR050C0
6	120°	50	6	CLPR060C0

鎢鋼扁型定位鑽- 左刃- 2刃

CARBIDE FLAT POINT SET- Left Hand Cutting- 2F

· CLPL00000



MG 60° 80° 90° 100° 120°

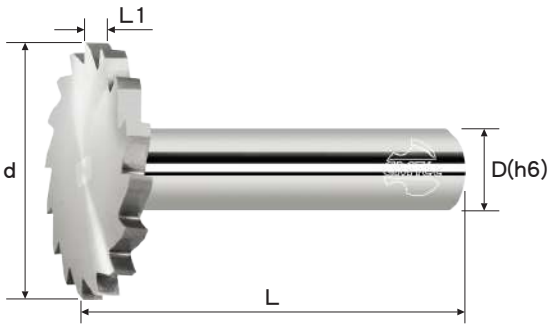
※ 加工範圍：軟材質
For soft material.

刃徑 d	尖端夾角 ε °	全長 L	柄徑 D	訂購編號 Order No.
6	60°	25	6	CLPL06060
6	80°	25	6	CLPL06080
6	90°	25	6	CLPL06090
6	100°	25	6	CLPL060A0
6	120°	25	6	CLPL060C0

鎢鋼T型刀- 直刃

CARBIDE T-SLOT END MILLS- Flat Flute

· CLFS00000000



MG Milling Table 45

※ 柄部為焊接設計。
It's brazed shank.

刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	訂購編號 Order No.	
15	1.0	50	7	16	CLFS1500100716	
15	1.5	50	7	16	CLFS1500150716	
15	2.0	50	7	16	CLFS1500200716	
15	2.5	50	7	16	CLFS1500250716	
15	3.0	50	7	16	CLFS1500300716	
20	1.0	50	7/10	16	CLFS2000100716	CLFS2000101016
20	1.5	50	7/10	16	CLFS2000150716	CLFS2000151016
20	2.0	50	7/10	16	CLFS2000200716	CLFS2000201016
20	2.5	50	7/10	16	CLFS2000250716	CLFS2000251016
20	3.0	50	7/10	16	CLFS2000300716	CLFS2000301016
25	1.0	50	7/10	16	CLFS2500100716	CLFS2500101016
25	1.5	50	7/10	16	CLFS2500150716	CLFS2500151016
25	2.0	50	7/10	16	CLFS2500200716	CLFS2500201016
25	3.0	50	7/10	16	CLFS2500300716	CLFS2500301016
30	1.0	50	7/10	16	CLFS3000100716	CLFS3000101016
30	1.5	50	7/10	16	CLFS3000150716	CLFS3000151016
30	2.0	50	7/10	16	CLFS3000200716	CLFS3000201016
30	2.5	50	7/10	16	CLFS3000250716	CLFS3000251016
30	3.0	50	7/10	16	CLFS3000300716	CLFS3000301016

➡ 切削條件表 Cutting Condition P.557

車削刀片系列

Turning Inserts Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

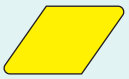
For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

CMTec

產品選擇表
Product Selection Table

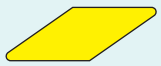
正角型 - 鎢鋼車刀片 Positive- Carbide Turning Inserts

CCMT 平行四邊形 P.440

DCMT 菱形 55°  P.442

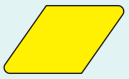
SCMT 正方型 P.444

TCMT 正三角形 P.445

VBMT 菱形 35°  P.446

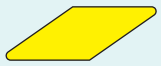
負角型 - 鎢鋼車刀片 Negative- Carbide Turning Inserts

CNMG 平行四邊形 P.449

DNMG 菱形 55°  P.450

SNMG 正方型 P.450

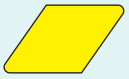
TNMG 正三角形 P.451

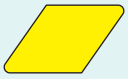
VNMG 菱形 35°  P.453

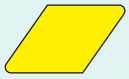
WNMG 桃形 P.454

精密研磨級 - 鎢鋼車刀片 Precision Grinding- Carbide Turning Inserts

CCGT 平行四邊形 P.440

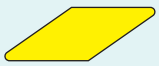
DCGT 菱形 55°  P.442

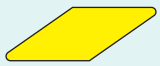
DCET 菱形 55°  P.442

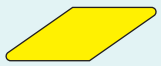
DCEW 菱形 55°  P.442

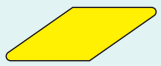
SCGT 正方型 P.444

TCGT 正三角形 P.445

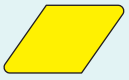
VBET 菱形 35°  P.446

VBEW 菱形 35°  P.446

VCGT 菱形 35°  P.447

VCET 菱形 35°  P.447

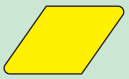
VCEW 菱形 35° P.447

DNGX 菱形 55°  P.450

產品選擇表
Product Selection Table

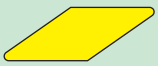
鋁合金專用 - 鎢鋼車刀片 Carbide Turning Inserts For Aluminum Alloy

CCGT 平行四邊形 P.440

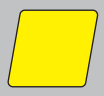
DCGT 菱形 55°  P.442

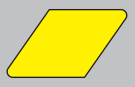
SCGT 正方型 P.444

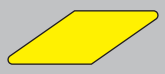
TCGT 正三角形 P.445

VCGT 菱形 35°  P.447

PCD 聚晶鑽石車刀片 PCD Turning Inserts

CCGW 平行四邊形  P.440

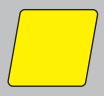
DCGW 菱形 55°  P.443

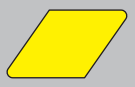
VCGW 菱形 35°  P.448

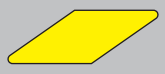
TNGA 正三角型 P.451

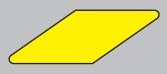
TPGW 正三角型 P.452

PCBN 聚晶立方氮化硼車刀片 PCBN Turning Inserts

CCGW 平行四邊形  P.441

DCGW 菱形 55°  P.443

VCGW 菱形 35°  P.448

VNGA 菱形 35°  P.453

TNGA 正三角型 P.452

TCGW 正三角型 P.445

TPGW 正三角型 P.452

車刀片 ISO 編碼規範
ISO Designation For Turning Inserts
P.436~439

車刀片斷屑槽
Turning Chip Breaker Design
P.437

車刀片材質碼
Turning Insert Grades
P.438~439

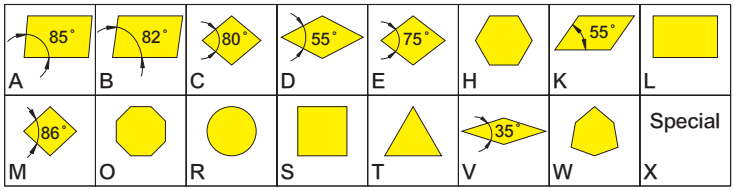
車刀片斷屑槽幾何對照表
Turning Insert Chip Breaker Comparison Table
P.456~459

車刀片材質碼對照表
Turning Insert Grade Comparison Table
P.460~463

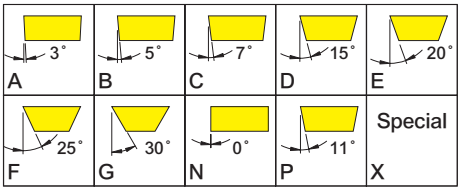
車刀片 ISO 編碼規範
ISO Designation For Turning Inserts

T	N	M	G		16	04	08	(N)	–	RG	–
1	2	3	4		5	6	7	8		9	

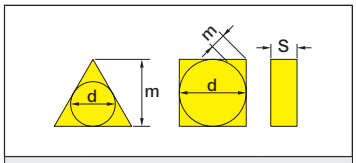
1 刀片形狀 Insert Shape



2 刀片離隙角 Clearance Angle



3 刀片公差 Tolerances Class



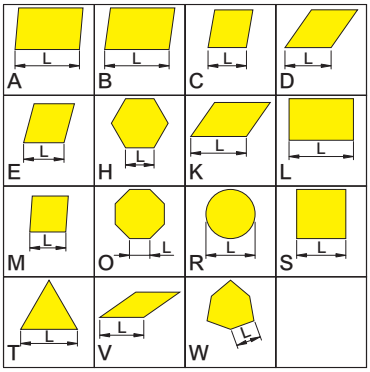
Range of Tolerance

代號	m±	d±	S±
A	0.005	0.025	0.025
F	0.005	0.013	0.025
C	0.013	0.025	0.025
H	0.013	0.013	0.025
E	0.025	0.025	0.025
G	0.025	0.025	0.130
J	0.005	0.05~0.15	0.025
K	0.013	0.05~0.15	0.025
L	0.025	0.05~0.15	0.025
M	0.08~0.18	0.05~0.15	0.130
N	0.08~0.18	0.05~0.15	0.025
U	0.13~0.38	0.08~0.25	0.130

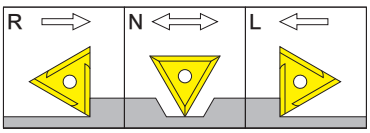
4 刀片溝孔 Chipbreaker and Hole

代號 Code	孔 Hole	斷屑槽 Chip Breaker Design	溝孔形狀 Hole Type	
N	無孔	無		
R		單面		
F		雙面		
A	有孔	無		
M		單面		
G		雙面		
W	有孔單面 40~60°	無		
T		單面		
Q	有孔雙面 40~60°	無		
U		雙面		
B	有孔單面 70~90°	無		
H		單面		
C	有孔雙面 70~90°	無		
J		雙面		
X	特殊溝孔 Special Shape			

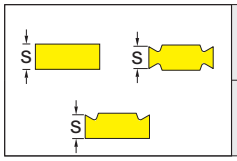
5 刀片邊長 Insert Length



8 切削方向 Cutting Direction

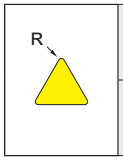


6 刀片厚度 Insert Thickness



代號 Code	01	T1	02	T2	03	T3	04	05	06	07	08
S (mm)	1.59	1.98	2.38	2.78	3.18	3.97	4.76	5.56	6.35	7.94	9.52

7 刀尖 R 角 Corner Radius



代號 Code	00	01	015	018	02	035	04	08	10	12	16	24	MO
R (mm)	尖刃	0.1	0.15	0.18	0.2	0.35	0.4	0.8	1.0	1.2	1.6	2.4	圓形 Round

車刀片 ISO 編碼規範
ISO Designation For Turning Inserts

CM6025

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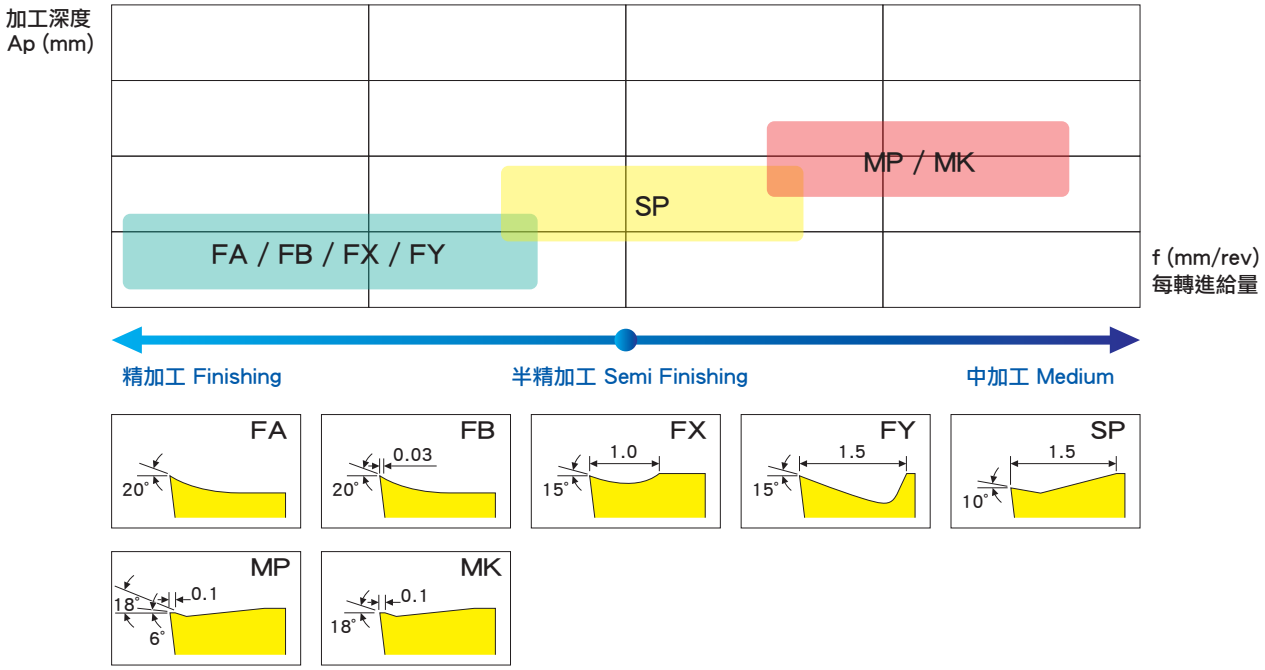
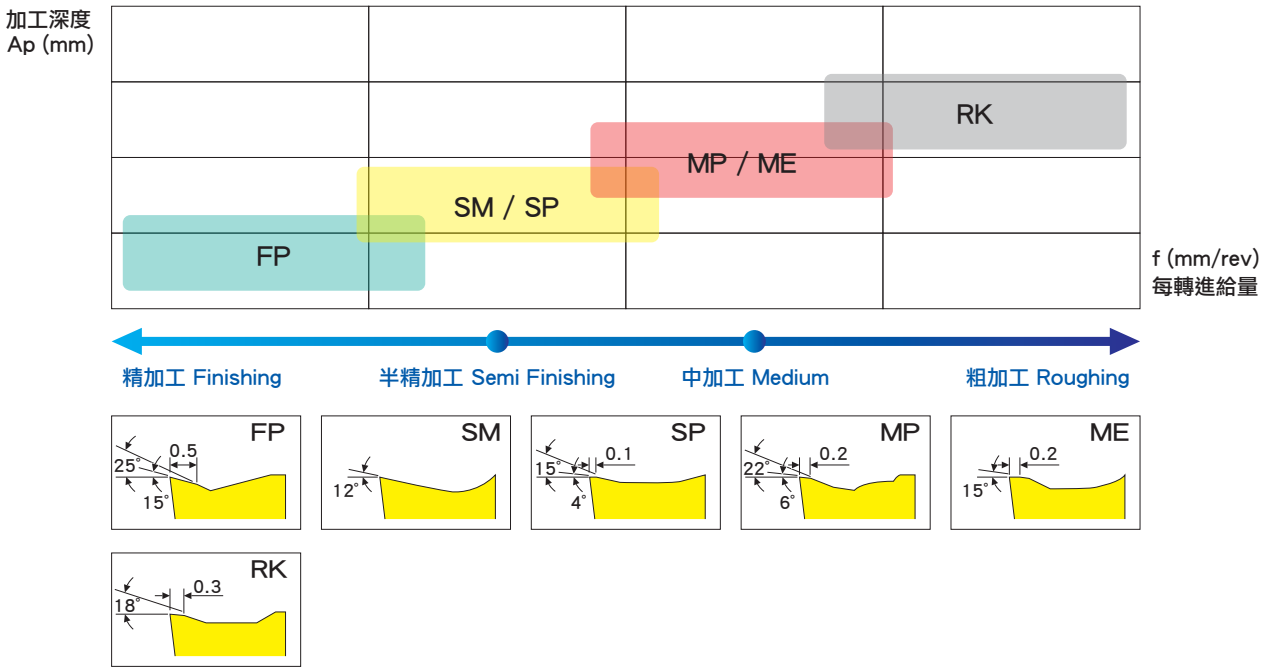
9 車刀片斷屑槽 Chip Breaker Design

正角型斷屑槽 Positive



負角型斷屑槽 Negative



車刀片 ISO 編碼規範
ISO Designation For Turning Inserts

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

10 車刀片材質碼 Turning Insert Grades

材質碼 Grade Type	塗層種類 Coating Type	加工特性 Application	加工材質 Work Material						產業應用範圍 Industry Area
			P	M	K	N	S	H	
CM10 (銀白色)	無塗層 Uncoated	· 適合精加工 , 中加工。 Finishing and medium cutting. · 適合鋁合金加工。 For aluminum alloy.	–	–	–	◐	–	–	· 自行車零件。 Bike parts. · 汽車零件。 Auto parts. · 電子零件。 Electronic parts.
CM1010 (彩色)	CVD (化學)	· 適合精加工 , 中加工。 Finishing and medium cutting. · 適合含矽鋁合金加工。 For aluminum alloy with silicon.	–	–	–	◐	–	–	· 自行車零件。 Bike parts. · 汽車零件。 Auto parts. · 電子零件。 Electronic parts.
CM4525 (白金色)	PVD (物理)	· 適合淺斷續加工 , 中加工。 Light interrupted cutting or medium. · 適合不銹鋼 , 高溫合金加工。 For stainless steel and high temperature alloy.	❂	✱	–	–	✱	❂	· 汽車零件。 Auto parts. · 機械零件。 Machinery parts. · 航太零件。 Aircraft parts.
CM1560 (金色)	PVD (物理)	· 適合連續加工。 Continuous cutting. · 適合精加工。 Finishing cutting. · 適合大部分金屬材質精加工。 For finishing application.	●	●	●	–	●	–	· 汽車零件。 Auto parts. · 機械零件。 Machinery parts. · 航太零件。 Aircraft parts.
CM2560 (金色)	PVD (物理)	· 適合淺斷續加工。 Light interrupted cutting. · 適合加工半精加工 , 中加工。 Semi finishing and medium cutting. · 適合碳素鋼 , 合金鋼加工。 For carbon steel and alloy steel.	◐	◐	◐	–	◐	–	· 汽車零件。 Auto parts. · 機械零件。 Machinery parts. · 航太零件。 Aircraft parts.
CM1570 (黑金色)	CVD (化學)	· 適合連續加工。 Continuous Cutting. · 適合精加工 , 半精加工。 Finishing and semi finishing cutting. · 加工鑄鐵第一推薦耐磨材質。 For cast iron is 1st recommended.	○	○	●	–	–	○	· 汽車零件。 Auto parts. · 機械零件。 Machinery parts.
CM2570 (黑金色)	CVD (化學)	· 適合淺斷續加工。 Light interrupted cutting. · 適合加工半精加工 , 中加工。 Semi finishing and medium cutting. · 加工合金鋼第一推薦泛用材質。 For alloy steel is 1st recommended.	◐	◐	◐	–	–	–	· 汽車零件。 Auto parts. · 機械零件。 Machinery parts.
CM3570 (黑金色)	CVD (化學)	· 適合斷續加工。 Interrupted cutting. · 適合中加工 , 粗加工。 Medium and roughing cutting. · 加工不銹鋼第一推薦泛用材質。 For stainless steel is 1st recommended.	✱	✱	❂	–	–	–	· 能源產業。 Energy. · 石化產業。 Oil & Gas. · 醫療產業。 Medical.

車刀片 ISO 編碼規範
ISO Designation For Turning Inserts

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◕ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

10 車刀片材質碼 Turning Insert Grades

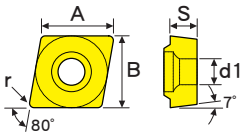
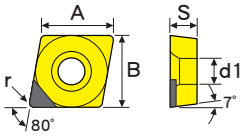
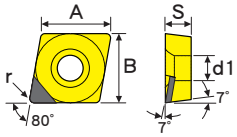
材質碼 Grade Type	塗層種類 Coating Type	加工特性 Application	加工材質 Work Material						產業應用範圍 Industry Area
			P	M	K	N	S	H	
PC	無塗層 Uncoated	・PCD 聚晶鑽石。 Polycrystalline Compound Diamond. ・適合精加工 , 中加工。 Finishing and medium cutting. ・適合鋁合金加工。 For aluminum alloy.	–	–	–	◕	–	–	・自行車零件。 Bike parts. ・汽車零件。 Auto parts. ・電子零件。 Electronic parts.
BC9020 BC9030 BC9040	無塗層 Uncoated	・PCBN 聚晶立方氮化硼。 Polycrystalline Cubic Boron Nitride. ・適合精加工。 Finishing cutting. ・適合調質鋼 45~65HRC 加工。 For hardened steel(HRC45~65°).	–	–	–	–	–	◕	・汽車零件。 Auto parts. ・機械零件。 Machinery parts.

鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
－ 不推薦 NO Recommend

編號 No.	A	B	S	d1
CC..0602..	6.4	6.35	2.38	2.8
CC..09T3..	9.7	9.53	3.97	4.4
CC..1204..	12.9	12.7	4.76	5.5

加工材質											
P	鋼材 Alloy Steels	－		◐	✱	●	◐	❂	－		F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
M	不銹鋼 Stainless Steels	－		◐	✱	●	◐	✱	－		
K	鑄鐵 Cast Iron	－		◐	❂	●	◐	－	－		
N	鋁合金 Aluminum Alloys	◐		－	－	－	－	－	◐		
S	高溫合金 High-Temp Alloys	－		－	－	●	◐	✱	－		
H	調質鋼 Hardened Steels	－		－	－	－	－	❂	－		

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD			PVD						
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	CCGT060202-FA	0.2	●										外徑刀桿 469 470 內徑刀桿 484
	CCGT060204-FA	0.4	●										
	CCGT09T304-FA	0.4	●										
	CCGT09T308-FA	0.8	●										
F S M R	CCGT120404-FA	0.4	●										
	CCGT060202-FB	0.2					●						
	CCGT060204-FB	0.4					●						
	CCGT09T304-FB	0.4					●						
	CCGT09T308-FB	0.8					●						
F S M R	CCGT120404-FB	0.4					●						
	CCMT060204-MP	0.4			●	●		●					
	CCMT09T304-MP	0.4			●	●		●					
	CCMT09T308-MP	0.8			●	●		●					
F S M R													
	CCMT060204-MK	0.4			●	●		●	●				
	CCMT09T304-MK	0.4			●	●		●	●				
	CCMT09T308-MK	0.8			●	●		●	●				
F S M R	CCMT120408-MK	0.8			●	●		●	●				
	CCGW060202	0.2								●			
	CCGW060204	0.4								●			
	CCGW09T302	0.2								●			
	CCGW09T304	0.4								●			
	CCGW09T308	0.8								●			
	CCGW120402	0.2								●			
	CCGW120404	0.4								●			
F S M R	CCGW120408	0.8								●			
刀尖正前角 7°	CCGW060202P07	0.2								●			
	CCGW060204P07	0.4								●			
	CCGW09T302P07	0.2								●			
	CCGW09T304P07	0.4								●			
	CCGW09T308P07	0.8								●			
	CCGW120402P07	0.2								●			
	CCGW120404P07	0.4								●			
F S M R	CCGW120408P07	0.8								●			

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

➡ 切削條件表 Cutting Condition P.611

※ 刀尖正前角 7°：適合小外徑和薄壁工件車削加工。
Positive Rake Angle +7°：For turning small diameter and thin-walled parts.

鎢鋼車刀片

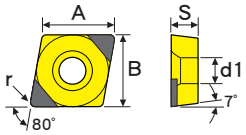
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❊ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
CC..0602..	6.4	6.35	2.38	2.8
CC..09T3..	9.7	9.53	3.97	4.4
CC..1204..	12.9	12.7	4.76	5.5

加工材質											
	P	鋼材 Alloy Steels									–
	M	不銹鋼 Stainless Steels									–
	K	鑄鐵 Cast Iron									–
	N	鋁合金 Aluminum Alloys									–
	S	高溫合金 High-Temp Alloys									–
	H	調質鋼 Hardened Steels									◐

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
NEW	CCGW060202	0.2									●		外徑刀桿 469 470 內徑刀桿 484
	CCGW060204	0.4									●		
	CCGW09T302	0.2									●		
	CCGW09T304	0.4									●		
	CCGW09T308	0.8									●		
	CCGW120402	0.2									●		
	CCGW120404	0.4									●		
F S M R	CCGW120408	0.8									●		

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

➡ 切削條件表 Cutting Condition P.611

鎢鋼車刀片

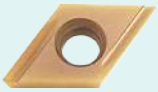
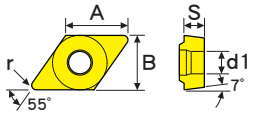
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
DC..0702..	7.75	6.35	2.38	2.8
DC..11T3..	11.6	9.53	3.97	4.4

加工材質										
P	鋼材 Alloy Steels	–	○	◐	✱	●	◐	❂		
M	不銹鋼 Stainless Steels	–	○	◐	✱	●	◐	✱		
K	鑄鐵 Cast Iron	–	●	◐	❂	●	◐	–		
N	鋁合金 Aluminum Alloys	◐	–	–	–	–	–	–		
S	高溫合金 High-Temp Alloys	–	–	–	–	●	◐	✱		
H	調質鋼 Hardened Steels	–	○	–	–	–	–	❂		

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	DCGT070202-FA	0.2	●										
	DCGT070204-FA	0.4	●										
	DCGT11T302-FA	0.2	●										
	DCGT11T304-FA	0.4	●										
F S M R	DCGT11T308-FA	0.8	●										
	DCGT070202-FB	0.2					●						
	DCGT070204-FB	0.4					●						
	DCGT11T302-FB	0.2					●						
	DCGT11T304-FB	0.4					●						
F S M R	DCGT11T308-FB	0.8					●						
	DCET11T301R-FX	0.1					●						
	DCET11T302R-FX	0.2					●						
	DCET11T304R-FX	0.4					●						
F S M R													
	DCET11T301L-FX	0.1					●						
	DCET11T302L-FX	0.2					●						
	DCET11T304L-FX	0.4					●						
F S M R													
	DCET11T301R-FY	0.1					●						外徑刀桿 471 472
	DCET11T302R-FY	0.2					●						
	DCET11T304R-FY	0.4					●						
F S M R													
	DCET11T301L-FY	0.1					●						
	DCET11T302L-FY	0.2					●						
	DCET11T304L-FY	0.4					●						
F S M R													
	DCEW11T301	0.1					●						
	DCEW11T302	0.2					●						
	DCEW11T304	0.4					●						
F S M R													
	DCMT11T304-MP	0.4			●	●		●					
	DCMT11T308-MP	0.8			●	●		●					
F S M R													
	DCMT070204-MK	0.4			●	●		●	●				
	DCMT11T304-MK	0.4		●	●	●		●	●				
	DCMT11T308-MK	0.8		●	●	●		●	●				
F S M R													

➡ 切削條件表 Cutting Condition P.611

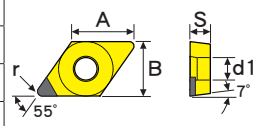
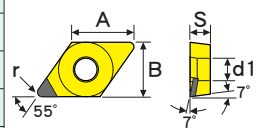
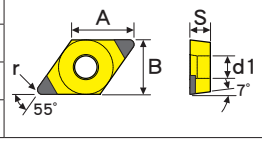
鎢鋼車刀片

CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❊ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
DC..0702..	7.94	6.35	2.38	2.8
DC..11T3..	11.6	9.52	3.97	4.4

加工材質												
P	鋼材 Alloy Steels									–	–	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
M	不銹鋼 Stainless Steels									–	–	
K	鑄鐵 Cast Iron									–	–	
N	鋁合金 Aluminum Alloys									◐	–	
S	高溫合金 High-Temp Alloys									–	–	
H	調質鋼 Hardened Steels									–	◐	

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	DCGW070202	0.2								●			外徑刀桿 471 472 內徑刀桿 485
	DCGW070204	0.4								●			
	DCGW11T302	0.2								●			
F S M R	DCGW11T304	0.4								●			
	DCGW070202P07	0.2								●			
	DCGW070204P07	0.4								●			
	DCGW11T302P07	0.2								●			
刀尖正前角 7°	DCGW11T304P07	0.4								●			
F S M R													
	DCGW070202	0.2									●		
	DCGW070204	0.4									●		
NEW	DCGW11T302	0.2									●		
F S M R	DCGW11T304	0.4									●		

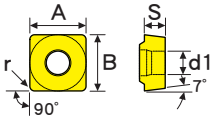
※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

※ 刀尖正前角 7°：適合小外徑和薄壁工件車削加工。
Positive Rake Angle +7°：For turning small diameter and thin-walled parts.

➡ 切削條件表 Cutting Condition P.611

鎢鋼車刀片
CARBIDE TURNING INSERTS

加工材質											
P	鋼材 Alloy Steels	–		◐	✱	●	◐	❂			F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
M	不銹鋼 Stainless Steels	–		◐	✱	●	◐	✱			
K	鑄鐵 Cast Iron	–		◐	❂	●	◐	–			
N	鋁合金 Aluminum Alloys	◐		–	–	–	–	–			
S	高溫合金 High-Temp Alloys	–		–	–	●	◐	✱			
H	調質鋼 Hardened Steels	–		–	–	–	–	❂			

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
					CVD				PVD				
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
	SCGT09T304-FA	0.4	●										外徑刀桿 473
	SCGT09T308-FA	0.8	●										
F S M R													
	SCGT09T304-FB	0.4					●						
	SCGT09T308-FB	0.8					●						
F S M R													
	SCMT09T304-SP	0.4			●	●		●					
	SCMT09T308-SP	0.8			●	●		●					
F S M R													
	SCMT09T304-MP	0.4			●	●		●					
	SCMT09T308-MP	0.8			●	●		●					
F S M R													
	SCMT09T304-MK	0.4			●	●		●	●				
	SCMT09T308-MK	0.8			●	●		●	●				
F S M R													

➡ 切削條件表 Cutting Condition P.611

鎢鋼車刀片

CARBIDE TURNING INSERTS

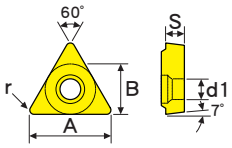
● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
－ 不推薦 NO Recommend

編號 No.	A	B	S	d1
TC..0902..	9.6	5.56	2.38	2.5
TC..1102..	11.0	6.35	2.38	2.8
TC..16T3..	16.5	9.53	3.97	4.4

加工材質											
P	鋼材 Alloy Steels	－		◐	✱	●	◐	❂		－
M	不銹鋼 Stainless Steels	－		◐	✱	●	◐	✱		－
K	鑄鐵 Cast Iron	－		◐	❂	●	◐	－		－
N	鋁合金 Aluminum Alloys	◐		－	－	－	－	－		－
S	高溫合金 High-Temp Alloys	－		－	－	●	◐	✱		－
H	調質鋼 Hardened Steels	－		－	－	－	－	❂		◐

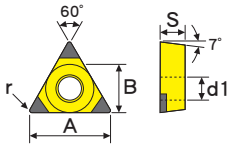
F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
	TCGT090204-FA	0.4	●										
	TCGT110204-FA	0.4	●										
	TCGT16T304-FA	0.4	●										
F S M R	TCGT16T308-FA	0.8	●										
	TCGT090204-FB	0.4					●						
	TCGT110204-FB	0.4					●						
	TCGT16T304-FB	0.4					●						
F S M R	TCGT16T308-FB	0.8					●						
	TCMT110204-SP	0.4			●	●		●					
	TCMT16T308-SP	0.8			●	●		●					
F S M R													
	TCMT110204-MP	0.4			●	●		●					
F S M R													
	TCMT110204-MK	0.4			●	●		●	●				
	TCMT16T304-MK	0.4			●	●		●	●				
	TCMT16T308-MK	0.8			●	●		●	●				
F S M R													
NEW	TCGW110202	0.2									●		
	TCGW110204	0.4									●		
	TCGW110208	0.8									●		
F S M R													



外徑刀桿 474

內徑刀桿 490



※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

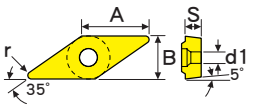
➡ 切削條件表 Cutting Condition P.611

鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
－ 不推薦 NO Recommend

編號 No.	A	B	S	d1
VB..1103..	11.1	6.35	3.18	2.8
VB..1604..	16.6	9.53	4.76	4.4

加工材質											
P	鋼材 Alloy Steels			◐	✱	●	◐				F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
M	不銹鋼 Stainless Steels			◐	✱	○	◐				
K	鑄鐵 Cast Iron			◐	❂	●	◐				
N	鋁合金 Aluminum Alloys			－	－	－	－				
S	高溫合金 High-Temp Alloys			－	－	●	◐				
H	調質鋼 Hardened Steels			－	－	－	－				

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
					CVD				PVD				
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	VBET110301R-FX	0.1					●						外徑刀桿 476 內徑刀桿 491 492
	VBET110302R-FX	0.2					●						
	VBET110304R-FX	0.4					●						
F S M R													
	VBET110301L-FX	0.1					●						
	VBET110302L-FX	0.2					●						
	VBET110304L-FX	0.4					●						
F S M R													
	VBET110301R-FY	0.1					●						
	VBET110302R-FY	0.2					●						
	VBET110304R-FY	0.4					●						
F S M R													
	VBET110301L-FY	0.1					●						
	VBET110302L-FY	0.2					●						
	VBET110304L-FY	0.4					●						
F S M R													
	VBEW110301	0.1					●						
	VBEW110302	0.2					●						
	VBEW110304	0.4					●						
F S M R													
	VBMT160404-MK	0.4			●	●		●					
	VBMT160408-MK	0.8			●	●		●					
F S M R													

➡ 切削條件表 Cutting Condition P.611

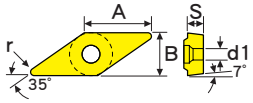
鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
VC..1103..	11.1	6.35	3.18	2.8
VC..1604..	16.6	9.52	4.76	4.4

加工材質			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020
	P	鋼材 Alloy Steels	–				●	◐			
	M	不銹鋼 Stainless Steels	–				●	◐			
	K	鑄鐵 Cast Iron	–				●	◐			
	N	鋁合金 Aluminum Alloys	◐				–	–			
	S	高溫合金 High-Temp Alloys	–				●	◐			
	H	調質鋼 Hardened Steels	–				–	–			

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020	刀片 2D 圖 Drawing	刀桿頁數 Tool Page
	VCGT110302-FA	0.2	●										外徑刀桿 477 內徑刀桿 493 494
	VCGT110304-FA	0.4	●										
	VCGT160402-FA	0.2	●										
	VCGT160404-FA	0.4	●										
F S M R	VCGT160408-FA	0.8	●										
	VCGT110302-FB	0.2					●						
	VCGT110304-FB	0.4					●						
	VCGT160402-FB	0.2					●						
	VCGT160404-FB	0.4					●						
F S M R	VCGT160408-FB	0.8					●						
	VCET110301R-FX	0.1					●						
	VCET110302R-FX	0.2					●						
	VCET110304R-FX	0.4					●						
F S M R													
	VCET110301L-FX	0.1					●						
	VCET110302L-FX	0.2					●						
	VCET110304L-FX	0.4					●						
F S M R													
	VCET110301R-FY	0.1					●						
	VCET110302R-FY	0.2					●						
	VCET110304R-FY	0.4					●						
F S M R													
	VCET110301L-FY	0.1					●						
	VCET110302L-FY	0.2					●						
	VCET110304L-FY	0.4					●						
F S M R													
	VCGT110301-SP	0.1						●					
	VCGT110302-SP	0.2						●					
	VCGT110304-SP	0.4						●					
F S M R													
	VCEW110301	0.1					●						
	VCEW110302	0.2					●						
	VCEW110304	0.4					●						
F S M R													

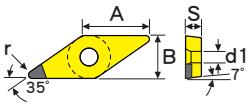
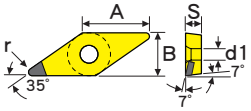
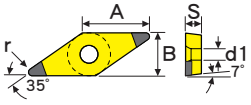
➡ 切削條件表 Cutting Condition P.611

鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❊ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
VC..1103..	11.1	6.35	3.18	2.8
VC..1604..	16.6	9.52	4.76	4.4

加工材質												
	P	鋼材 Alloy Steels								–	–	F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	M	不銹鋼 Stainless Steels								–	–	
	K	鑄鐵 Cast Iron								–	–	
	N	鋁合金 Aluminum Alloys								◐	–	
	S	高溫合金 High-Temp Alloys								–	–	
	H	調質鋼 Hardened Steels								–	◐	

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	VCGW110302	0.2								●			外徑刀桿 477 內徑刀桿 493 494
	VCGW110304	0.4								●			
	VCGW160402	0.2								●			
F S M R	VCGW160404	0.4								●			
刀尖正前角 7°	VCGW110302P07	0.2								●			
	VCGW110304P07	0.4								●			
	VCGW160402P07	0.2								●			
	VCGW160404P07	0.4								●			
F S M R													
NEW	VCGW110302	0.2									●		
	VCGW110304	0.4									●		
	VCGW160402	0.2									●		
F S M R	VCGW160404	0.4									●		

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。
※ 刀尖正前角 7°：適合小外徑和薄壁工件車削加工。
Positive Rake Angle +7°：For turning small diameter and thin-walled parts.

➡ 切削條件表 Cutting Condition P.611

鎢鋼車刀片
CARBIDE TURNING INSERTS

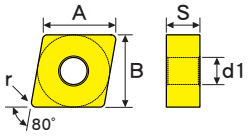
● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
－ 不推薦 NO Recommend

編號 No.	A	B	S	d1
CN..1204..	12.9	12.7	4.76	5.16

加工材質											
	P	鋼材 Alloy Steels		○	◐	✱		◐	❂		
	M	不銹鋼 Stainless Steels		○	◐	✱		◐	✱		
	K	鑄鐵 Cast Iron		●	◐	❂		◐	－		
	N	鋁合金 Aluminum Alloys		－	－	－		－	－		
	S	高溫合金 High-Temp Alloys		－	－	－		◐	✱		
	H	調質鋼 Hardened Steels		○	－	－		－	❂		

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD			PVD						
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	CNMG120404-FP	0.4		●	●			●	●				
	CNMG120408-FP	0.8		●	●			●	●				
F S M R													
	CNMG120404-SM	0.4		●	●			●	●				
	CNMG120408-SM	0.8		●	●			●	●				
F S M R													
	CNMG120404-SP	0.4		●	●			●					
	CNMG120408-SP	0.8		●	●			●					
F S M R													
	CNMA120404	0.4		●									
	CNMA120408	0.8		●									
F S M R													
	CNMG120404-MP	0.4		●	●	●		●	●				
	CNMG120408-MP	0.8		●	●	●		●	●				
	CNMG120412-MP	1.2		●	●	●			●				
F S M R													
	CNMG120408-RK	0.8			●	●							
	CNMG120412-RK	1.2			●	●							
F S M R													
	CNMG120404-HG	0.4						●					
	CNMG120408-HG	0.8						●					
F S M R													



外徑刀桿 468 469
內徑刀桿 483

➡ 切削條件表 Cutting Condition P.612

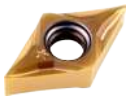
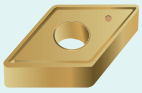
鎢鋼車刀片
CARBIDE TURNING INSERTS

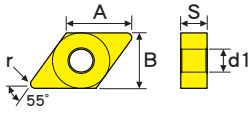
● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
DN..1104..	11.6	9.52	4.76	4.50
DN..1504..	15.5	12.7	4.76	5.16

加工材質										
	P	鋼材 Alloy Steels		○	◐			◐			
	M	不銹鋼 Stainless Steels		○	◐			◐			
	K	鑄鐵 Cast Iron		●	◐			◐			
	N	鋁合金 Aluminum Alloys		–	–			–			
	S	高溫合金 High-Temp Alloys		–	–			◐			
	H	調質鋼 Hardened Steels		○	–			–			

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	DNGX110401-FP	0.1						●					–
	DNGX110402-FP	0.2						●					
F S M R													
	DNMG110404-FP	0.4		●	●			●					外徑刀桿 470 471
	DNMG110408-FP	0.8		●	●			●					
	DNMG150404-FP	0.4		●	●			●					
F S M R	DNMG150408-FP	0.8		●	●			●					
	DNMG150404-SP	0.4		●	●			●					
	DNMG150408-SP	0.8		●	●			●					
F S M R													
	DNMG150404-MP	0.4		●	●								
	DNMG150408-MP	0.8		●	●								
F S M R													

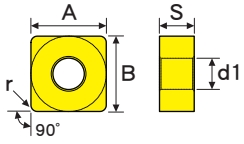


➡ 切削條件表 Cutting Condition P.612

加工材質										
	P	鋼材 Alloy Steels		○	◐	✱					
	M	不銹鋼 Stainless Steels		○	◐	✱					
	K	鑄鐵 Cast Iron		●	◐	❂					
	N	鋁合金 Aluminum Alloys		–	–	–					
	S	高溫合金 High-Temp Alloys		–	–	–					
	H	調質鋼 Hardened Steels		○	–	–					

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BA6540		
	SNMG120408-MP	0.8		●	●	●							外徑刀桿 472
	SNMG120412-MP	1.2		●	●	●							
F S M R													
	SNMG120408-RK	0.8			●	●							內徑刀桿 486
	SNMG120412-RK	1.2			●	●							
F S M R													



➡ 切削條件表 Cutting Condition P.612

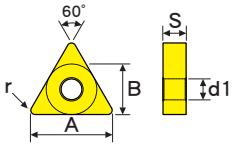
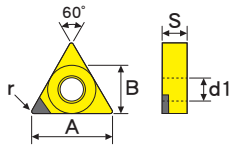
鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
TN..1604..	16.5	9.53	4.76	3.81
TN..2204..	22.0	12.7	4.76	5.16

加工材質											
	P	鋼材 Alloy Steels		○	◐	✱		◐	❂	–	
	M	不銹鋼 Stainless Steels		○	◐	✱		◐	✱	–	
	K	鑄鐵 Cast Iron		●	◐	❂		◐	–	–	
	N	鋁合金 Aluminum Alloys		–	–	–		–	–	◐	
	S	高溫合金 High-Temp Alloys		–	–	–		◐	✱	–	
	H	調質鋼 Hardened Steels		○	–	–		–	❂	–	

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD			PVD						
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
	TNMG160404-FP	0.4		●	●			●					外徑刀桿 473 474 內徑刀桿 486 487
	TNMG160408-FP	0.8		●	●			●	●				
F S M R													
	TNMG160404-SP	0.4		●	●			●					
	TNMG160408-SP	0.8		●	●			●					
F S M R													
	TNMA160404	0.4		●									
	TNMA160408	0.8		●									
F S M R													
	TNMG160404R-ME	0.4		●	●	●		●					
	TNMG160408R-ME	0.8		●	●	●		●					
F S M R													
	TNMG160404L-ME	0.4		●	●	●		●					
	TNMG160408L-ME	0.8		●	●	●		●					
F S M R													
	TNMG160404-MP	0.4		●	●	●		●	●				
	TNMG160408-MP	0.8		●	●	●		●	●				
	TNMG160412-MP	1.2		●	●	●							
F S M R													
	TNMG160408-RK	0.8			●	●							
	TNMG160412-RK	1.2			●	●							
F S M R													
	TNMG220408-RK	0.8			●	●							–
F S M R													
	TNGA160402	0.2								●			473 474 486 487
	TNGA160404	0.4								●			
	TNGA160408	0.8								●			
F S M R													

※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

➡ 切削條件表 Cutting Condition P.612

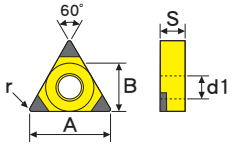
鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
TN..1604..	16.5	9.52	4.76	3.81

加工材質											
	P	鋼材 Alloy Steels									–
	M	不銹鋼 Stainless Steels									–
	K	鑄鐵 Cast Iron									–
	N	鋁合金 Aluminum Alloys									–
	S	高溫合金 High-Temp Alloys									–
	H	調質鋼 Hardened Steels									◐

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD				PVD						
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
NEW	TNGA160402	0.2									●		473 474 486 487
	TNGA160404	0.4									●		
	TNGA160408	0.8									●		
F S M R	TNGA160416	1.6									●		

※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

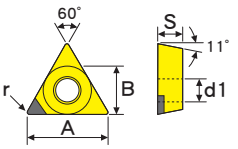
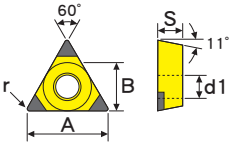
➡ 切削條件表 Cutting Condition P.612

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

編號 No.	A	B	S	d1
TP..0802..	8.2	4.76	2.38	2.4
TP..1103..	11.0	6.35	3.18	3.4

加工材質											
	P	鋼材 Alloy Steels								–	–
	M	不銹鋼 Stainless Steels								–	–
	K	鑄鐵 Cast Iron								–	–
	N	鋁合金 Aluminum Alloys								◐	–
	S	高溫合金 High-Temp Alloys								–	–
	H	調質鋼 Hardened Steels								–	◐

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
			CVD				PVD						
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
	TPGW080202	0.2								●			內徑刀桿 488 489
	TPGW080204	0.4								●			
	TPGW080208	0.8								●			
	TPGW110302	0.2								●			
	TPGW110304	0.4								●			
	TPGW110308	0.8								●			
F S M R													
NEW	TPGW080202	0.2									●		
	TPGW080204	0.4									●		
	TPGW080208	0.8									●		
	TPGW110302	0.2									●		
	TPGW110304	0.4									●		
	TPGW110308	0.8									●		
F S M R													

※ PC = PCD 聚晶鑽石 | BC9030 = PCBN 聚晶立方氮化硼。

➡ 切削條件表 Cutting Condition P.611

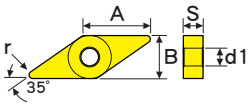
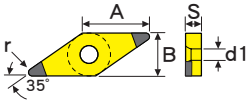
鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
－ 不推薦 NO Recommend

編號 No.	A	B	S	d1
VN..1604..	16.5	9.53	4.76	3.81

加工材質											
	P	鋼材 Alloy Steels		○	◐			◐	❂		－
	M	不銹鋼 Stainless Steels		○	◐			◐	✱		－
	K	鑄鐵 Cast Iron		●	◐			◐	－		－
	N	鋁合金 Aluminum Alloys		－	－			－	－		－
	S	高溫合金 High-Temp Alloys		－	－			◐	✱		－
	H	調質鋼 Hardened Steels		○	－			－	❂		◐

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD				PVD					
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9020		
	VNMG160404-FP	0.4		●	●			●					外徑刀桿 475
	VNMG160408-FP	0.8		●	●			●					
F S M R													
	VNMG160404-MP	0.4		●	●				●				
	VNMG160408-MP	0.8		●	●								
F S M R													
NEW	VNGA160402	0.2									●		內徑刀桿 491
	VNGA160404	0.4									●		
	VNGA160408	0.8									●		
F S M R													

※ PC = PCD 聚晶鑽石 | BC9020 = PCBN 聚晶立方氮化硼。

➡ 切削條件表 Cutting Condition P.612

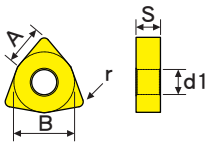
鎢鋼車刀片
CARBIDE TURNING INSERTS

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
－ 不推薦 NO Recommend

編號 No.	A	B	S	d1
WN..0804..	8.7	12.7	4.76	5.16

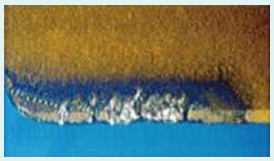
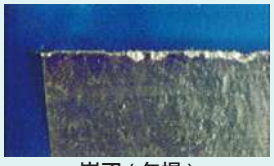
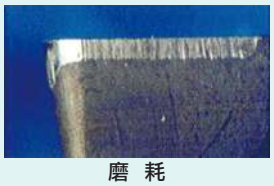
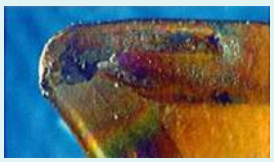
加工材質											
	P	鋼材 Alloy Steels		○	◐	✱		◐	❂		
	M	不銹鋼 Stainless Steels		○	◐	✱		◐	✱		
	K	鑄鐵 Cast Iron		●	◐	❂		◐	－		
	N	鋁合金 Aluminum Alloys		－	－	－		－	－		
	S	高溫合金 High-Temp Alloys		－	－	－		◐	✱		
	H	調質鋼 Hardened Steels		○	－	－		－	❂		

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

刀 片 Insert	訂購編號 Order No.	r 角	材質碼 Grade									刀片 2D 圖 Drawing	刀桿頁數 Tool Page
				CVD			PVD						
			CM10	CM1570	CM2570	CM3570	CM1560	CM2560	CM4525	PC	BC9030		
	WNMG080404-FP	0.4		●	●			●					外徑 刀桿 478 內徑 刀桿 495
	WNMG080408-FP	0.8		●	●			●					
F S M R													
	WNMG080404-SP	0.4		●	●			●	●				
	WNMG080408-SP	0.8		●	●			●					
F S M R													
	WNMA080408	0.8		●									
	WNMA080412	1.2		●									
F S M R													
	WNMG080404-MP	0.4		●	●	●		●	●				
	WNMG080408-MP	0.8		●	●	●		●	●				
	WNMG080412-MP	1.2		●	●	●			●				
F S M R													
	WNMG080408-RK	0.8			●	●							
	WNMG080412-RK	1.2			●	●							
F S M R													

➡ 切削條件表 Cutting Condition P.612

刀片損壞分析與解決方法
Failure Analysis And Solution

刀片損壞狀況 Failure Status	原 因 Reason	解決方法 Solution
 熱 裂 Thermal Cracking	· 切削速度 (Vc) 過高，而產生高熱。 Intermittent heating of the cutting edge. High speed, high volume metal removal.	· 選擇耐熱更高的材質碼。 Use heat resistant grades. · 使用正角型刀片。 Use positive rake insert. · 使用較大 R 角的刀片。 Increase nose radius. · 降低切削速度 (Vc)、每轉進給量 (f) 或切深 (Ap)。 Reduce speed, feed or depth of cut.
 崩刃 (欠損) Tipping	· 刀片材質太脆。 Cutting tool excessively brittle.	· 選擇韌性更高的材質碼。 Use tougher grades. · 使用負角型刀片。 Ues negative rake insert. · 使用較大 R 角的刀片。 Increase nose radius. · 使用刀口強度較佳的刀片。 Use increased edge land. · 降低切削速度 (Vc) 和每轉進給量 (f)。 Reduce cutting speed and feed.
 磨 耗 Flank Wear	· 刀片材質太軟。 Cutting tool too soft. · 切削速度 (Vc) 過高。 Machine speed too fast.	· 選擇硬度更高或更耐磨的材質碼。 Use harder and more wear resisitanat grades. · 降低切削速度 (Vc)。 Reduce cutting speed. · 增加每轉進給量 (f)。 Increase feed. · 使用冷卻液。 Use coolant.
 凹 陷 Notching	· 被加工材質產生硬化，而造成嚴重磨損。 Cutting material working harden cause serious wear of insert.	· 降低切削速度 (Vc) 和每轉進給量 (f)。 Reduce cutting speed and feed. · 降低切深 (Ap)。 Reduce depth of cut.
 黏屑 (溶著) Bulite-Up-Edge(Bue)	· 切削速度 (Vc) 過低。 Cutting speed too slow for material being machined.	· 提高切削速度 (Vc)。 Increase cutting speed. · 選擇摩擦係數較低的材質碼。 Use friction reducing grades. · 使用潤滑性較高的冷卻液。 Use high lubricity coolant.
 塑性變形 Deformation	· 切削速度 (Vc) 或每轉進給量 (f) 過高。 Heavy feeds or higher cutting speed.	· 選擇硬度更高的材質碼。 Use a harder gardes. · 選擇熱傳導係數高的材質碼。 Use more heat resistant grades. · 降低切削速度 (Vc) 或每轉進給量 (f)。 Reduce cutting speed or feed.
 月牙窪磨損 Crater Wear	· 加工材質和刀片之間發生化學反應，並被切削速度 (Vc) 放大。 It is due to a chemical reaction between the workpiece material and insert and is amplified by cutting speed.	· 選擇硬度更高的材質碼。 Use a harder gardes. · 降低切削速度 (Vc) 和每轉進給量 (f)。 Reduce cutting speed and feed.

車刀片斷屑槽幾何對照表
Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	特固克 TaeguTec
P 鋼 Alloy Steels	超精加工 Bright Finishing		FA, FL, FB	GP, XP, XF, VF, VC, SK	TF, NS, ZF	FH, FP, FS, FY	FE	FA
	精加工 Finishing	FP	LU, FE, SU	PP, XQ, CQ, HQ	MM, TS, TSF	SA, SY, SH	BE, CE, B, BH	FG, FC
	半精加工 Semi Finishing	SP, SM	SE, SX	CJ, XS	AS, ZM	LP	AB, CT	
	中加工 Medium	MP, ME	GU, GE, UX	HS, PS, PQ, GS, PT, PG	TM, TQ, DM, AM	MA, MV, MH, MP	AH, AE, AY	ML, MP, MC, PC, MT
	粗加工 Roughing	RK	MU, ME, MX, MP	HT, GT, PH	TH, S, CH	RP, GH, HAS, MT	RE, AR	RT
	重加工 Heavy Cutting		HG, HP, HU, HW, HF	PX, Standard	THS, TRS, 65, TUS	HZ, HX, HL, HH, HXD, HR, HV, HCS	TE, UE, H, HX, HE	RX, RH, HT, HD, HY, HZ
M 不銹鋼 Stainless Steels	精加工 Finishing	FP	SU, EF	MQ, GU	SS	LM, SH	SE, MP, AB	EA, SF
	半精加工 Semi Finishing	SP, SM	EX, EG	MS, MU	SF, SA	GM, MS	PV	EM
	中加工 Medium	MP, ME	GU		SM	MM	DE	ET
	粗加工 Roughing	RK	HM, EM, MU	TK	S, SH	ES, 1M, 2M, HL, RM, GH, HM	AE	VF, SU
K 鑄鐵 Cast Iron	半精加工 Semi Finishing	SP, SM	UZ	Standard, C, KQ	CM, CF	LK, MA, MK	V, VA	MT
	中加工 Medium	MP, ME	GZ, ME	ZS, GC, KG, KH	Standard, CH33	GK, RK ,GH	Y, RE	RT
N 鋁合金 Aluminium Alloys	精加工 Finishing	FP	AX	AH	P		AH	
S 高溫合金 High-Temp Alloys	精加工 Finishing	SP, SM	EF		HRF	LS, FJ		
	中加工 Medium	MP, ME	EG, EX	SQ	HMM, SA, HRM	MS, MJ	VI	
	粗加工 Roughing	RK	MU, EM	SG, SX		RS, GJ		
H 調質鋼 Hardened Steels	精加工 Finishing		GH, FV		HP			
	半精加工 Semi Finishing		LV	HH, HL	HF	BF		
	硬化層加工 Carburised Layer Removal		SV	HD	HM	BM		

車刀片斷屑槽幾何對照表
Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	超精加工 Bright Finishing		QF	FF1, FF2	FP5	SF	FF
	精加工 Finishing	FP	LC, XF, MF	MF2	NF3		FN, CT
	半精加工 Semi Finishing	SP, SM	PF, KF		MP3, NS6	F3P, TF	LF, 33
	中加工 Medium	MP, ME	XM, QM, PMC, PM, SM, KM ,HM	M3	MU5, MP5, NM4, NM6	GN, RF, LF	P, MG, MN, MP1
	粗加工 Roughing	RK	PR, XMR, KR	M5, MR7, R4, R5, M6	RP5, NM9, RP7	M3P, NR	RP, RN
	重加工 Heavy Cutting		HR, SR, MR	R7, MR7, RR9	NR6, NRF, NR8, NRR	NM, TNM, R3P	RM, MR, RH
M 不銹鋼 Stainless Steels	精加工 Finishing	FP	MF	MF2	NF4, FM5	F3M	FP, FS, LF
	半精加工 Semi Finishing	SP, SM	23	MF1, M1	MM5	TF, VL	MS
	中加工 Medium	MP, ME	MM, MMC, SMR	MF3, M3	NM4, MS3, MU5	M3M, PP	MP
	粗加工 Roughing	RK	MR, MRR	MF4, MF5, M5, MR3, MR4	NR4, RM5, HU5	MR, R3M, M4MW	UP
K 鑄鐵 Cast Iron	半精加工 Semi Finishing	SP, SM	KF	M4	NM5	GN	UN
	中加工 Medium	MP, ME	KM, KR, KRR	MR7	RK5, RK7		
N 鋁合金 Aluminium Alloys	精加工 Finishing	FP					MS
S 高溫合金 High-Temp Alloys	精加工 Finishing	SP, SM	SF, SGF		NFT	F3S	
	中加工 Medium	MP, ME	SM, SMC	M1	NMT, NMS	VL	
	粗加工 Roughing	RK	SMR	MR3, MR4	NRT, HU5, NRS		
H 調質鋼 Hardened Steels	精加工 Finishing						
	半精加工 Semi Finishing						
	硬化層加工 Carburised Layer Removal						

車刀片斷屑槽幾何對照表
Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	特固克 TaeguTec
P 鋼 Alloy Steels	精加工 Finishing	FB, FX, FY	FC, FB, LU, FP, FK	CF, GF, VF, P, PF, GP, XP, PP, MQ, DP	01, JRP, JTS, PSF, PF, 23, SS, JSS	FJ, AM, FP, FM, FV, SQ	JQ, MP	FA, FX
	半精加工 Semi Finishing	SP	SI, LB	CK, SKS, XQ	JS, CM, PSS	SMG, LP, LM		SA
	半中加工 Semi Medium		SC, SU, GU, SK, SF	GQ, SK, Standard, HQ, XQ, GK	PS, TSF, TM	SV, MQ	JE	FG, PC
	中加工 Medium	MP, MK	MU		PM	MP, MM, MK, MV		MT, PMR
M 不銹鋼 Stainless Steels	精加工 Finishing	FB, FX, FY	FC		PSF, PF, SS, JSS	FM, FV		FA, FX
	半精加工 Semi Finishing	SP, SM	SI, LB	MQ		SMG, LM		FG
	半中加工 Semi Medium		SU, GU	HG		SV		PC
	中加工 Medium	MP, MK	MU		PM	MM, MV, Blank		MT, PMR
K 鑄鐵 Cast Iron	精加工 Finishing	FB	FC		CF			
	中加工 Medium	MP, MK	MU			MK		MT
N 鋁合金 Aluminium Alloys	精加工 Finishing	FA	AG, AW, AY	AH, AP	AL, PP	AZ		FL
	半精加工 Semi Finishing	FB	LD, GD					SA
S 高溫合金 High-Temp Alloys	精加工 Finishing	FB, FX, FY	FC, SI	PP, MQ	PSS	FS		
	中加工 Medium		SU, GU	HQ, GK	PS, PM	LS, MS		
H 調質鋼 Hardened Steels	精加工 Finishing		FV		HP			
	輕切削 Light Cutting		LV			BF		

車刀片斷屑槽幾何對照表
Turning Insert Chip Breaker Comparison Table

ISO 材質 Material Group	加工型態 Application	西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	精加工 Finishing	FB, FX, FY	UM, PF, UF, MF, XF	GT-F1, FF1	FM4, FP4	PF	11, UF, MF, KF, XF
	半精加工 Semi Finishing	SP					LF
	半中加工 Semi Medium		PM, UM, XM	MF2, F1	MP4, MM4, FP6, PM5	SM, 14	MP
	中加工 Medium	MP, MK	PR, UR, MMC, MPC, XR	F2, M3, M5	RP4, RM4	19	MF
M 不銹鋼 Stainless Steels	精加工 Finishing	FB, FX, FY	MF, XF	FF1	FM4	PF	11, UF
	半精加工 Semi Finishing	SP, SM	UF	F1			LF, FP
	半中加工 Semi Medium		MM	MF2	MM4, PS5	SM	MP
	中加工 Medium	MP, MK	UM, MR, XR, UR	F2, M3, M5	PM5, RM4		MF
K 鑄鐵 Cast Iron	精加工 Finishing	FB	KF, XF		FK6		11, UF
	中加工 Medium	MP, MK	KM, UM, XR	M5	MK4, RK4		FP, LF, MF, MP
N 鋁合金 Aluminium Alloys	精加工 Finishing	FA	AL	AL	PM2	AS, AF	HP
	半精加工 Semi Finishing	FB					
S 高溫合金 High-Temp Alloys	精加工 Finishing	FB, FX, FY	WF, MF				
	中加工 Medium		UM, PM	MF2, R2, R3	FV4, MV4		
H 調質鋼 Hardened Steels	精加工 Finishing						
	輕切削 Light Cutting						

車刀片材質碼對照表
Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	克勞伊 Korloy	特固克 TaeguTec
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1570	AC8020P AC8015P AC810P	CA510 CA515 CA5505 CA5515	T9005 T9105 T9015 T9115 T9215	MC6015 UE6105 UE6110 UE6005 UE6010 UE6020	GM10 GM20 GM8015 HG8010	NC3215	TT8105B
		P20	CM2570	AC8020P AC8025P AC820P	CA025P CA525 CA5515 CA5525 CR9025	T9015 T9115 T9025 T9125 T9225	MC6025 UC6010 UE6110 UE6020	GM20 GM8020 HG8025	NC3225	TT5100 TT8115B TT8125B
		P30	CM3570	AC8035P AC830P AC6030M AC630M	CA025P CA525 CA5525 CA530 CA5535 CR9025	T9125 T9035 T9135 T3130	MC6025 UE6020 MC6035 UE6035 UH6400	GM25 GM8035 HG8025	NC3120 NC3030 NC5330	TT5100 TT7100 TT8125B
	軟 Soft ↓	P40	CM3570	AC8035P AC830P AC6030M AC630M	CA530 CA5535	T9035 T3130	MC6035 UE6035 UH6400	GX30		TT5100 TT7100 TT8135B
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	M10 S10	CM1570	AC6020M AC610M	CA6515	T9015 T9115	MC7015 US7020	GM10 HS9105	NC9115	TT9215
		M20 S20	CM2570 CM3570	AC6020M AC6030M AC610M AC630M	CA6525	T6020 T6120 T9115 T9125	US7020 MC7025	GM8020 HG8025 HS9115	NC9115 NC9125	TT5100 TT9215
M 不銹鋼 Stainless Steels		M30	CM3570	AC6030M AC630M AC8035P AC830P		T6030 T6130 T9125	MC7025 US735	GM25 GM8035	NC9125 NC9135	TT5100 TT9235
	軟 Soft ↓	M40	CM3570	AC6030M AC630M			US735	GX30	NC9135	TT5100 TT9235
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01	CM1570	AC405K AC410K AC300G AC4010K	CA310 CA4505 CA5505	T5105 T5010	MC5005 UC5105 UC5015	HG3305 HG3315 HX3505 HX3515		TT7005
		K10	CM1570	AC4010K AC4015K AC405K AC415K	CA310 CA315 CA4505 CA4515 CA5505	T515 T5105 T5115 T5010	UC5015 UC5105 UC5115 UE6010 MC5015	GM8015 HX3515 HG8010 HG3315	NC6310	TT7005 TT7015
		K20	CM1570	AC4015K AC415K AC420K AC425K AC8025P	CA315 CA320 CA4515	T515 T5115 T5125 T5020	MC5015 MY5015 UE6010 UC5115 UE6110	GM8020 HG8025	NC6315	TT7015 TT7025
	軟 Soft ↓	K30			CA320	T5125 T9125	UE6110	GM25	NC5330	TT7025

車刀片材質碼對照表
Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1570	GC4205 GC4015 GC3115 GC4215 GC4315	TP1501 TP1000 TP1500 TP100	WPP01 WPP05	IC8150 IC9150 IC9250	KCK05 KCP10B KCP10 KC9010 KC9110
		P20	CM2570	GC4025 GC4215 GC4220 GC4225 GC4325	TP2501 TP2000 TP2500 TP200	WPP10S WPP20S	IC8250 IC9125 IC9250 IC9350	KCP25B KCP25 KC9125 KC9225 KC9325
		P30	CM3570	GC4225 GC4230 GC4235 GC2135 GC4335	TP2501 TP3501 TP2500 TP2000 TP3500 TP200	WPP30S	IC635 IC8350 IC9350	KCP30B KCP30 KC9040 KC9140
	軟 Soft ↓	P40	CM3570	GC4035 GC4235 GC4240 GC4335	TP40		IC635	KCP40B KCP40 KC9140 KC9240
S 高溫合金 High-Temp Alloys M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10 S10	CM1570	GC2015 GC2220	TP1500 TP100	WAM20	IC8250 IC9250 IC9350 IC6015	KCM15B KCM15 KC9010 KC9110 KC9210
		M20 S20	CM2570 CM3570	GC1515 GC2015 GC2025 GC2220	TM2000 TP200		IC8350 IC9250 IC9350 IC6025	KCM25B KCM25 KC9025 KC9125 KC9225
		M30	CM3570	GC2040 GC235	TM4000 TP3501 TP300		IC8350 IC9350 IC4050	KCM35B KCM35 KC9240
	軟 Soft ↓	M40	CM3570		TP40		IC635	KC9045 KC9245
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01	CM1570	GC3205 GC3210	TK0501 TK1000 TK1001	WAK10	IC5005 IC428 IC9007 IC9150	KCPK05 KC9315 KCK05B KCK05
		K10	CM1570	GC3205 GC3210 GC3215 GC3115	TK1000 TK2000 TK2001 MK1500	WAK20	IC5010 IC418 IC428 IC9015 IC9007	KC9110 KC9120 KC9315 KCK15B KCK15
		K20	CM1570	GC4225 GC3215 GC3220 GC3225	TK2000 TX150 TP200	WAK30	IC418 IC9015	KC9125 KC9320 KC9325 KCK20B KCK20
	軟 Soft ↓	K30		GC3040 GC4335	TP2500 TP200			KCP25B KC9320

車刀片材質碼對照表
Turning Insert Grade Comparison Table

ISO 材質 Material Group	ISO 材料代號 ISO Code		西門德克 CMTec	住友 Sumitomo	京瓷 Kyocera	泰珂洛 Tungaloy	三菱 Mitsubishi	日立 Hitachi	克勞伊 Korloy	特固克 TaeguTec
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1560	AC1030U ACZ150 AC5005S AC5015S AC5025S AC520U	PR1705 PR930 PR1025 PR1115 PR1215 PR1225 PR1725	AH710	MS6015 VP10MF	CY15 CY150 IP2000		TT4410
		P20	CM1560 CM2560	AC1030U AC5025S AC520U AC530U	PR930 PR1025 PR1115 PR1215 PR1225 PR1625 PR1725	AH7025 AH710 AH725 AH730 SH725 SH730	MS6015 VP10RT VP15TF VP20MF UP20M VP20RT	CY150 IP2000		TT4410 TT4430 TT9020 TT9080
		P30	CM2560	AC1030U AC530U	PR1025 PR1225 PR1535	GH330 AH120 AH740 AH9030	VP10RT VP15TF VP20MF UP20M	CY250 CY9020 HC844 IP3000	PC5300	TT4410 TT4430 TT8020 TT8080 TT9020 TT9080
	軟 Soft ↓	P40	CM2560	AC1030U	PR1535	AH140 AH740 J740		CY250 HC844	PC5300 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10	CM1560	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR1025 PR1215 PR1225	AH710	VP10MF VP10RT	IP050S JP9105	PC8110	TT4410 TT5080
		M20	CM2560	AC5015S AC5025S AC1030U AC520U	PR930 PR1025 PR1125 PR1215 PR1725 PR1225 PR1515	AH630 AH725 AH730 GH330 GH730 SH75 SH730	VP10RT VP15TF VP20MF UP20M VP20RT	IP100S GX30 JP9115	PC8115	TT4410 TT4430 TT5080 TT9020 TT9080
		M30	CM2560	AC5025S AC6040M AC1030U AC520U AC530U	PR1125 PR1535	AH6030 AH120 AH725	VP15TF VP20MF UP20M MP7035	CY250 CY9020	PC5300	TT4410 TT4430 TT5080 TT8020 TT8080 TT9020 TT9080
	軟 Soft ↓	M40	CM2560	AC6040M AC1030U AC530U	PR1535	J740 AH140 AH645	MP7035		PC9030 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01				AH110				
		K10	CM1560	AC1030U AC510U ACZ150 AC5015S	PR905 PR1215	GH110 AH110	VP05RT	CY100H CY10H	PC8110	
		K20	CM2560	AC1030U AC510U ACZ150 AC5015S AC5025S	PR905 PR1215	AH120 AH725	VP10RT VP15TF VP20RT	IP2000 CY9020	PC8110	
	軟 Soft ↓	K30	CM2560	AC1030U AC530U			VP15TF VP20RT		PC5300 PC5400	
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	S01			PR005S	AH8005 AH905	MP9005 VP05RT		PC8105	
		S10	CM1560 CM2560	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR005S PR015S	AH8015 AH905 SH730 AH110	MP9005 MP9015 VP10RT	JP9105	PC8110	TT3010 TT3020 TT4410 TT5080
		S20	CM2560	AC5015S AC5025S AC1030U AC520U	PR015S PR1535	AH8015 AH120 AH725	MP9015 MT9015 VP20RT MP9025	JP9115	PC8115	TT3010 TT3020 TT4410 TT4430 TT5080
	軟 Soft ↓	S30	CM2560	AC5025S AC6040M AC1030U AC520U AC530U	PR1535	AH725	MP9025		PC5300 PC5400	TT8020 TT8080 TT3010 TT3020 TT4410 TT4430 TT5080

車刀片材質碼對照表
Turning Insert Grade Comparison Table

ISO 材質 Material Group		ISO 材料代號 ISO Code	西門德克 CMTec	山特維克 Sandvik	山高 SECO	瓦爾特 Walter	伊斯卡 Iscar	肯納 Kennametal
P 鋼 Alloy Steels	↑ 硬 Hard	P10	CM1560	GC1025	CP200		IC507 IC807 IC907	KC5010 KC5510 KU10T
		P20	CM1560 CM2560	GC1020 GC1025 GC4125 GC1125	CP250		IC507 IC907 IC908	KC5025 KC5525 KC7215 KC7315 KU25T
	軟 Soft ↓	P30	CM2560	GC1125 GC1145 GC1115 GC1105	CP500		IC328 IC928 IC3028	KC7015 KC7020 KC7235 KU25T
		P40	CM2560	GC1145 GC2145	CP600		IC328 IC3028	KC7030 KC7040 KC7140
M 不銹鋼 Stainless Steels	↑ 硬 Hard	M10	CM1560	GC1005 GC1025 GC1105 GC15	TS2000 CP200 CP250	WSM20	IC507 IC520 IC807 IC907	KC5010 KC5510 KC6005 KCU10
		M20	CM2560	H5D6 GC1025 GC1115 GC4125 GC1125 GC30	TTP2050 TS2500 CP200 CP250 CP500	WSM30	IC308 IC507 IC907 IC908 IC3028	KC5025 KC5525 KC7020 KC7025 KCU25
	軟 Soft ↓	M30	CM2560	GC1020 GC2035 GC2030	CP500		IC908 IC1008 IC1028 IC3028	KC7030 KC7225
		M40	CM2560	GC2145 GC1145	CP600		IC228 IC928 IC328	
K 鑄鐵 Cast Iron	↑ 硬 Hard	K01					IC910	KC5515
		K10	CM1560	GC1010	TS2000 CP200		IC807 IC910 IC507 IC908	KC5010 KC7210
	軟 Soft ↓	K20	CM2560	GC1020 GC1120	TS2500 CP200 CP250		IC508 IC908	KC5025 KC5525 KC7015 KC7215 KC7315
		K30	CM2560	GC1030	CP500		IC508 IC908	KC7225
S 高溫合金 High-Temp Alloys	↑ 硬 Hard	S01				WSM10	IC804 IC806	
		S10	CM1560 CM2560	GC1105 GC1005 GC1025	CP200 TS2000	WSM20	IC807 IC808 IC907 IC908	KC5010 KC5510 KCU10 KCS10
	軟 Soft ↓	S20	CM2560	GC1025 GC1125	CP250 TS2500	WSM30	IC806 IC808 IC908	KC5025 KC5525 KCU25
		S30	CM2560	GC1125			IC3028	

MEMO

外徑車刀桿系列

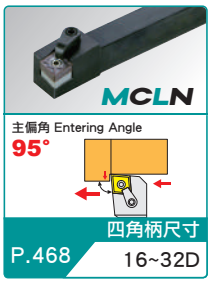
External Turning Toolholders Series

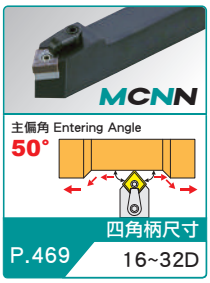
泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

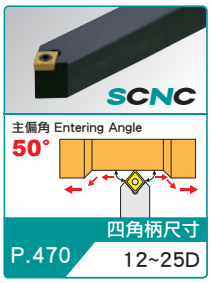
For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

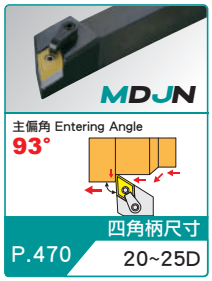
產品選擇表
Product Selection Table

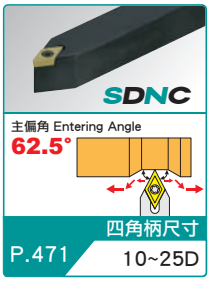
外徑車刀桿 External Turning Toolholders

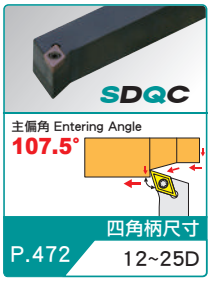


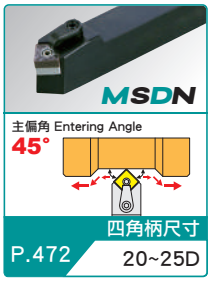


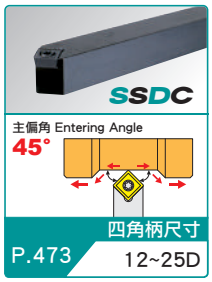


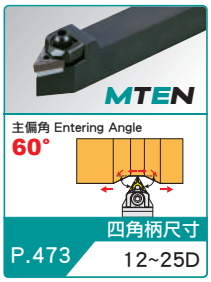


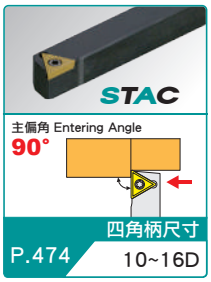


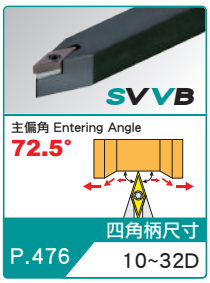


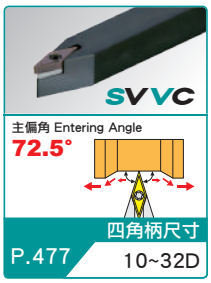


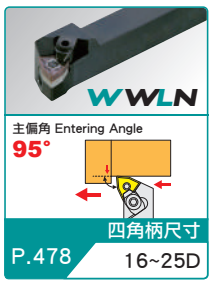








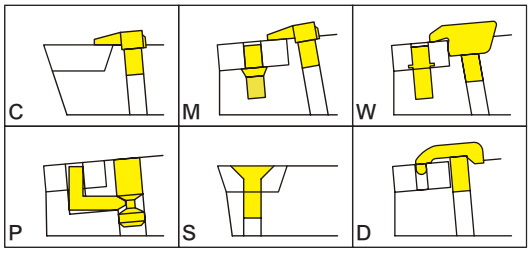




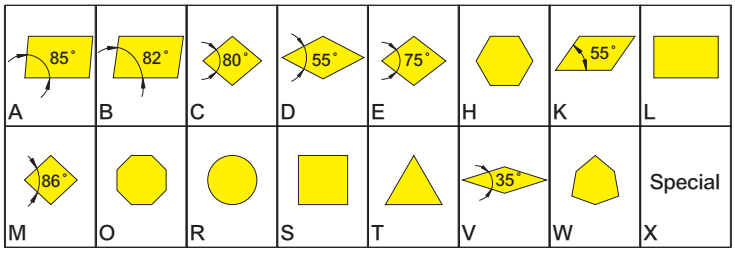
外徑車刀桿 ISO 編碼規範
ISO Designation For External Turning Tools

M	C	L	N	R	–	20	20	K	–	12	
1	2	3	4	5		6	7	8		9	10

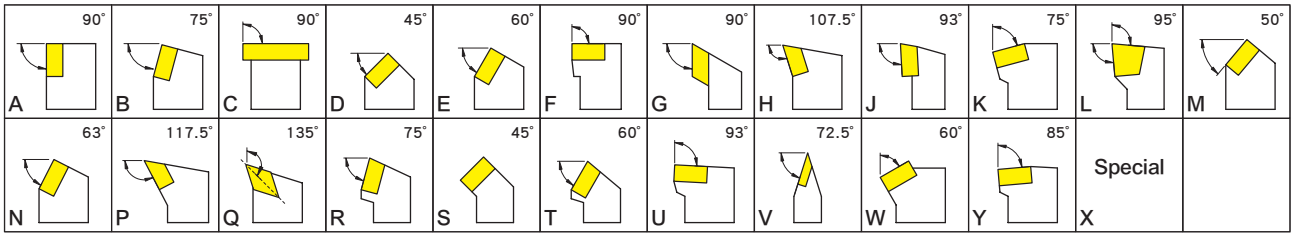
1 刀片夾持方式 Type Of Locking



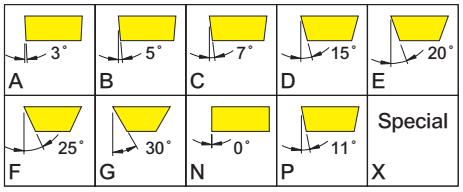
2 刀片形狀 Insert Shape



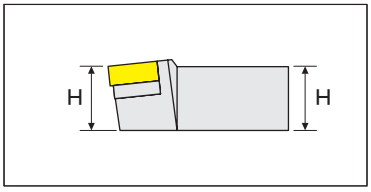
3 主偏角 Entering Angle



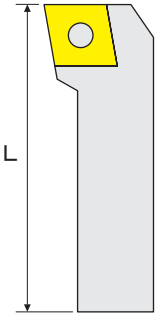
4 刀片離隙角 Clearance Angle



6 刀桿高度 Shank Height

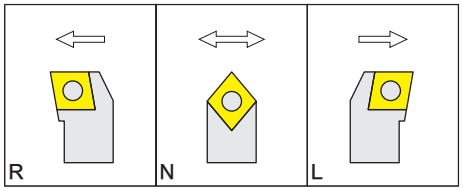


8 刀桿全長 Shank Length

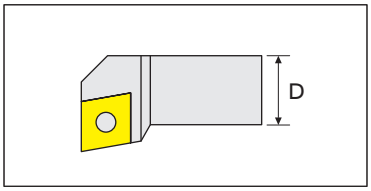


代號 Code	尺寸 (mm)
A	32
B	40
C	50
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special

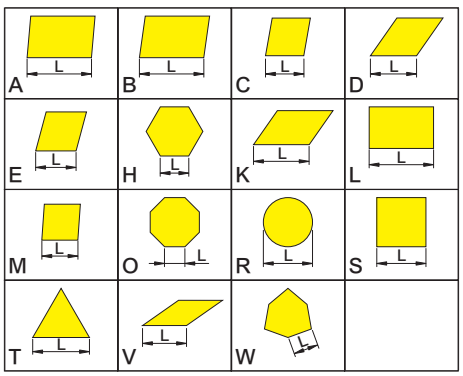
5 切削方向 Cutting Direction



7 刀桿寬度 Shank Width

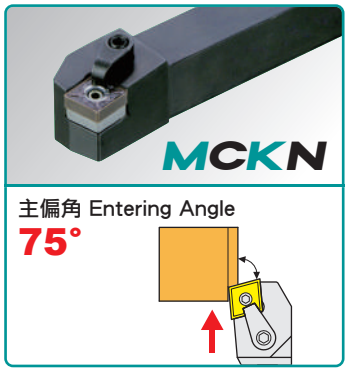


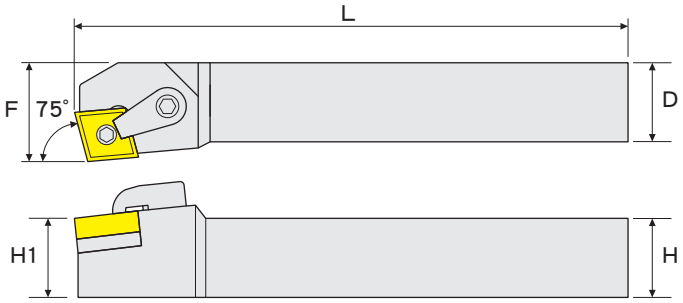
9 刀片邊長 Insert Length



10 特殊記號 Optional Code

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

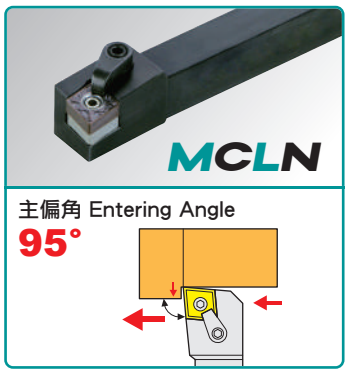


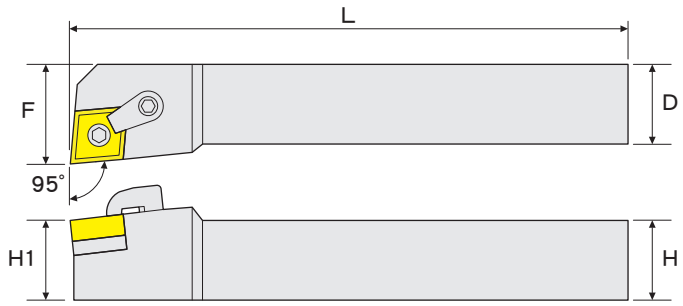


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MCKN$^{R}_{L}$-1616K-12	16	20	125	16	CN..1204..	MLP46-A	CMS432	PL25	MS625TX	MC620	ETL15
MCKN$^{R}_{L}$-2020K-12	20	25	125	20							
MCKN$^{R}_{L}$-2525M-12	25	32	150	25					MS630TX		
MCKN$^{R}_{L}$-3232P-12	32	40	170	32							

➡ 搭配刀片 Insert P.449 ➡ 切削條件表 Cutting Condition P.612



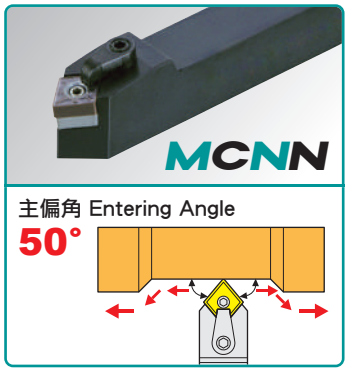


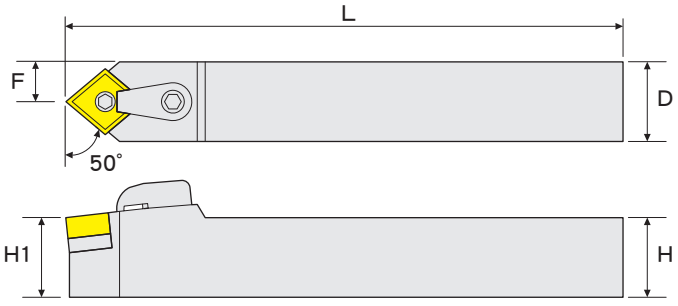
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MCLN$^{R}_{L}$-1616K-12	16	20	125	16	CN..1204..	MLP46-A	CMS432	PL25	MS625TX	MC620	ETL15
MCLN$^{R}_{L}$-2020K-12	20	25	125	20							
MCLN$^{R}_{L}$-2525M-12	25	32	150	25					MS630TX		
MCLN$^{R}_{L}$-3232P-12	32	40	170	32							

➡ 搭配刀片 Insert P.449 ➡ 切削條件表 Cutting Condition P.612

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

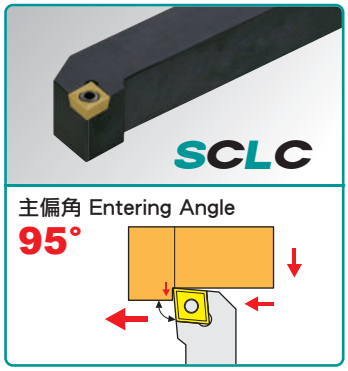


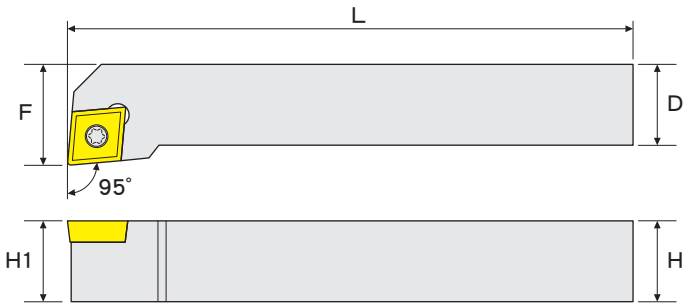


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MCNNN-1616K-12	16	8.0	125	16	CN..1204..	MLP46-A	CMS432	PL25	MS625TX	MC620	ETL15
MCNNN-2020K-12	20	10.0	125	20							
MCNNN-2525M-12	25	12.5	150	25					MS630TX		
MCNNN-3232P-12	32	16.0	170	32							

➡ 搭配刀片 Insert P.449 ➡ 切削條件表 Cutting Condition P.612



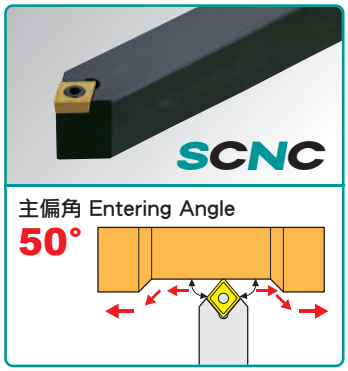


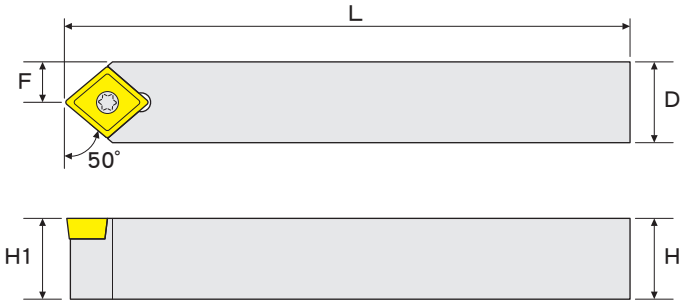
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
SCLC$^{R}/_{L}$-1010H-06	10	12	100	10	CC..0602..	MS2506A	ETF09
SCLC$^{R}/_{L}$-1010K-06	10	12	125	10			
SCLC$^{R}/_{L}$-1212H-09	12	16	100	12	CC..09T3..	MS4011A	ETF15
SCLC$^{R}/_{L}$-1212K-09	12	16	125	12			
SCLC$^{R}/_{L}$-1616K-09	16	20	125	16			
SCLC$^{R}/_{L}$-2020K-09	20	25	125	20			
SCLC$^{R}/_{L}$-2525M-09	25	32	150	25			
SCLC$^{R}/_{L}$-2020K-12	20	25	125	20	CC..1204..	MS5011A	ETF20
SCLC$^{R}/_{L}$-2525M-12	25	32	150	25			
SCLC$^{R}/_{L}$-3232P-12	32	40	170	32			

➡ 搭配刀片 Insert P.440, 441 ➡ 切削條件表 Cutting Condition P.611

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

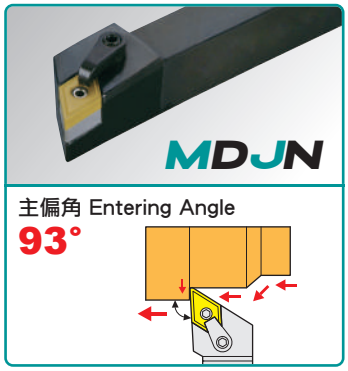


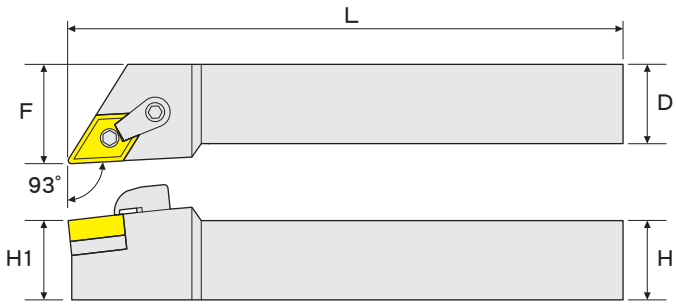


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
SCNCN-1616K-06	16	8.0	125	16	CC..0602..	MS2506A	ETF09
SCNCN-1212H-09	12	6.0	100	12	CC..09T3..	MS4011A	ETF15
SCNCN-1212K-09	12	6.0	125	12			
SCNCN-1616K-09	16	8.0	125	16			
SCNCN-2020K-09	20	10.0	125	20			
SCNCN-2525M-09	25	12.5	150	25			
SCNCN-2020K-12	20	10.0	125	20	CC..1204..	MS5011A	ETF20
SCNCN-2525M-12	25	12.5	150	25			

➡ 搭配刀片 Insert P.440, 441 ➡ 切削條件表 Cutting Condition P.611



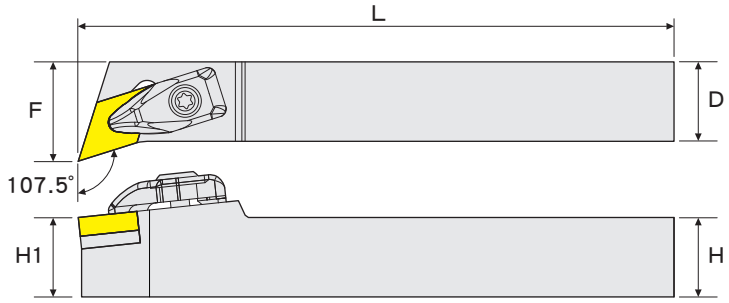


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MDJN$^{R}/_{L}$-2020K-1504	20	25	125	20	DN..1504..	MLP46L-A	DMS442	PL25	MS625TX	MC622	ETL15
MDJN$^{R}/_{L}$-2525M-1504	25	32	150	25					MS630TX		

➡ 搭配刀片 Insert P.450 ➡ 切削條件表 Cutting Condition P.612

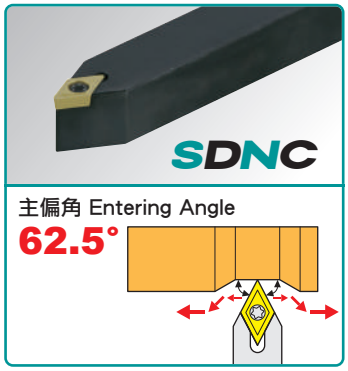
外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

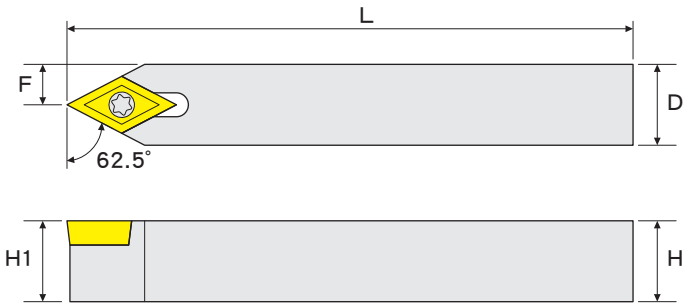


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Shim	Screw	Wrench	Clamp	Wrench
	H1 / H	F	L	D						
DDQN$^{R}/_{L}$-2020K-1504	20	25	125	20	DN..1504..	DMS442	MS6013F	PL40	MCD430	ETL20
DDQN$^{R}/_{L}$-2525M-1504	25	32	150	25						
DDQN$^{R}/_{L}$-3232P-1504	32	40	170	32						

➡ 搭配刀片 Insert P.450 ➡ 切削條件表 Cutting Condition P.612



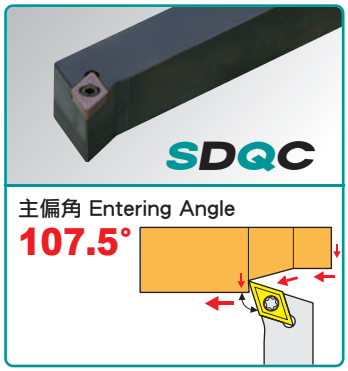


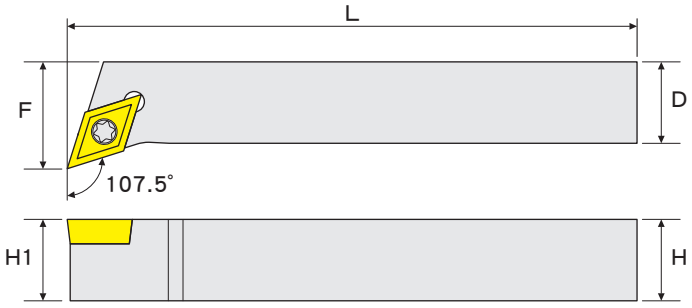
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
SDNCN-1010H-07	10	5.0	100	10	DC..0702..	MS2506B	ETF09
SDNCN-1212H-07	12	6.0	100	12			
SDNCN-1616K-07	16	8.0	125	16			
SDNCN-1212H-11	12	6.0	100	12	DC..11T3..	MS4011A	ETF15
SDNCN-1212K-11	12	6.0	125	12			
SDNCN-1616K-11	16	8.0	125	16			
SDNCN-2020K-11	20	10.0	125	20			
SDNCN-2525M-11	25	12.5	150	25			

➡ 搭配刀片 Insert P.442, 443 ➡ 切削條件表 Cutting Condition P.611

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

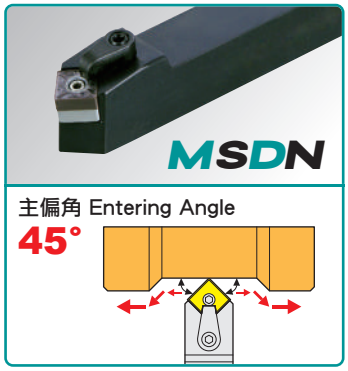


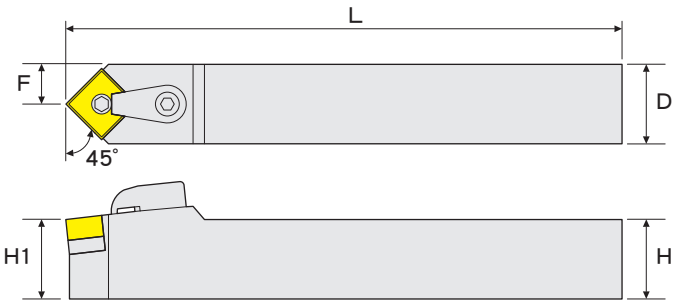


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
SDQC$^{R}/_{L}$-1212H-11	12	16	100	12	DC..11T3..	MS4011A	ETF15
SDQC$^{R}/_{L}$-1616K-11	16	20	125	16			
SDQC$^{R}/_{L}$-2020K-11	20	25	125	20			
SDQC$^{R}/_{L}$-2525M-11	25	32	150	25			

➡ 搭配刀片 Insert P.442, 443 ➡ 切削條件表 Cutting Condition P.611



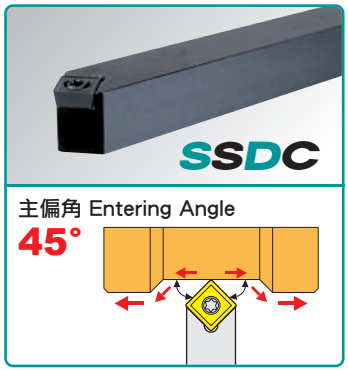


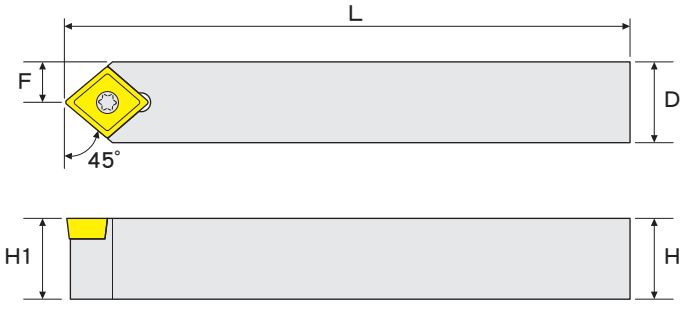
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MSDNN-2020K-12	20	10.0	125	20	SN..1204..	MLP46-A	SMS432	PL25	MS625TX	MC620	ETL15
MSDNN-2525M-12	25	12.5	150	25					MS630TX		

➡ 搭配刀片 Insert P.450 ➡ 切削條件表 Cutting Condition P.612

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

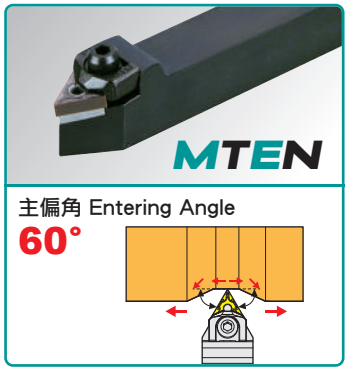


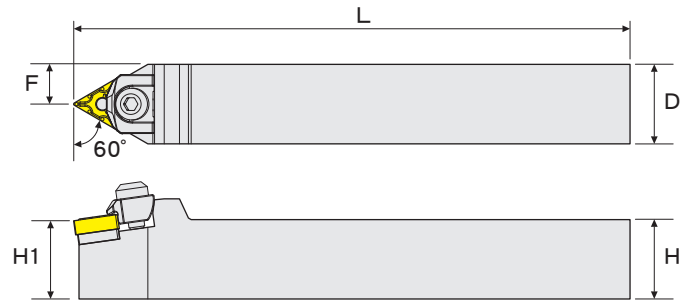


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
SSDCN-1212H-09	12	6.0	100	12	SC..09T3..	MS4011A	ETF15
SSDCN-1616K-09	16	8.0	125	16			
SSDCN-2020K-09	20	10.0	125	20			
SSDCN-2525M-09	25	12.5	150	25			

➡ 搭配刀片 Insert P.444 ➡ 切削條件表 Cutting Condition P.611



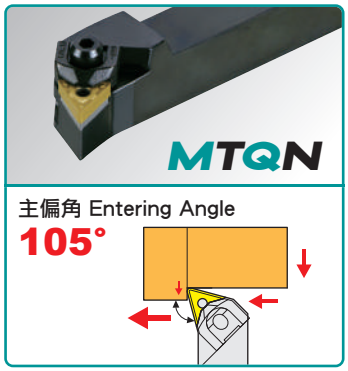


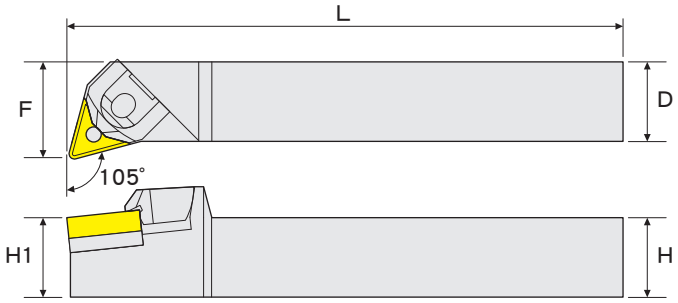
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MTENN-1216K-16	12	8.0	125	16	TN..1604..	MCP3	TWS322	PL30	MCS3S-09	MCW3-P40	PL40
MTENN-1616K-16	16	8.0	125	16							
MTENN-2020K-16	20	10.0	125	20							
MTENN-2525M-16	25	12.5	150	25							

➡ 搭配刀片 Insert P.451, 452 ➡ 切削條件表 Cutting Condition P.612

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

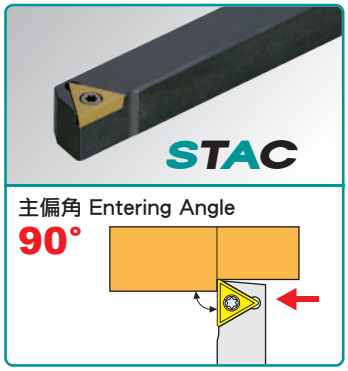


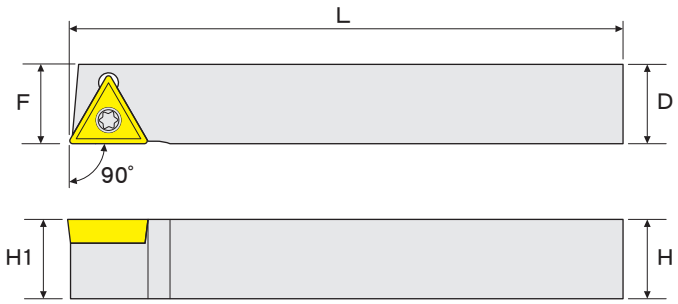


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H1 / H	F	L	D							
MTQN$^{R}/_{L}$-2020K-16	20	25	125	20	TN..1604..	MCP3	MCS3S-11	PL30	TWS322	MCW3-P40	PL40
MTQN$^{R}/_{L}$-2525M-16	25	32	150	25							

➡ 搭配刀片 Insert P.451, 452 ➡ 切削條件表 Cutting Condition P.612



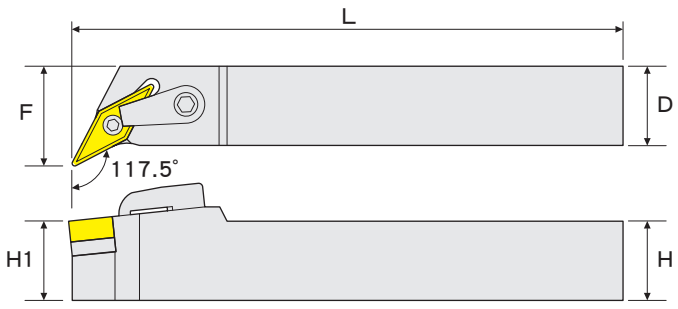


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
STACR-1010H-11	10	10	100	10	TC..1102..	MS2506A	ETF09
STACR-1212H-11	12	12	100	12			
STACR-1616K-11	16	16	125	16			
STACR-1616K-16	16	16	125	16	TC..16T3..	MS4011A	ETF15

➡ 搭配刀片 Insert P.445 ➡ 切削條件表 Cutting Condition P.611

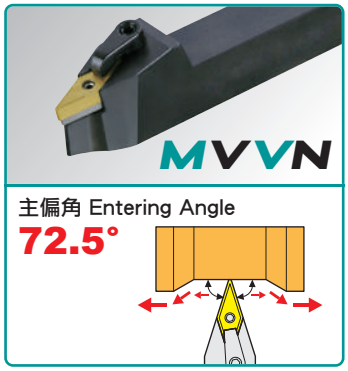
外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

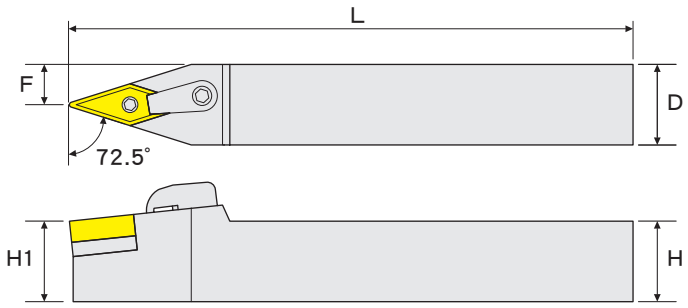


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MVQN$^{R}_{L}$-2020K-16	20	25	125	20	VN..1604..	MLP34L-A	VMS322	PL20	MS625TX	MC622	ETL15
MVQN$^{R}_{L}$-2525M-16	25	32	150	25					MS630TX		
MVQN$^{R}_{L}$-3232P-16	32	40	170	32							

➡ 搭配刀片 Insert P.453 ➡ 切削條件表 Cutting Condition P.612



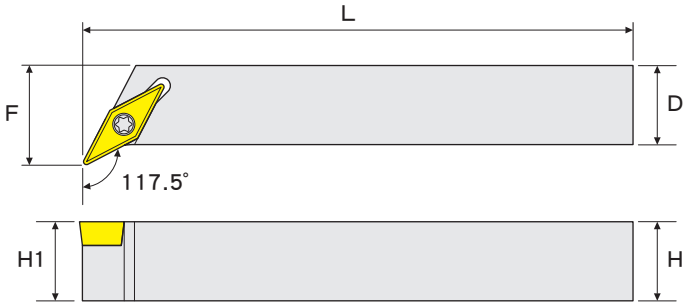


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H1 / H	F	L	D							
MVVNN-1616K-16	16	8.0	125	16	VN..1604..	MLP34L-A	VMS322	PL20	MS625TX	MC622	ETL15
MVVNN-2020K-16	20	10.0	125	20							
MVVNN-2525M-16	25	12.5	150	25					MS630TX		

➡ 搭配刀片 Insert P.453 ➡ 切削條件表 Cutting Condition P.612

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

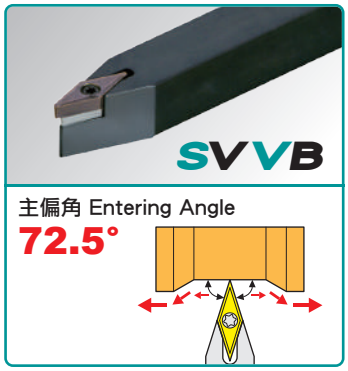


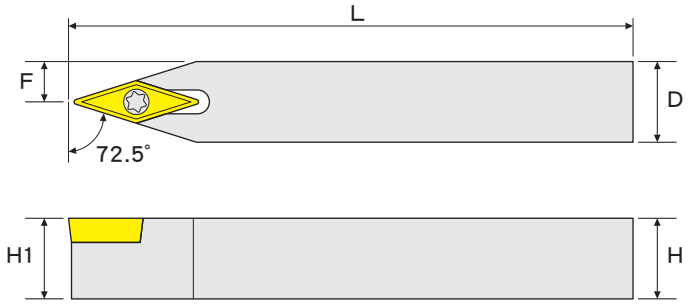
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	配 件 Spare Parts
	H1 / H	F	L	D		
SVQB$^{R}/_{L}$-1212H-11	12	16.5	100	12	VB..1103..	①
SVQB$^{R}/_{L}$-1212K-11	12	16.5	125	12		
SVQB$^{R}/_{L}$-1616K-11	16	20.5	125	16		
SVQB$^{R}/_{L}$-2020K-11	20	25.0	125	20		
SVQB$^{R}/_{L}$-2020K-16	20	25.0	125	20	VB..1604..	②
SVQB$^{R}/_{L}$-2525M-16	25	32.0	150	25		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench	Clamp	Wrench
①	–	–	–	MS2506A	ETF09	–	–
②	VSS322	MDS05035S	PL35	MS3512B	ETF15	–	–

➡ 搭配刀片 Insert P.446 ➡ 切削條件表 Cutting Condition P.611





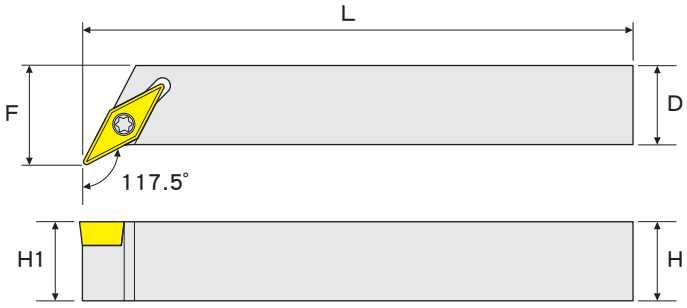
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	配 件 Spare Parts
	H1 / H	F	L	D		
SVVBN-1010H-11	10	5.0	100	10	VB..1103..	①
SVVBN-1212H-11	12	6.0	100	12		
SVVBN-1212K-11	12	6.0	125	12		
SVVBN-1616K-11	16	8.0	125	16		
SVVBN-2020K-11	20	10.0	125	20		
SVVBN-2525M-11	25	12.5	150	25		
SVVBN-1616K-16	16	8.0	125	16	VB..1604..	②
SVVBN-2020K-16	20	10.0	125	20		
SVVBN-2525M-16	25	12.5	150	25		
SVVBN-3232P-16	32	16.0	170	32		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench	Clamp	Wrench
①	–	–	–	MS2506A	ETF09	–	–
②	VSS322	MDS05035S	PL35	MS3512B	ETF15	–	–

➡ 搭配刀片 Insert P.446 ➡ 切削條件表 Cutting Condition P.611

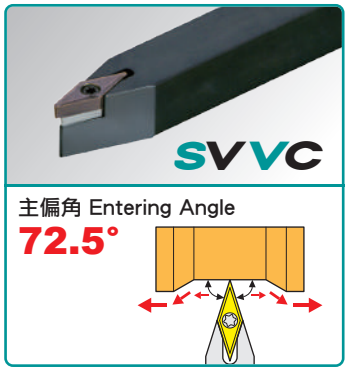
外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS

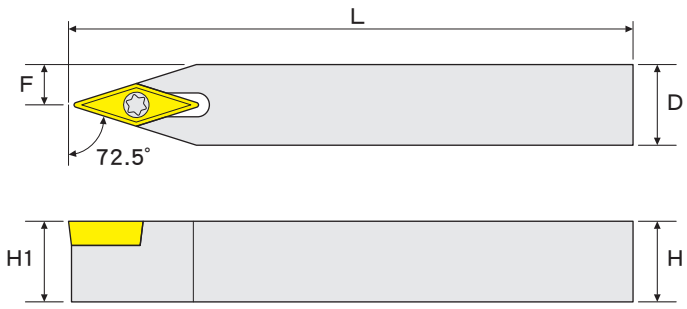


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	配 件 Spare Parts
	H1 / H	F	L	D		
SVQC$^{R}/_{L}$-1212H-11	12	16.5	100	12	VC..1103..	①
SVQC$^{R}/_{L}$-1212K-11	12	16.5	125	12		
SVQC$^{R}/_{L}$-1616K-11	16	20.5	125	16		
SVQC$^{R}/_{L}$-2020K-11	20	25.0	125	20		
SVQC$^{R}/_{L}$-2020K-16	20	25.0	125	20	VC..1604..	②
SVQC$^{R}/_{L}$-2525M-16	25	32.0	150	25		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench	Clamp	Wrench
①	–	–	–	MS2506A	ETF09	–	–
②	VSS322	MDS05035S	PL35	MS3512B	ETF15	–	–





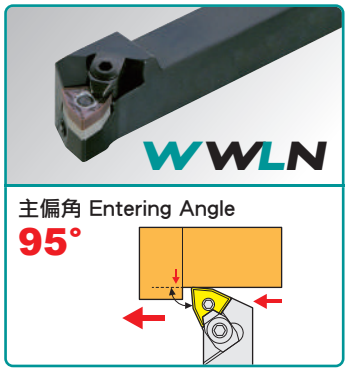
右車刀桿圖示 Right-Hand Shown

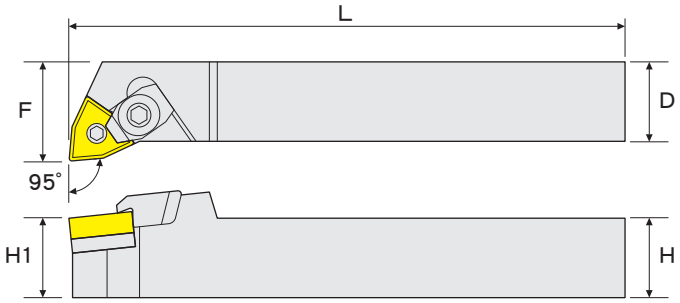
鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	配 件 Spare Parts
	H1 / H	F	L	D		
SVVCN-1010H-11	10	5.0	100	10	VC..1103..	①
SVVCN-1212H-11	12	6.0	100	12		
SVVCN-1212K-11	12	6.0	125	12		
SVVCN-1616K-11	16	8.0	125	16		
SVVCN-2020K-11	20	10.0	125	20		
SVVCN-2525M-11	25	12.5	150	25		
SVVCN-1616K-16	16	8.0	125	16	VC..1604..	②
SVVCN-2020K-16	20	10.0	125	20		
SVVCN-2525M-16	25	12.5	150	25		
SVVCN-3232P-16	32	16.0	170	32		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench	Clamp	Wrench
①	–	–	–	MS2506A	ETF09	–	–
②	VSS322	MDS05035S	PL35	MS3512B	ETF15	–	–

➡ 搭配刀片 Insert P.447, 448
➡ 切削條件表 Cutting Condition P.611

外徑車刀桿
EXTERNAL TURNING TOOLHOLDERS





右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H1 / H	F	L	D							
WWLN$^{R}/_{L}$-1620K-08	16	25	125	20	WN..0804..	MCP4	MCS3S-09	PL30	WNS432	WCW6-P4	PL40
WWLN$^{R}/_{L}$-2020K-08	20	25	125	20							
WWLN$^{R}/_{L}$-2525M-08	25	32	150	25							

➡ 搭配刀片 Insert P.454 ➡ 切削條件表 Cutting Condition P.612

內徑車刀桿系列

Internal Turning Toolholders Series

泛用鋼材≦50HRC

不銹鋼

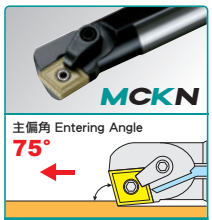
鋁合金 / 銅合金

鑄鐵

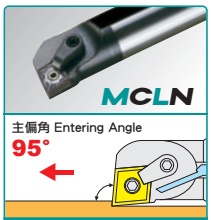
For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表
Product Selection Table

內徑車刀桿 Internal Turning Toolholders

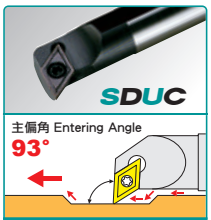


最小車徑 P.483 Φ25~70



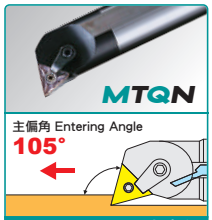
最小車徑 P.483 Φ25~70

最小車徑 P.484 Φ9~50

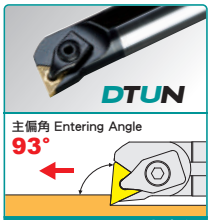


最小車徑 P.485 Φ13~50

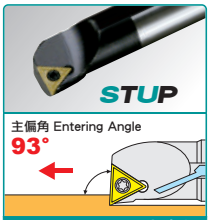
最小車徑 P.486 Φ30~70



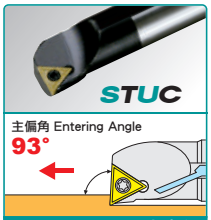
最小車徑 P.486 Φ25~40



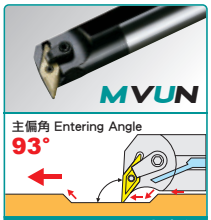
最小車徑 P.487 Φ28~40



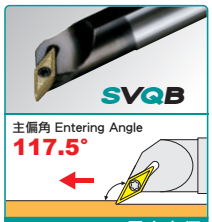
最小車徑 P.488 Φ9~30



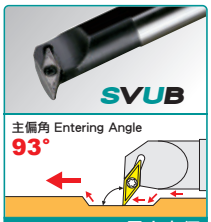
最小車徑 P.490 Φ12~38



最小車徑 P.491 Φ32~60



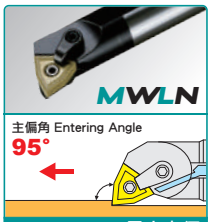
最小車徑 P.491 Φ16~50



最小車徑 P.492 Φ22~50

最小車徑 P.493 Φ16~50

最小車徑 P.494 Φ16~50



最小車徑 P.495 Φ25~70

內徑車刀桿 ISO 編碼規範
ISO Designation For Internal Turning Tools

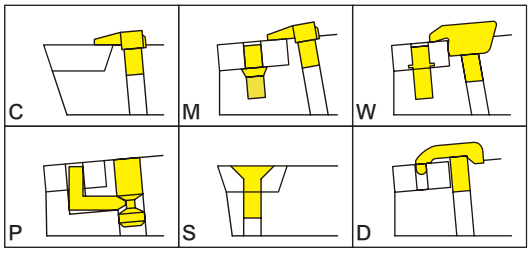
S	20	R	–	M	C	L	N	R	–	12	
11	7	8		1	2	3	4	5		9	10

11 刀桿設計 Shank Design

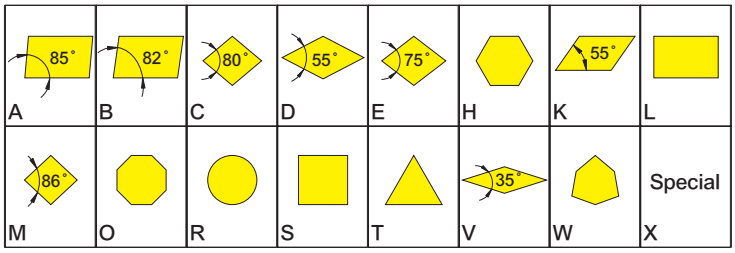
代號 Code	設 計 Design
S	鋼材柄。 Steel Shank.
A	鋼材柄 + 中心出水孔。 Steel Shank + Coolant Hole.
B	抗震鋼材柄。 Steel Shank + Device Anti-Vibration.
C	鎢鋼柄。 Cemented Carbide Shank With Steel Head.
D	抗震鋼材柄 + 中心出水孔。 Steel Shank + Device Anti-Vibration + Coolant Hole.
E	鎢鋼柄 + 中心出水孔。 Cemented Carbide Shank With Steel Head + Coolant Hole.
F	抗震鎢鋼柄。 Cemented Carbide Shank With Steel Head + Device Anti-Vibration.
G	抗震鎢鋼柄 + 中心出水孔。 Cemented Carbide Shank With Steel Head + Device Anti-Vibration + Coolant Hole.
H	重金屬。 Heavy Metal Shank.
J	重金屬 + 中心出水孔。 Heavy Metal Shank + Coolant Hole.

內徑車刀桿 ISO 編碼規範
ISO Designation For Internal Turning Tools

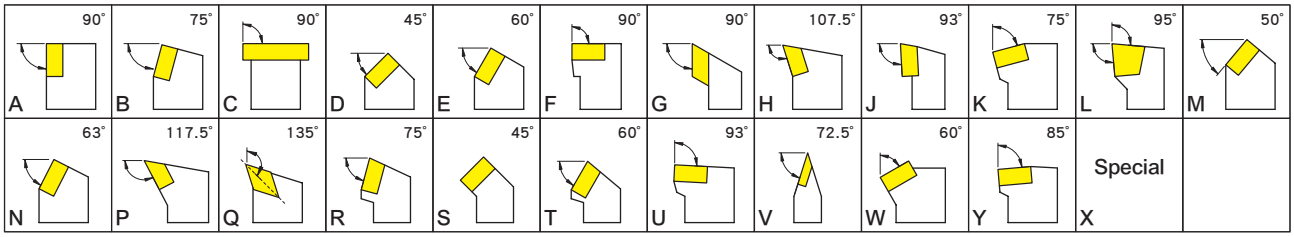
1 刀片夾持方式 Type Of Locking



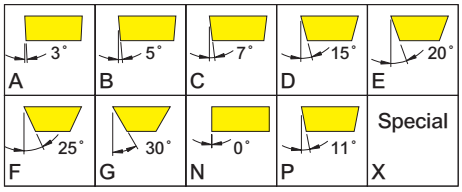
2 刀片形狀 Insert Shape



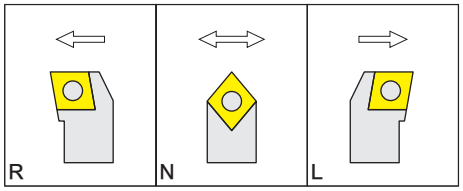
3 主偏角 Entering Angle



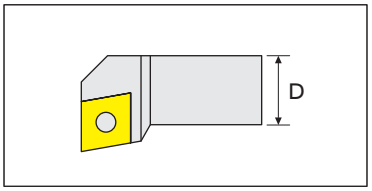
4 刀片離隙角 Clearance Angle



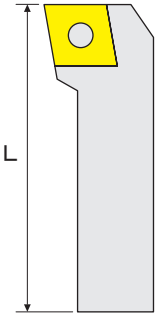
5 切削方向 Cutting Direction



7 刀桿寬度 Shank Width

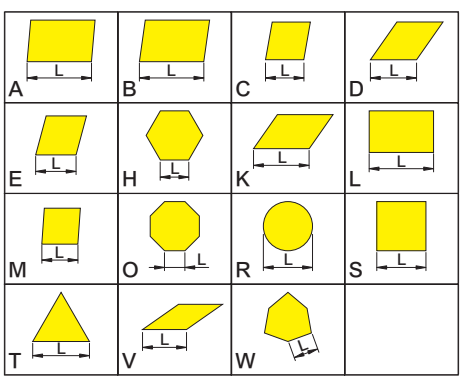


8 刀桿全長 Shank Length



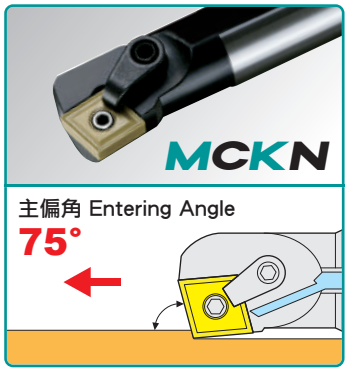
代號 Code	尺寸 (mm)
A	32
B	40
C	50
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special

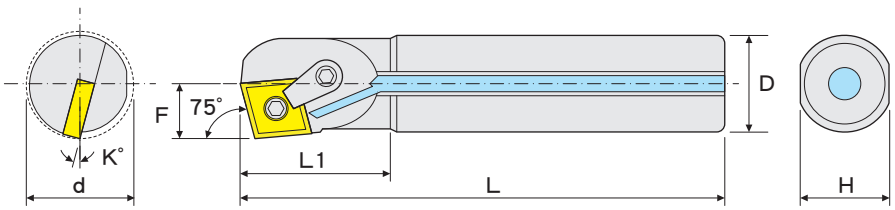
9 刀片邊長 Insert Length



10 特殊記號 Optional Code

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS



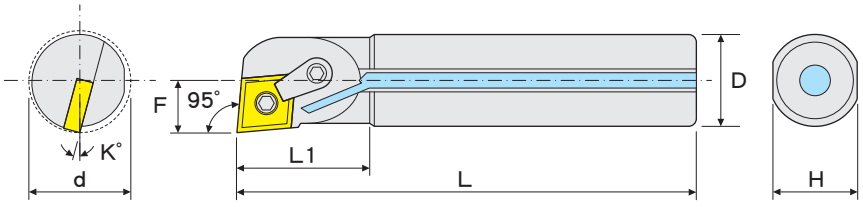


d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S20R-MCKN$^{R}_{L}$-12	A20R-MCKN$^{R}_{L}$-12	13.0	40	18	200	20	15°	25	CN..1204..	①
S25R-MCKN$^{R}_{L}$-12	A25R-MCKN$^{R}_{L}$-12	15.5	40	23	200	25	13°	30		
S32S-MCKN$^{R}_{L}$-12	A32S-MCKN$^{R}_{L}$-12	19.5	48	30	250	32	13°	40		②
S40T-MCKN$^{R}_{L}$-12	A40T-MCKN$^{R}_{L}$-12	25.5	55	37	300	40	12°	50		
S50U-MCKN$^{R}_{L}$-12	A50U-MCKNR-12	30.5	60	47	350	50	10°	60		
S60V-MCKN$^{R}_{L}$-12	–	35.5	60	57	400	60	9°	70		

配 件 Spare Parts	Shim	Pin	Wrench	Clamp	Screw	Wrench
①	–	MLP44-A	PL25	MC620	MS620TX	ETL15
②	CMS432	MLP46-A	PL25	MC620	MS625TX	ETL15

➡ 搭配刀片 Insert P.449 ➡ 切削條件表 Cutting Condition P.612



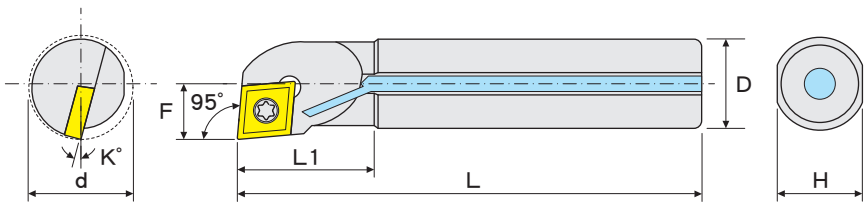
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S20R-MCLN$^{R}_{L}$-12	A20R-MCLN$^{R}_{L}$-12	13.0	40	18	200	20	15°	25	CN..1204..	①
S25R-MCLN$^{R}_{L}$-12	A25R-MCLN$^{R}_{L}$-12	15.5	40	23	200	25	13°	30		
S32S-MCLN$^{R}_{L}$-12	A32S-MCLN$^{R}_{L}$-12	19.5	48	30	250	32	13°	40		②
S40T-MCLN$^{R}_{L}$-12	A40T-MCLN$^{R}_{L}$-12	25.5	55	37	300	40	12°	50		
S50U-MCLN$^{R}_{L}$-12	–	30.5	60	47	350	50	10°	60		
S60V-MCLN$^{R}_{L}$-12	A60V-MCLN$^{R}_{L}$-12	35.5	60	57	400	60	9°	70		

配 件 Spare Parts	Shim	Pin	Wrench	Clamp	Screw	Wrench
①	–	MLP44-A	PL25	MC620	MS620TX	ETL15
②	CMS432	MLP46-A	PL25	MC620	MS625TX	ETL15

➡ 搭配刀片 Insert P.449 ➡ 切削條件表 Cutting Condition P.612

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS



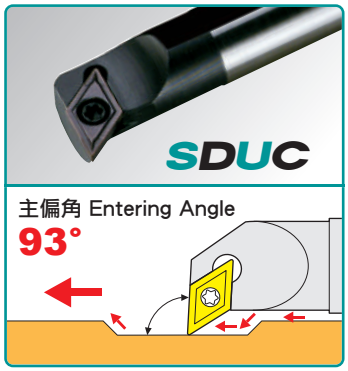
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

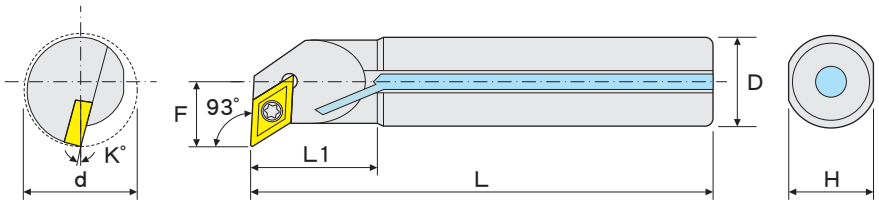
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S08K-SCLC$^{R}_{L}$-06	A08K-SCLC$^{R}_{L}$-06	5.0	20	7	125	8	15°	10	CC..0602..	①
S08K-SCLC$^{R}_{L}$-06-D09	A08K-SCLC$^{R}_{L}$-06-D09	4.5	20	7	125	8	15°	9		
S10K-SCLC$^{R}_{L}$-06	A10K-SCLC$^{R}_{L}$-06	6.0	22	9	125	10	13°	12		
S10K-SCLC$^{R}_{L}$-06-D11	A10K-SCLC$^{R}_{L}$-06-D11	5.5	22	9	125	10	13°	11		
S12M-SCLC$^{R}_{L}$-06	A12M-SCLC$^{R}_{L}$-06	8.0	26	11	150	12	10°	16		
S12M-SCLC$^{R}_{L}$-06-D13	A12M-SCLC$^{R}_{L}$-06-D13	6.5	26	11	150	12	10°	13		
S14Q-SCLC$^{R}_{L}$-06	A14Q-SCLC$^{R}_{L}$-06	8.0	26	13	180	14	10°	16		
S16Q-SCLC$^{R}_{L}$-06	A16Q-SCLC$^{R}_{L}$-06	10.0	32	15	180	16	7°	20		
S12M-SCLC$^{R}_{L}$-09	A12M-SCLC$^{R}_{L}$-09	8.0	26	11	150	12	10°	16	CC..09T3..	②
S14Q-SCLC$^{R}_{L}$-09	A14Q-SCLC$^{R}_{L}$-09	8.0	26	13	180	14	10°	16		
S15Q-SCLC$^{R}_{L}$-09	A15Q-SCLC$^{R}_{L}$-09	8.5	32	14	180	15	10°	17		
S16Q-SCLC$^{R}_{L}$-09	A16Q-SCLC$^{R}_{L}$-09	10.0	32	15	180	16	7°	20		
S16Q-SCLC$^{R}_{L}$-09-D18	A16Q-SCLC$^{R}_{L}$-09-D18	9.0	32	15	180	16	7°	18		
S18Q-SCLC$^{R}_{L}$-09	A18Q-SCLC$^{R}_{L}$-09	10.0	32	17	180	18	7°	20		
S20R-SCLC$^{R}_{L}$-09	A20R-SCLC$^{R}_{L}$-09	13.0	40	18	200	20	5°	25		③
S22R-SCLC$^{R}_{L}$-09	—	13.0	40	20	200	22	5°	25		
S25R-SCLC$^{R}_{L}$-09	A25R-SCLC$^{R}_{L}$-09	15.0	40	23	200	25	5°	30		④
S32S-SCLC$^{R}_{L}$-09	A32S-SCLC$^{R}_{L}$-09	19.5	48	30	250	32	5°	38		
S32S-SCLC$^{R}_{L}$-12	A32S-SCLC$^{R}_{L}$-12	20.0	48	30	250	32	5°	38	CC..1204..	⑤
S40T-SCLC$^{R}_{L}$-12	A40T-SCLC$^{R}_{L}$-12	26.0	55	37	300	40	3°	50		
S40V-SCLC$^{R}_{L}$-12	A40V-SCLC$^{R}_{L}$-12	26.0	55	37	400	40	3°	50		

配 件 Spare Parts	Screw	Wrench
①	MS2506A	ETF09
②	MS4008A	ETF15
③	MS4009A	ETF15
④	MS4011A	ETF15
⑤	MS5011A	ETF20

➡ 搭配刀片 Insert P.440, 441 ➡ 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

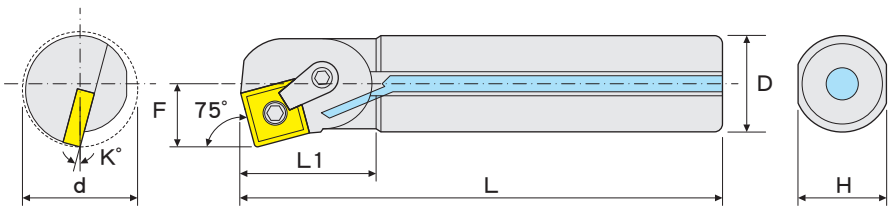
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S10K-SDUC$^{R}/_{L}$-07	A10K-SDUC$^{R}/_{L}$-07	7.0	25	9	125	10	13°	13	DC..0702..	①
S12M-SDUC$^{R}/_{L}$-07	A12M-SDUC$^{R}/_{L}$-07	8.5	30	11	150	12	10°	16		
S16Q-SDUC$^{R}/_{L}$-07	A16Q-SDUC$^{R}/_{L}$-07	11.0	30	15	180	16	7°	20		
S20R-SDUC$^{R}/_{L}$-07	A20R-SDUC$^{R}/_{L}$-07	12.5	40	18	200	20	7°	25		
S16Q-SDUC$^{R}/_{L}$-11	A16Q-SDUC$^{R}/_{L}$-11	11.0	30	15	180	16	7°	20	DC..11T3..	②
S20R-SDUC$^{R}/_{L}$-11	A20R-SDUC$^{R}/_{L}$-11	13.0	40	18	200	20	7°	25		
S25R-SDUC$^{R}/_{L}$-11	A25R-SDUC$^{R}/_{L}$-11	16.0	45	23	200	25	5°	32		
S25S-SDUC$^{R}/_{L}$-11	–	16.0	45	23	250	25	5°	32		
S32S-SDUC$^{R}/_{L}$-11	A32S-SDUC$^{R}/_{L}$-11	20.0	48	30	250	32	5°	40		
S40T-SDUC$^{R}/_{L}$-11	A40T-SDUC$^{R}/_{L}$-11	26.0	55	37	300	40	3°	50		

鎢鋼柄訂購編號 Order No. (Carbide Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
C10K-SDUC$^{R}/_{L}$-07	E10K-SDUC$^{R}/_{L}$-07	7.0	25	9.2	125	10	13°	13	DC..0702..	①
C10M-SDUCR-07	E10M-SDUCR-07	7.0	25	9.2	150	10	13°	13		
C12M-SDUC$^{R}/_{L}$-07	E12M-SDUC$^{R}/_{L}$-07	8.5	30	11.2	150	12	10°	16		
C12Q-SDUCR-07	E12Q-SDUCR-07	8.5	30	11.2	180	12	10°	16		
C16R-SDUCR-07	E16R-SDUCR-07	11.0	30	15.2	200	16	7°	20		
C16R-SDUC$^{R}/_{L}$-11	E16R-SDUC$^{R}/_{L}$-11	11.0	30	15.2	200	16	7°	20	DC..11T3..	②
C20R-SDUC$^{R}/_{L}$-11	E20R-SDUC$^{R}/_{L}$-11	13.0	40	19.2	200	20	7°	25		
C25S-SDUCR-11	E25S-SDUCR-11	16.0	45	24.2	250	25	5°	32		

配 件 Spare Parts	Screw	Wrench
①	MS2506B	ETF09
②	MS4009A	ETF15

➡ 搭配刀片 Insert P.442, 443 ➡ 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS

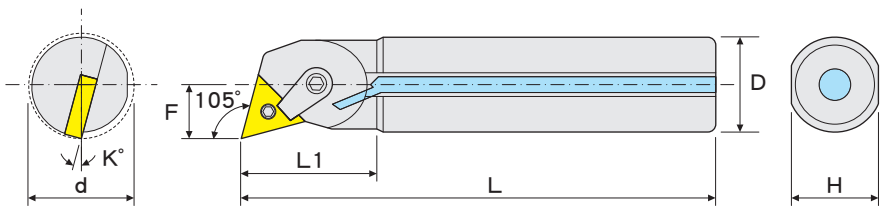


d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S25R-MSKN$^{R}_{L}$-12	A25R-MSKN$^{R}_{L}$-12	15.0	40	23	200	25	13°	30	SN..1204..	①
S32S-MSKN$^{R}_{L}$-12	A32S-MSKN$^{R}_{L}$-12	19.5	48	30	250	32	13°	40		②
S40T-MSKN$^{R}_{L}$-12	–	25.5	55	37	300	40	12°	50		
S50U-MSKN$^{R}_{L}$-12	–	30.5	60	47	350	50	10°	60		
S60V-MSKN$^{R}_{L}$-12	–	36.0	60	57	400	60	9°	70		

配 件 Spare Parts	Shim	Pin	Wrench	Clamp	Screw	Wrench
①	–	MLP44-A	PL25	MC620	MS620TX	ETL15
②	SMS432	MLP46-A	PL25	MC620	MS625TX	ETL15

搭配刀片 Insert P.450 切削條件表 Cutting Condition P.612



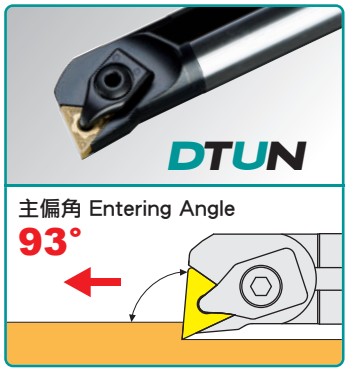
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

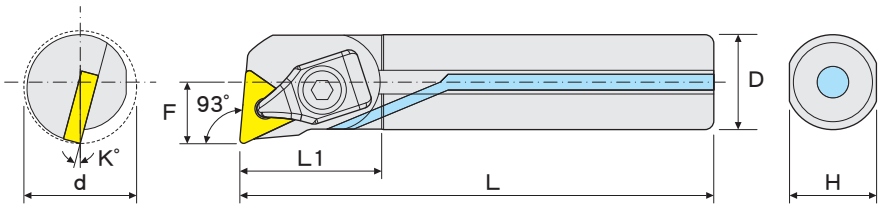
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S20R-MTQN$^{R}_{L}$-16	A20R-MTQN$^{R}_{L}$-16	13	40	18	200	20	15°	25	TN..1604..	①
S25R-MTQN$^{R}_{L}$-16	A25R-MTQN$^{R}_{L}$-16	15	40	23	200	25	13°	30		
S32S-MTQN$^{R}_{L}$-16	A32S-MTQN$^{R}_{L}$-16	20	48	30	250	32	13°	40		②

配 件 Spare Parts	Shim	Pin	Wrench	Clamp	Screw	Wrench
①	–	MLP33L-A	PL20	MC515	MS520TX	ETL10
②	TWS322	MLP34L-A	PL20	MC620	MS625TX	ETL15

搭配刀片 Insert P.451, 452 切削條件表 Cutting Condition P.612

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





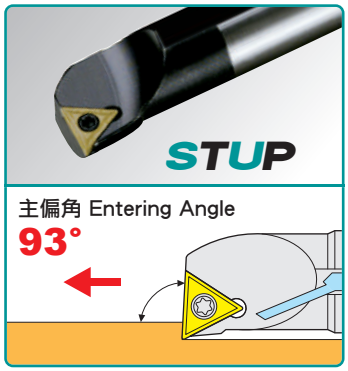
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

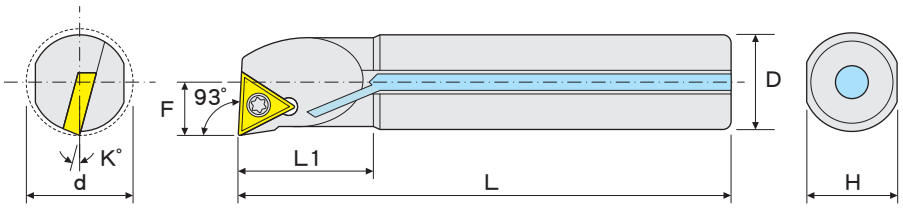
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S20R-DTUN$^{R}/_{L}$-16	A20R-DTUN$^{R}/_{L}$-16	14.0	40	18	200	20	15°	28	TN..1604..	①
S25R-DTUN$^{R}/_{L}$-16	A25R-DTUN$^{R}/_{L}$-16	15.5	40	23	200	25	13°	30		
S25S-DTUN$^{R}/_{L}$-16	–	15.5	40	23	250	25	13°	30		
S32S-DTUN$^{R}/_{L}$-16	A32S-DTUN$^{R}/_{L}$-16	19.5	48	30	250	32	13°	40		②

配 件 Spare Parts	Shim	Screw	Wrench	Clamp	Wrench
①	–	–	–	MCD324	ETL20
②	TWS322	MS4008H	PL25	MCD324B	PL40

➡ 搭配刀片 Insert P.451, 452 ➡ 切削條件表 Cutting Condition P.612

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





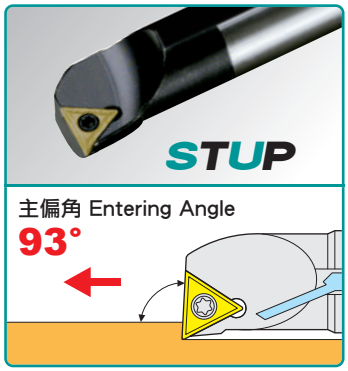
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

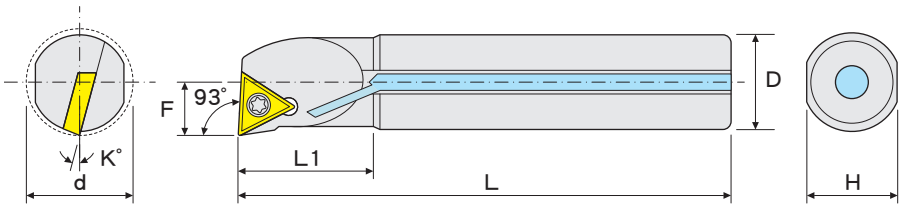
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S08K-STUP$^{R}/_{L}$-08	A08K-STUP$^{R}/_{L}$-08	5.5	20	7	125	8	10°	10	TP..0802..	①
S08K-STUP$^{R}/_{L}$-08-D09	A08K-STUP$^{R}/_{L}$-08-D09	4.5	20	7	125	8	10°	9		
S10K-STUP$^{R}/_{L}$-08	A10K-STUP$^{R}/_{L}$-08	6.0	22	9	125	10	8°	12		②
S10K-STUP$^{R}/_{L}$-08-D11	A10K-STUP$^{R}/_{L}$-08-D11	5.5	22	9	125	10	8°	11		
S12M-STUP$^{R}/_{L}$-08		8.0	26	11	150	12	8°	16		
S16Q-STUP$^{R}/_{L}$-08-D18		9.0	32	15	180	16	7°	18		
S10K-STUP$^{R}/_{L}$-11	A10K-STUP$^{R}/_{L}$-11	6.0	22	9	125	10	8°	12	TP..1103..	③
S12M-STUP$^{R}/_{L}$-11	A12M-STUP$^{R}/_{L}$-11	8.0	26	11	150	12	8°	16		
S12M-STUP$^{R}/_{L}$-11-D13	A12M-STUP$^{R}/_{L}$-11-D13	6.5	26	11	150	12	8°	13		
S14Q-STUP$^{R}/_{L}$-11	A14Q-STUP$^{R}/_{L}$-11	8.0	26	13	180	14	7°	16		
S15Q-STUP$^{R}/_{L}$-11	A15Q-STUP$^{R}/_{L}$-11	8.5	32	14	180	15	7°	17		
S16Q-STUP$^{R}/_{L}$-11	A16Q-STUP$^{R}/_{L}$-11	10.0	32	15	180	16	7°	20		
S16Q-STUP$^{R}/_{L}$-11-D18	A16Q-STUP$^{R}/_{L}$-11-D18	9.0	32	15	180	16	7°	18		
S18Q-STUP$^{R}/_{L}$-11	A18Q-STUP$^{R}/_{L}$-11	10.0	32	17	180	18	7°	20		
S20R-STUP$^{R}/_{L}$-11	A20R-STUP$^{R}/_{L}$-11	13.0	40	18	200	20	7°	25		
S22R-STUPR-11		13.0	40	20	200	22	5°	25		
S23R-STUPR-11		13.0	40	21	200	23	5°	26		
S25R-STUP$^{R}/_{L}$-11	A25R-STUP$^{R}/_{L}$-11	15.0	40	23	200	25	0°	30		

配 件 Spare Parts	Screw	Wrench
①	MS2205A	ETF07
②	MS2206A	ETF07
③	MS3008A	ETF09

→ 搭配刀片 Insert P.452 → 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





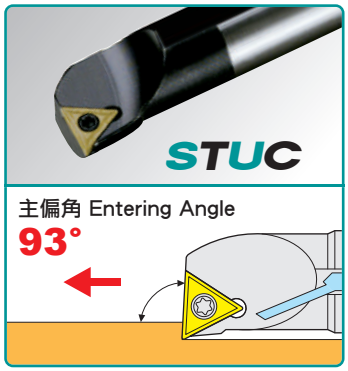
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

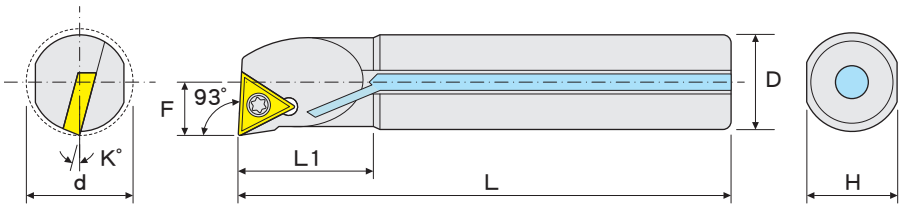
鎢鋼柄訂購編號 Order No. (Carbide Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
C08K-STUP$^{R}/_{L}$-08	E08K-STUPR-08	5.5	20	7.2	125	8	10°	10	TP..0802..	①
C08K-STUPR-08-D09	E08K-STUPR-08-D09	4.5	20	7.2	125	8	10°	9		
C10K-STUPR-08	E10K-STUPR-08	6.0	22	9.2	125	10	8°	12		②
C10K-STUPR-08-D11		5.5	22	9.2	125	10	8°	11		
C12M-STUPR-08		8.0	26	11.2	150	12	8°	16		
C10K-STUP$^{R}/_{L}$-11	E10K-STUP$^{R}/_{L}$-11	6.0	22	9.2	125	10	8°	12	TP..1103..	③
C10M-STUPR-11	E10M-STUPR-11	6.0	22	9.2	150	10	8°	12		
C12M-STUP$^{R}/_{L}$-11	E12M-STUPR-11	8.0	26	11.2	150	12	8°	16		
C12M-STUPR-11-D13	E12M-STUPR-11-D13	6.5	26	11.2	150	12	8°	13		
C12Q-STUPR-11	E12Q-STUPR-11	8.0	26	11.2	180	12	8°	16		
C12Q-STUPR-11-D13	E12Q-STUPR-11-D13	6.5	26	11.2	180	12	8°	13		
C14R-STUPR-11	E14R-STUPR-11	8.0	26	13.2	200	14	7°	16		
C16R-STUP$^{R}/_{L}$-11	E16R-STUPR-11	10.0	32	15.2	200	16	7°	20		
C16R-STUPR-11-D18	E16R-STUPR-11-D18	9.0	32	15.2	200	16	7°	18		
C20R-STUPR-11	E20R-STUPR-11	13.0	40	19.2	200	20	7°	25		
C25S-STUPR-11		15.0	40	24.2	250	25	0°	30		

配 件 Spare Parts	Screw	Wrench
①	MS2205A	ETF07
②	MS2206A	ETF07
③	MS3008A	ETF09

→ 搭配刀片 Insert P.452 → 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

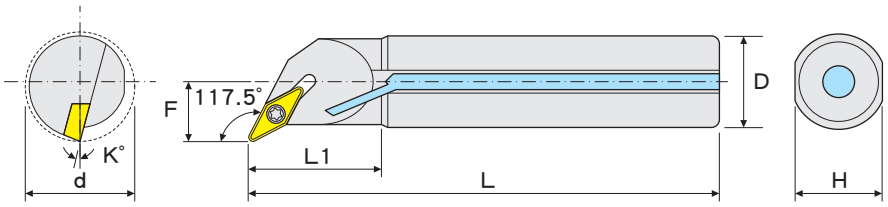
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S10K-STUC$^{R}/_{L}$-11	A10K-STUC$^{R}/_{L}$-11	6.0	22	9	125	10	13°	12	TC..1102..	①
S12M-STUC$^{R}/_{L}$-11	A12M-STUC$^{R}/_{L}$-11	8.0	26	11	150	12	10°	16		
S12M-STUC$^{R}/_{L}$-11-D13	A12M-STUC$^{R}/_{L}$-11-D13	6.5	26	11	150	12	10°	13		
S16Q-STUC$^{R}/_{L}$-11	A16Q-STUC$^{R}/_{L}$-11	10.0	32	15	180	16	7°	20		
S16Q-STUC$^{R}/_{L}$-11-D18	A16Q-STUC$^{R}/_{L}$-11-D18	9.0	32	15	180	16	7°	18		
S20R-STUC$^{R}/_{L}$-16	A20R-STUC$^{R}/_{L}$-16	13.0	40	18	200	20	7°	25	TC..16T3..	②
S25R-STUC$^{R}/_{L}$-16	A25R-STUC$^{R}/_{L}$-16	15.0	40	23	200	25	5°	30		
S32S-STUC$^{R}/_{L}$-16	A32S-STUC$^{R}/_{L}$-16	20.0	48	30	250	32	5°	38		
S32T-STUC$^{R}/_{L}$-16	A32T-STUC$^{R}/_{L}$-16	20.0	48	30	300	32	5°	38		

鎢鋼柄訂購編號 Order No. (Carbide Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
C10K-STUCR-11	E10K-STUCR-11	6.0	22	9.2	125	10	13°	12	TC..1102..	②
C10M-STUCR-11	E10M-STUCR-11	6.0	22	9.2	150	10	13°	12		
C12M-STUC$^{R}/_{L}$-11	E12M-STUCR-11	8.0	26	11.2	150	12	10°	16		
C12M-STUCR-11-D13		6.5	26	11.2	150	12	10°	13		
C12Q-STUC$^{R}/_{L}$-11	E12Q-STUCR-11	8.0	26	11.2	180	12	10°	16		
C12Q-STUCR-11-D13		6.5	26	11.2	180	12	10°	13		
C16R-STUCR-11	E16R-STUCR-11	10.0	32	15.2	200	16	7°	20		
C16R-STUCR-11-D18		9.0	32	15.2	200	16	7°	18		

配 件 Spare Parts	Screw	Wrench
①	MS2506A	ETF09
②	MS4011A	ETF15

→ 搭配刀片 Insert P.445 → 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS

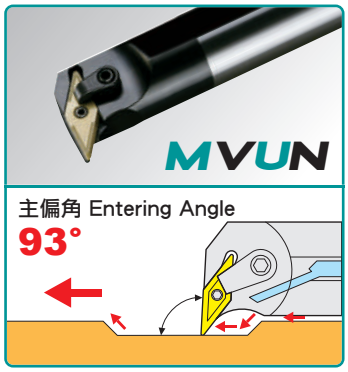


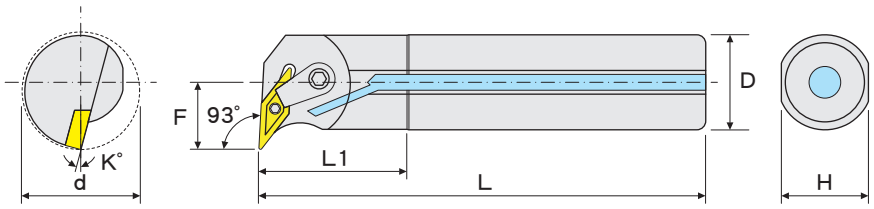
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S12M-SVQB$^{R}_{L}$-11	A12M-SVQB$^{R}_{L}$-11	9.0	28	11	150	12	10°	16	VB..1103..	①
S16Q-SVQB$^{R}_{L}$-11	A16Q-SVQB$^{R}_{L}$-11	11.0	35	15	180	16	7°	20		
S20R-SVQB$^{R}_{L}$-11	A20R-SVQB$^{R}_{L}$-11	13.0	40	18	200	20	7°	25		
S20R-SVQB$^{R}_{L}$-16	A20R-SVQB$^{R}_{L}$-16	13.5	40	18	200	20	5°	27	VB..1604..	②
S25R-SVQB$^{R}_{L}$-16	A25R-SVQB$^{R}_{L}$-16	16.0	45	23	200	25	5°	32		
S25S-SVQB$^{R}_{L}$-16	A25S-SVQB$^{R}_{L}$-16	16.0	45	23	250	25	5°	32		
S32S-SVQB$^{R}_{L}$-16	A32S-SVQB$^{R}_{L}$-16	20.0	48	30	250	32	5°	40		③
S32V-SVQB$^{R}_{L}$-16	–	20.0	48	30	400	32	5°	40		
S40T-SVQB$^{R}_{L}$-16	–	25.5	60	37	300	40	5°	50		
S40V-SVQB$^{R}_{L}$-16	–	25.5	60	37	400	40	5°	50		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench
①	–	–	–	MS2506A	ETF09
②	–	–	–	MS3509B	ETF15
③	VSS322	MDS05035S	PL35	MS3512B	ETF15

➡ 搭配刀片 Insert P.446 ➡ 切削條件表 Cutting Condition P.611





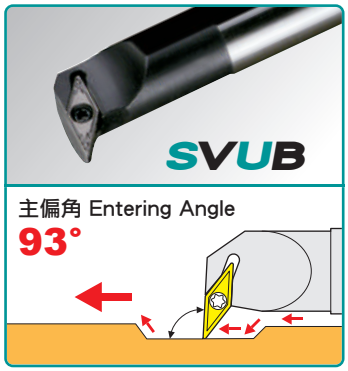
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

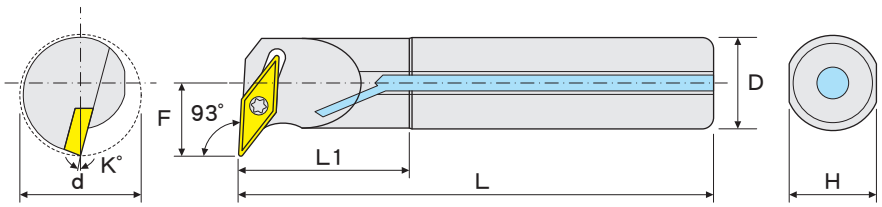
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S25R-MVUN$^{R}_{L}$-16	A25R-MVUN$^{R}_{L}$-16	18	45	23	200	25	13°	32	VN..1604..	①
S32S-MVUN$^{R}_{L}$-16	A32S-MVUN$^{R}_{L}$-16	21	50	30	250	32	13°	40		②
S40T-MVUN$^{R}_{L}$-16	A40T-MVUN$^{R}_{L}$-16	26	55	37	300	40	10°	50		
S50U-MVUN$^{R}_{L}$-16	A50U-MVUN$^{R}_{L}$-16	32	60	47	350	50	9°	60		

配 件 Spare Parts	Shim	Pin	Wrench	Clamp	Screw	Wrench
①	–	MLP33L-A	PL20	MC515	MS520TX	ETL10
②	VMS322	MLP34L-A	PL20	MC620	MS625TX	ETL15

➡ 搭配刀片 Insert P.453 ➡ 切削條件表 Cutting Condition P.612

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





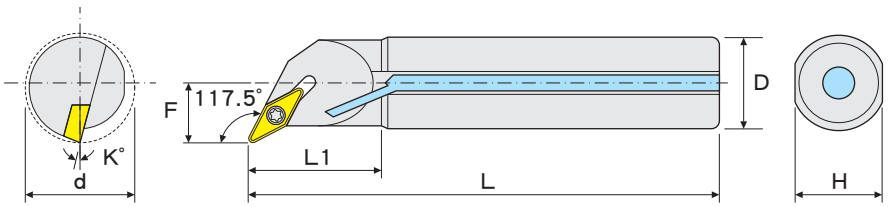
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S16Q-SVUB$^{R}_{L}$-11	A16Q-SVUB$^{R}_{L}$-11	13	30	15	180	16	7°	22	VB..1103..	①
S20R-SVUB$^{R}_{L}$-11	A20R-SVUB$^{R}_{L}$-11	15	40	18	200	20	7°	27		
S25R-SVUB$^{R}_{L}$-16	A25R-SVUB$^{R}_{L}$-16	18	45	23	200	25	5°	32	VB..1604..	②
S25S-SVUB$^{R}_{L}$-16	A25S-SVUB$^{R}_{L}$-16	18	45	23	250	25	5°	32		
S32S-SVUB$^{R}_{L}$-16	A32S-SVUB$^{R}_{L}$-16	22	50	30	250	32	5°	40		③
S40T-SVUB$^{R}_{L}$-16	A40T-SVUB$^{R}_{L}$-16	27	55	37	300	40	5°	50		
S40U-SVUB$^{R}_{L}$-16	–	27	55	37	350	40	5°	50		
S40V-SVUB$^{R}_{L}$-16	–	27	55	37	400	40	5°	50		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench
①	–	–	–	MS2506A	ETF09
②	–	–	–	MS3509B	ETF15
③	VSS322	MDS05035S	PL35	MS3512B	ETF15
④	–	–	–	MS2005A	ETF06

➡ 搭配刀片 Insert P.446 ➡ 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS



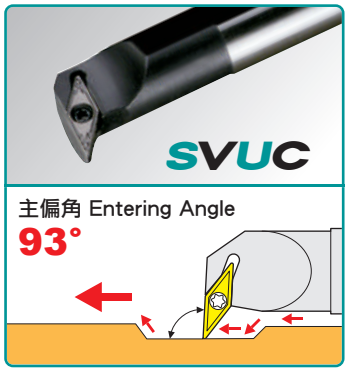
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

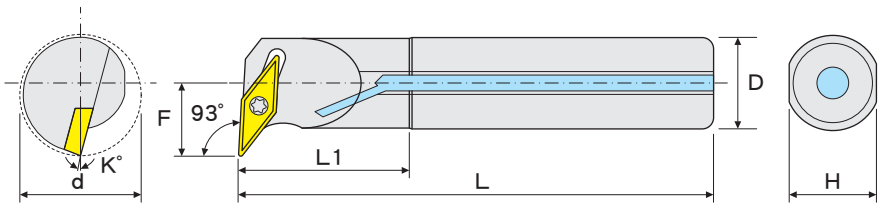
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S12M-SVQC$^{R}_{L}$-11	A12M-SVQC$^{R}_{L}$-11	9.0	28	11	150	12	10°	16	VC..1103..	①
S16Q-SVQC$^{R}_{L}$-11	A16Q-SVQC$^{R}_{L}$-11	11.0	35	15	180	16	7°	20		
S20R-SVQC$^{R}_{L}$-11	A20R-SVQC$^{R}_{L}$-11	13.0	40	18	200	20	7°	25		
S20R-SVQC$^{R}_{L}$-16	A20R-SVQC$^{R}_{L}$-16	13.5	40	18	200	20	5°	27	VC..1604..	②
S25R-SVQC$^{R}_{L}$-16	A25R-SVQC$^{R}_{L}$-16	16.0	45	23	200	25	5°	32		
S25S-SVQC$^{R}_{L}$-16	A25S-SVQC$^{R}_{L}$-16	16.0	45	23	250	25	5°	32		
S32S-SVQC$^{R}_{L}$-16	A32S-SVQC$^{R}_{L}$-16	20.0	48	30	250	32	5°	40		③
S40T-SVQC$^{R}_{L}$-16	–	25.5	60	37	300	40	5°	50		
S40V-SVQC$^{R}_{L}$-16	–	25.5	60	37	400	40	5°	50		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench
①	–	–	–	MS2506A	ETF09
②	–	–	–	MS3509B	ETF15
③	VSS322	MDS05035S	PL35	MS3512B	ETF15

➡ 搭配刀片 Insert P.447, 448 ➡ 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





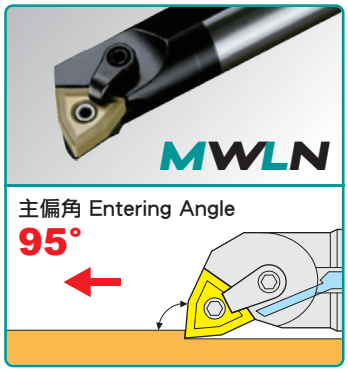
d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

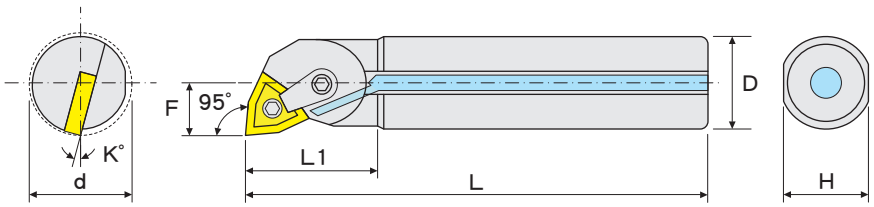
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S12M-SVUC$^{R}_{L}$-08	A12M-SVUC$^{R}_{L}$-08	9.5	26	11	150	12	10°	16	VC..0802..	④
S16Q-SVUC$^{R}_{L}$-11	A16Q-SVUC$^{R}_{L}$-11	13.0	30	15	180	16	7°	22	VC..1103..	①
S20R-SVUC$^{R}_{L}$-11	A20R-SVUC$^{R}_{L}$-11	15.0	40	18	200	20	7°	27		
S25R-SVUC$^{R}_{L}$-16	A25R-SVUC$^{R}_{L}$-16	18.0	45	23	200	25	5°	32	VC..1604..	②
S25S-SVUC$^{R}_{L}$-16	A25S-SVUC$^{R}_{L}$-16	18.0	45	23	250	25	5°	32		
S32S-SVUC$^{R}_{L}$-16	A32S-SVUC$^{R}_{L}$-16	22.0	50	30	250	32	5°	40		③
S40T-SVUC$^{R}_{L}$-16	A40T-SVUC$^{R}_{L}$-16	27.0	55	37	300	40	5°	50		
S40U-SVUC$^{R}_{L}$-16	A40U-SVUC$^{R}_{L}$-16	27.0	55	37	350	40	5°	50		
S40V-SVUC$^{R}_{L}$-16	A40V-SVUC$^{R}_{L}$-16	27.0	55	37	400	40	5°	50		

配 件 Spare Parts	Shim	Screw	Wrench	Screw	Wrench
①	–	–	–	MS2506A	ETF09
②	–	–	–	MS3509B	ETF15
③	VSS322	MDS05035S	PL35	MS3512B	ETF15
④	–	–	–	MS2005A	ETF06

➡ 搭配刀片 Insert P.447, 448 ➡ 切削條件表 Cutting Condition P.611

內徑車刀桿
INTERNAL TURNING TOOLHOLDERS





d = 最小車徑 d = Min. Bore Dia. / 右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)						最小車徑 d	搭配刀片 Insert	配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	H	L	D	K			
S20R-MWLN$^{R}/_{L}$-08	A20R-MWLN$^{R}/_{L}$-08	13.0	40	18	200	20	15°	25	WN..0804..	①
S25R-MWLN$^{R}/_{L}$-08	A25R-MWLN$^{R}/_{L}$-08	15.0	40	23	200	25	13°	30		
S32S-MWLN$^{R}/_{L}$-08	A32S-MWLN$^{R}/_{L}$-08	20.0	48	30	250	32	13°	40		②
S40T-MWLN$^{R}/_{L}$-08	A40T-MWLN$^{R}/_{L}$-08	25.5	55	37	300	40	10°	50		③
S50U-MWLN$^{R}/_{L}$-08	–	30.5	60	47	350	50	9°	60		
S50V-MWLN$^{R}/_{L}$-08	A50V-MWLN$^{R}/_{L}$-08	30.5	60	47	400	50	9°	60		
S60V-MWLN$^{R}/_{L}$-08	–	35.5	60	57	400	60	8°	70		

配 件 Spare Parts	Shim	Pin	Wrench	Clamp	Screw	Wrench
①	–	MLP44-A	PL25	MC515	MS520TX	ETL10
②	WMS432	MLP46-A	PL25	MC515	MS520TX	ETL10
③	WMS432	MLP46-A	PL25	MC620	MS625TX	ETL15

→ 搭配刀片 Insert P.454 → 切削條件表 Cutting Condition P.612

MEMO

切槽切斷車刀桿系列

Grooving Parting Toolholders Series

泛用鋼材≦50HRC | 不銹鋼

鋁合金 / 銅合金 | 鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表
Product Selection Table

鎢鋼切槽切斷車刀片 Carbide Grooving & Parting Inserts

切槽寬度
P.501 2~4W

切槽寬度
P.502 2~3W

切槽寬度
P.503 2.2~4.1W

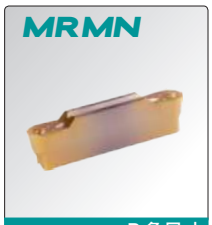
鎢鋼切槽車刀片 Carbide Grooving Inserts

切槽寬度
P.504 0.33~2.5W

切槽寬度
P.506 0.5~2.25W

切槽寬度
P.507 0.5~2.25W

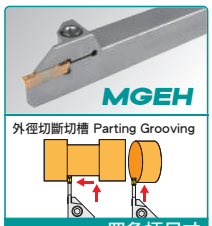
鎢鋼圓槽型車刀片 Carbide Radius Inserts



R 角尺寸
P.501 1~2R

R 角尺寸
P.505 0.25~0.75R

外徑切槽切斷車刀桿 External Grooving & Parting Toolholders

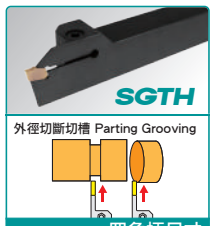


四角柄尺寸
P.509 16~25D

四角柄尺寸
P.510 12~32D

全長尺寸
P.511 110~150L

P.511

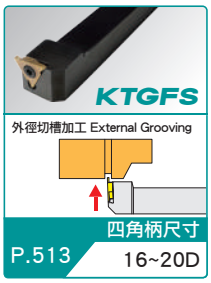


四角柄尺寸
P.512 16~25D

產品選擇表
Product Selection Table

外徑切槽車刀桿 External Grooving Toolholders

四角柄尺寸
P.513 10~25D



四角柄尺寸
P.513 16~20D

四角柄尺寸
P.514 10~25D

四角柄尺寸
P.514 16~20D

內徑切槽車刀桿 Internal Grooving Toolholders

四角柄尺寸
P.515 10~25D

多功能車刀桿 (切槽 / 切斷 / 後掃 / 螺紋) Multipurpose Toolholders

四角柄尺寸
P.516 10~25D

切槽車刀片
加工方式
Grooving
Inserts Cutting
Mode
P.500

產品選擇表
Product Selection Table

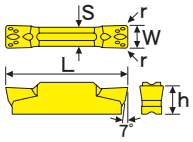
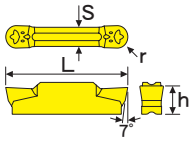
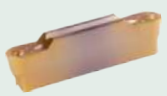
切槽車刀片加工方式 Grooving Inserts Cutting Mode

車刀片系列 Inserts		切槽寬度 Groove Width	加工深度 Depth	切槽加工 Grooving	切斷加工 Parting	橫向加工 Plunge Turning	斜向加工 Ramping	仿形加工 Profile Turning	頁數 Page
	MGMN	2~4mm	< 20mm	O	O	O	O	X	501
	MRMN (圓槽型)	2~4mm (1~2R)	< 20mm	O	X	O	X	O	501
	GMM	2~3mm	< 20mm	O	O	O	O	X	502
	TGTN	2.2~4.1mm	< 30mm	O	O	X	X	X	503
	TGF	0.33~2.5mm	< 2mm	O	X	X	X	X	504
	TGF-R (圓槽型)	0.5~1.5mm (0.25~0.75R)	< 2mm	O	X	X	X	X	505
	TGL	0.5~2.25mm	< 2.25mm	O	X	X	X	X	506 507

MGMN/MRMN 鎢鋼切槽切斷車刀片 (< 切深 20mm)

CARBIDE GROOVING & PARTING INSERTS- MGMN / MRMN (Depth < 20mm)

加工材質								
	P	鋼材 Alloy Steels	◐	✲				● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✲ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐	✲				
	K	鑄鐵 Cast Iron	◐	✲				
	N	鋁合金 Aluminum Alloys	–	–				F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	S	高溫合金 High-Temp Alloys	◐	✲				
	H	調質鋼 Hardened Steels	◐	–				

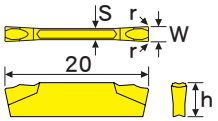
刀 片 Insert	訂購編號 Order No.	材質碼 Grade					尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
		CM6233	CM6243				W	r	L	h	S		
	MGMN200-SG	●	●				2.0	0.2	16	3.5	1.60		外徑刀桿 509
F S M R													
	MGMN300-MG	●	●				3.0	0.4	21	4.8	2.35		
F S M R													
	MGMN400-MG	●	●				4.0	0.4	21	4.8	3.30		
F S M R													
	MRMN200-MG	●	●				2.0	1.0	16	3.5	1.60		外徑刀桿 509
F S M R													
	MRMN300-MG	●	●				3.0	1.5	21	4.8	2.35		
F S M R													
	MRMN400-MG	●	●				4.0	2.0	21	4.8	3.30		
F S M R													

➡ 切削條件表 Cutting Condition P.613

GMM 鎢鋼切槽切斷車刀片 (< 切深 20mm)

CARBIDE GROOVING & PARTING INSERTS- GMM (Depth < 20mm)

加工材質								
	P	鋼材 Alloy Steels	◉	✲				● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◉ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✲ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◉	✲				
	K	鑄鐵 Cast Iron	◉	✲				
	N	鋁合金 Aluminum Alloys	–	–				F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	S	高溫合金 High-Temp Alloys	◉	✲				
	H	調質鋼 Hardened Steels	◉	–				

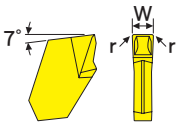
刀 片 Insert	訂購編號 Order No.	材質碼 Grade					尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
		CM6233	CM6243				W	r	h	S	K		
	GMM2020-MR	●	●				2.0	0.20	4.3	1.5	–		外徑刀桿 510
	GMM2520-MR	●	●				2.5	0.20	4.3	1.9	–		
	GMM3020-MR	●	●				3.0	0.25	4.3	2.3	–		
F S M R													

➡ 切削條件表 Cutting Condition P.613

TGTN 鎢鋼切槽切斷車刀片 (< 切深 30mm)

CARBIDE GROOVING & PARTING INSERTS- TGTN (Depth < 30mm)

加工材質								
	P	鋼材 Alloy Steels	◉	✲	✲			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◉ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✲ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◉	✲	✲			
	K	鑄鐵 Cast Iron	◉	✲	❂			
	N	鋁合金 Aluminum Alloys	–	–	–			F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	S	高溫合金 High-Temp Alloys	◉	✲	✲			
	H	調質鋼 Hardened Steels	◉	–	❂			

刀 片 Insert	訂購編號 Order No.	材質碼 Grade					尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
		CM6233	CM6243	CM6347			W	r	L	h	S		
	TGTN0220	●	●	●			2.2	0.20	–	–	–		外徑刀桿 511 512
	TGTN0310	●	●	●			3.1	0.20	–	–	–		
	TGTN0410	●	●	●			4.1	0.25	–	–	–		
F S M R													

➡ 切削條件表 Cutting Condition P.614

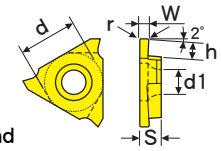
TGF 鎢鋼切槽車刀片 (< 切深 2mm)

CARBIDE GROOVING INSERTS- TGF (Depth < 2mm)

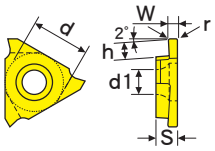
加工材質						
	P	鋼材 Alloy Steels	◐	–		
	M	不銹鋼 Stainless Steels	◐	–		
	K	鑄鐵 Cast Iron	◐	–		
	N	鋁合金 Aluminum Alloys	–	◐		
	S	高溫合金 High-Temp Alloys	◐	–		
	H	調質鋼 Hardened Steels	–	–		

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

右車刀片 Right Hand



左車刀片 Left Hand



刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560	CM10			尺寸 Dimension (mm) W	h	r	S	d	d1	切深 Depth Of Cut 外徑切槽 最大切深 O.D. (Max)	內徑切槽 最大切深 I.D. (Max)	刀桿頁數 Tool Page
	TGF32R033	●	●			0.33	1.0	0.05	3.18	9.52	4.4	0.8	0.5	
	TGF32L033	●	●			0.33	1.0	0.05	3.18	9.52	4.4	0.8	0.5	
	TGF32R050	●	●			0.50	1.4	0.05	3.18	9.52	4.4	1.2	0.8	
	TGF32L050	●	●			0.50	1.4	0.05	3.18	9.52	4.4	1.2	0.8	
	TGF32R075	●	●			0.75	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L075	●	●			0.75	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R095	●	●			0.95	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L095	●	●			0.95	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R100	●	●			1.00	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L100	●	●			1.00	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R110	●	●			1.10	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L110	●	●			1.10	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R125	●	●			1.25	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L125	●	●			1.25	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R135	●	●			1.35	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L135	●	●			1.35	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R145	●	●			1.45	2.5	0.10	3.18	9.52	4.4	2.0	1.5	外徑刀桿 513
	TGF32L145	●	●			1.45	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R150	●	●			1.50	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L150	●	●			1.50	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R165	●	●			1.65	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L165	●	●			1.65	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R175	●	●			1.75	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L175	●	●			1.75	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R180	●	●			1.80	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L180	●	●			1.80	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R185	●	●			1.85	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L185	●	●			1.85	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R195	●	●			1.95	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L195	●	●			1.95	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R200	●	●			2.00	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32L200	●	●			2.00	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
	TGF32R250	●	●			2.50	2.5	0.10	3.18	9.52	4.4	2.0	1.5	
F S M R	TGF32L250	●	●			2.50	2.5	0.10	3.18	9.52	4.4	2.0	1.5	

➡ 切削條件表 Cutting Condition P.614

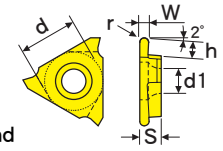
TGF 鎢鋼切槽車刀片 (< 切深 2mm)

CARBIDE GROOVING INSERTS- TGF (Depth < 2mm)

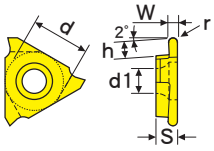
加工材質						
	P	鋼材 Alloy Steels	◐	–		
	M	不銹鋼 Stainless Steels	◐	–		
	K	鑄鐵 Cast Iron	◐	–		
	N	鋁合金 Aluminum Alloys	–	◐		
	S	高溫合金 High-Temp Alloys	◐	–		
	H	調質鋼 Hardened Steels	–	–		

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

右車刀片 Right Hand



左車刀片 Left Hand



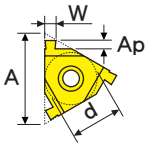
刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560	CM10			尺寸 Dimension (mm) W	h	r	S	d	d1	切深 Depth Of Cut 外徑切槽 最大切深 O.D. (Max)	內徑切槽 最大切深 I.D. (Max)	刀桿頁數 Tool Page
	TGF32R025R	●	●			0.50	1.4	0.25	3.18	9.52	4.4	1.2	0.8	
	TGF32L025R	●	●			0.50	1.4	0.25	3.18	9.52	4.4	1.2	0.8	
	TGF32R037R	●	●			0.75	2.5	0.375	3.18	9.52	4.4	2.0	1.5	
	TGF32L037R	●	●			0.75	2.5	0.375	3.18	9.52	4.4	2.0	1.5	
	TGF32R050R	●	●			1.00	2.5	0.50	3.18	9.52	4.4	2.0	1.5	
	TGF32L050R	●	●			1.00	2.5	0.50	3.18	9.52	4.4	2.0	1.5	
	TGF32R062R	●	●			1.25	2.5	0.625	3.18	9.52	4.4	2.0	1.5	
	TGF32L062R	●	●			1.25	2.5	0.625	3.18	9.52	4.4	2.0	1.5	
	TGF32R075R	●	●			1.50	2.5	0.75	3.18	9.52	4.4	2.0	1.5	
	TGF32L075R	●	●			1.50	2.5	0.75	3.18	9.52	4.4	2.0	1.5	
														外徑刀桿 513
F S M R														

➡ 切削條件表 Cutting Condition P.614

TGL 鎢鋼切槽車刀片 (< 切深 2.25mm)

CARBIDE GROOVING INSERTS- TGL (Depth < 2.25mm)

加工材質								
	P	鋼材 Alloy Steels	◐	–				● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐	–				
	K	鑄鐵 Cast Iron	◐	–				
	N	鋁合金 Aluminum Alloys	–	◐				F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	S	高溫合金 High-Temp Alloys	◐	–				
	H	調質鋼 Hardened Steels	–	–				

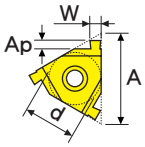
刀 片 Insert	訂購編號 Order No.	材質碼 Grade					尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
		CM2560	CM10				W ±0.02	切深 Ap	d	A	–		
	TGL11ER050	●	●				0.50	1.40	6.35	11	–		外徑刀桿 514 內徑刀桿 515
	TGL11IL050	●	●				0.50	1.40	6.35	11	–		
	TGL11ER060	●	●				0.60	1.40	6.35	11	–		
	TGL11IL060	●	●				0.60	1.40	6.35	11	–		
	TGL11ER070	●	●				0.70	1.40	6.35	11	–		
	TGL11IL070	●	●				0.70	1.40	6.35	11	–		
	TGL11ER080	●	●				0.80	1.40	6.35	11	–		
	TGL11IL080	●	●				0.80	1.40	6.35	11	–		
	TGL11ER100	●	●				1.00	1.40	6.35	11	–		
	TGL11IL100	●	●				1.00	1.40	6.35	11	–		
	TGL11ER120	●	●				1.20	1.40	6.35	11	–		
	TGL11IL120	●	●				1.20	1.40	6.35	11	–		
	TGL16ER050	●	●				0.50	1.40	9.525	16	–		
	TGL16IL050	●	●				0.50	1.40	9.525	16	–		
	TGL16ER100	●	●				1.00	1.40	9.525	16	–		
	TGL16IL100	●	●				1.00	1.40	9.525	16	–		
	TGL16ER120	●	●				1.20	1.60	9.525	16	–		
	TGL16IL120	●	●				1.20	1.60	9.525	16	–		
	TGL16ER140	●	●				1.40	1.80	9.525	16	–		
	TGL16IL140	●	●				1.40	1.80	9.525	16	–		
	TGL16ER170	●	●				1.70	2.00	9.525	16	–	※ 相同的刀片可以使用在外徑右車刀和內徑左車刀加工。 Same insert can be used for external right hand and internal left hand.	
	TGL16IL170	●	●				1.70	2.00	9.525	16	–		
	TGL16ER195	●	●				1.95	2.00	9.525	16	–		
	TGL16IL195	●	●				1.95	2.00	9.525	16	–		
NEW	TGL16ER225	●	●				2.25	2.25	9.525	16	–		
F S M R	TGL16IL225	●	●				2.25	2.25	9.525	16	–		

➡ 切削條件表 Cutting Condition P.614

TGL 鎢鋼切槽車刀片 (< 切深 2.25mm)

CARBIDE GROOVING INSERTS- TGL (Depth < 2.25mm)

加工材質								
	P	鋼材 Alloy Steels	◐	–				● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐	–				
	K	鑄鐵 Cast Iron	◐	–				
	N	鋁合金 Aluminum Alloys	–	◐				F：精加工 Finishing S：半精加工 Semi Finishing M：中加工 Medium R：粗加工 Roughing
	S	高溫合金 High-Temp Alloys	◐	–				
	H	調質鋼 Hardened Steels	–	–				

刀 片 Insert	訂購編號 Order No.	材質碼 Grade					尺寸 Dimension (mm)					刀片 2D 圖 Drawing	刀桿頁數 Tool Page
		CM2560	CM10				W ±0.02	切深 Ap	d	A	–		
	TGL11IR050	●	●				0.50	1.40	6.35	11	–		外徑刀桿 514 內徑刀桿 515
	TGL11EL050	●	●				0.50	1.40	6.35	11	–		
	TGL11IR060	●	●				0.60	1.40	6.35	11	–		
	TGL11EL060	●	●				0.60	1.40	6.35	11	–		
	TGL11IR070	●	●				0.70	1.40	6.35	11	–		
	TGL11EL070	●	●				0.70	1.40	6.35	11	–		
	TGL11IR080	●	●				0.80	1.40	6.35	11	–		
	TGL11EL080	●	●				0.80	1.40	6.35	11	–		
	TGL11IR100	●	●				1.00	1.40	6.35	11	–		
	TGL11EL100	●	●				1.00	1.40	6.35	11	–		
	TGL11IR120	●	●				1.20	1.40	6.35	11	–		
	TGL11EL120	●	●				1.20	1.40	6.35	11	–		
	TGL16IR050	●	●				0.50	1.40	9.525	16	–		
	TGL16EL050	●	●				0.50	1.40	9.525	16	–		
	TGL16IR100	●	●				1.00	1.40	9.525	16	–		
	TGL16EL100	●	●				1.00	1.40	9.525	16	–		
	TGL16IR120	●	●				1.20	1.60	9.525	16	–		
	TGL16EL120	●	●				1.20	1.60	9.525	16	–		
	TGL16IR140	●	●				1.40	1.80	9.525	16	–		
	TGL16EL140	●	●				1.40	1.80	9.525	16	–		
	TGL16IR170	●	●				1.70	2.00	9.525	16	–	※ 相同的刀片可以使用在外徑左車刀和內徑右車刀加工。 Same insert can be used for external left hand and internal right hand.	
	TGL16EL170	●	●				1.70	2.00	9.525	16	–		
	TGL16IR195	●	●				1.95	2.00	9.525	16	–		
	TGL16EL195	●	●				1.95	2.00	9.525	16	–		
NEW	TGL16IR225	●	●				2.25	2.25	9.525	16	–		
F S M R	TGL16EL225	●	●				2.25	2.25	9.525	16	–		

➡ 切削條件表 Cutting Condition P.614

自動車床用鎢鋼車刀片

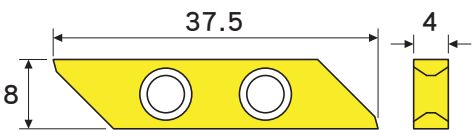
CARBIDE INSERTS FOR AUTOMATIC LATHE

加工材質							
	P	鋼材 Alloy Steels	◐				
	M	不銹鋼 Stainless Steels	◐				
	K	鑄鐵 Cast Iron	◐				
	N	鋁合金 Aluminum Alloys	◔				
	S	高溫合金 High-Temp Alloys	◐				
	H	調質鋼 Hardened Steels	◐				

● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting
◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting
✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting
– 不推薦 NO Recommend

F：精加工 Finishing
S：半精加工 Semi Finishing
M：中加工 Medium
R：粗加工 Roughing

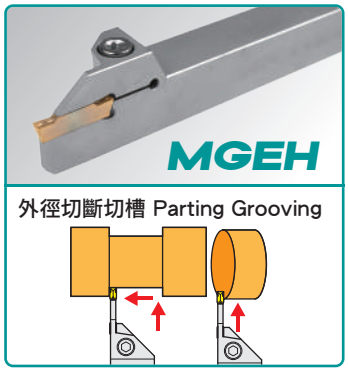
刀 片 Insert	訂購編號 Order No.	材質碼 Grade CM2560					尺寸 Dimension (mm) W	R	L2	K	Pitch	刀片 2D 圖 Drawing	刀桿頁數 Tool Page
	SAKBR20005	●					2.0	–	5.0	35	–	後掃車刀片 Back Turning	
	SAKBR20015	●					2.0	0.10	5.0	35	–		
	SAKBR20025	●					2.0	0.20	5.0	35	–		
	SAKBR30015	●					3.0	0.10	5.0	35	–		
F S M R	SAKBR30025	●					3.0	0.20	5.0	35	–		
	SAKCR15018	●					1.5	0.10	8.5	15	–	切斷車刀片 Parting Off	
	SAKCR20019	●					2.0	0.10	9.0	15	–		
	SAKCR25019	●					2.5	0.10	9.0	15	–		
F S M R	SAKCR30019	●					3.0	0.10	9.0	15	–		
	SAKGR10013	●					1.0	0.10	3.0	–	–	切槽車刀片 Grooving	外徑刀桿 516
	SAKGR15013	●					1.5	0.10	3.0	–	–		
	SAKGR15025	●					1.5	0.20	5.0	–	–		
	SAKGR15027	●					1.5	0.20	7.0	–	–		
	SAKGR20015	●					2.0	0.10	5.0	–	–		
	SAKGR20025	●					2.0	0.20	5.0	–	–		
	SAKGR20027	●					2.0	0.20	7.0	–	–		
	SAKGR20029	●					2.0	0.20	9.0	–	–		
	SAKGR25015	●					2.5	0.10	5.0	–	–		
	SAKGR25025	●					2.5	0.20	5.0	–	–		
	SAKGR25029	●					2.5	0.20	9.0	–	–		
	SAKGR30015	●					3.0	0.10	5.0	–	–		
	SAKGR30019	●					3.0	0.10	9.0	–	–		
	SAKGR30025	●					3.0	0.20	5.0	–	–		
	SAKGR30027	●					3.0	0.20	7.0	–	–		
F S M R	SAKGR30029	●					3.0	0.20	9.0	–	–		
	SAKPR10053	●					1.0	0.50	3.0	–	–	圓槽車刀片 Radius	
	SAKPR15075	●					1.5	0.75	5.0	–	–		
	SAKPR20105	●					2.0	1.00	5.0	–	–		
	SAKPR25125	●					2.5	1.25	5.0	–	–		
F S M R	SAKPR30158	●					3.0	1.50	8.0	–	–		
	SAKTR20655	●					2.0	0.05	6.0	55	0.05~2	螺紋車刀片 Threading	
	SAKTR30655	●					3.0	0.10	6.0	55	0.10~3		
	SAKTR20660	●					2.0	0.05	6.0	60	0.05~2		
F S M R	SAKTR30660	●					3.0	0.10	6.0	60	0.10~3		

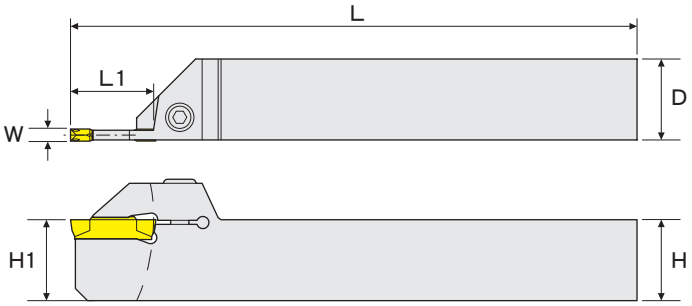


➡ 切削條件表 Cutting Condition P.613

外徑切槽切斷車刀桿

EXTERNAL GROOVING & PARTING TOOLHOLDERS





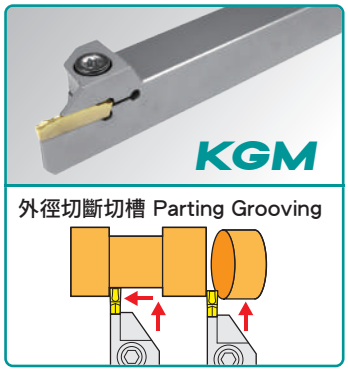
右車刀桿圖示 Right-Hand Shown

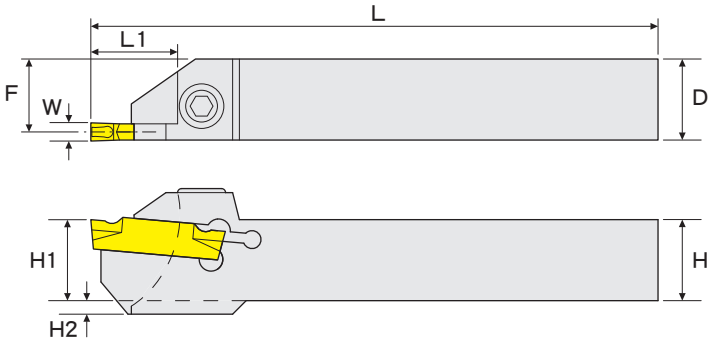
鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)						搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L1	L	D	W			
MGEH$^{R}/_{L}$-1616K-2T-16T	16	16.25	16	125	16	2.0	MGMN200.. MRMN200..	HTMT520	ETL25
MGEH$^{R}/_{L}$-2020K-2T-20T	20	20.25	20	125	20	2.0		HTMT525	ETL25
MGEH$^{R}/_{L}$-2525M-2T-20T	25	25.25	20	150	25	2.0		HTMT525	ETL25
MGEH$^{R}/_{L}$-1616K-3T-20T	16	16.30	20	125	16	3.0	MGMN300.. MRMN300..	HTMT520	ETL25
MGEH$^{R}/_{L}$-2020K-3T-20T	20	20.30	20	125	20	3.0		HTMT525	ETL25
MGEHR-2525M-3T-20T	25	25.30	20	150	25	3.0		HTMT525	ETL25
MGEHR-2525M-4T-20T	25	25.35	20	150	25	4.0	MGMN400.. MRMN400..	HTMT525	ETL25

➡ 搭配刀片 Insert P.501 ➡ 切削條件表 Cutting Condition P.613

外徑切槽切斷車刀桿

EXTERNAL GROOVING & PARTING TOOLHOLDERS





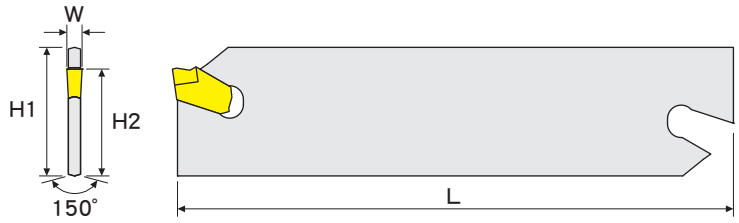
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)					W (mm)		搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L1	L	D	Min	Max			
KGM$^{R}_{L}$-1212K-1.5-L10	12	11.4	10	125	12	1.5	2.0	GMM2020..	HTM416	PL30
KGM$^{R}_{L}$-1616K-1.5-L10	16	15.4	10	125	16	1.5	2.0		HTMT520	ETL25
KGM$^{R}_{L}$-2020K-1.5-L10	20	19.4	10	125	20	1.5	2.0		HTMT525	ETL25
KGM$^{R}_{L}$-2525M-1.5-L10	25	24.4	10	150	25	1.5	2.0		HTMT525	ETL25
KGM$^{R}_{L}$-1212K-2T-L10	12	11.1	10	125	12	2.0	3.0	GMM2020.. GMM2520.. GMM3020..	HTM416	PL30
KGM$^{R}_{L}$-1616K-2T-L10	16	15.1	10	125	16	2.0	3.0		HTMT520	ETL25
KGM$^{R}_{L}$-2020K-2T-L10	20	19.1	10	125	20	2.0	3.0		HTMT525	ETL25
KGM$^{R}_{L}$-2525M-2T-L10	25	24.1	10	150	25	2.0	3.0		HTMT525	ETL25
KGM$^{R}_{L}$-1212K-2T-L13	12	11.1	13	125	12	2.0	3.0		HTM420	PL30
KGM$^{R}_{L}$-1616K-2T-L13	16	15.1	13	125	16	2.0	3.0		HTMT520	ETL25
KGM$^{R}_{L}$-2020K-2T-L13	20	19.1	13	125	20	2.0	3.0		HTMT525	ETL25
KGM$^{R}_{L}$-2525M-2T-L13	25	24.1	13	150	25	2.0	3.0		HTMT525	ETL25
KGM$^{R}_{L}$-1212K-2T-L17	12	11.1	17	125	12	2.0	3.0		HTM420	PL30
KGM$^{R}_{L}$-1616K-2T-L17	16	15.1	17	125	16	2.0	3.0		HTMT520	ETL25
KGM$^{R}_{L}$-2020K-2T-L17	20	19.1	17	125	20	2.0	3.0		HTMT525	ETL25
KGM$^{R}_{L}$-2525M-2T-L17	25	24.1	17	150	25	2.0	3.0		HTMT525	ETL25
KGM$^{R}_{L}$-1616K-3T-L16	16	14.8	16	125	16	3.0	4.0	GMM3020..	HTMT520	ETL25
KGM$^{R}_{L}$-2020K-3T-L16	20	18.8	16	125	20	3.0	4.0		HTMT525	ETL25
KGM$^{R}_{L}$-2525M-3T-L16	25	23.8	16	150	25	3.0	4.0		HTMT525	ETL25
KGM$^{R}_{L}$-1616K-3T-L20	16	14.8	20	125	16	3.0	4.0		HTMT525	ETL25
KGM$^{R}_{L}$-2020K-3T-L20	20	18.8	20	125	20	3.0	4.0		HTMT525	ETL25
KGM$^{R}_{L}$-2525M-3T-L20	25	23.8	20	150	25	3.0	4.0		HTMT525	ETL25
KGM$^{R}_{L}$-3232P-3T-L20	32	30.8	20	170	32	3.0	4.0		HTMT525	ETL25

➡ 搭配刀片 Insert P.502 ➡ 切削條件表 Cutting Condition P.613

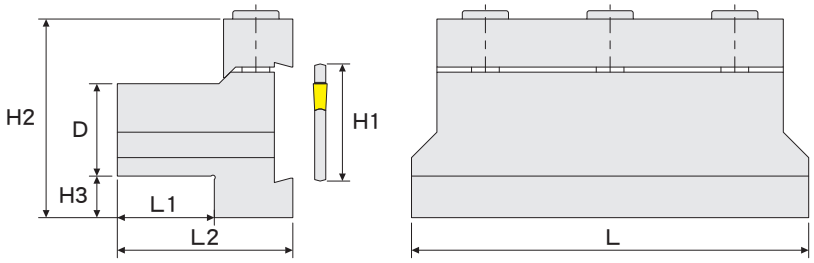
外徑切槽切斷車刀桿

EXTERNAL GROOVING & PARTING TOOLHOLDERS



鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	切斷板座 Tool Block	Wrench
	H1	H2	L	W			
SGIH26-2	26	21.4	110	2.2	TGTN0220..	SGTBU..-26	ESG-1
SGIH26-3	26	21.4	110	3.1	TGTN0310..		
SGIH26-4	26	21.4	110	4.1	TGTN0410..		
SGIH32-2	32	25.0	150	2.2	TGTN0220..	SGTBU..-32	
SGIH32-3	32	25.0	150	3.1	TGTN0310..		
SGIH32-4	32	25.0	150	4.1	TGTN0410..		

➡ 搭配刀片 Insert P.503 ➡ 切削條件表 Cutting Condition P.614

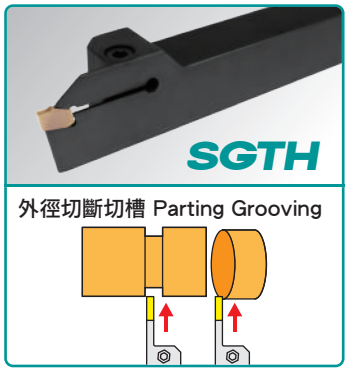


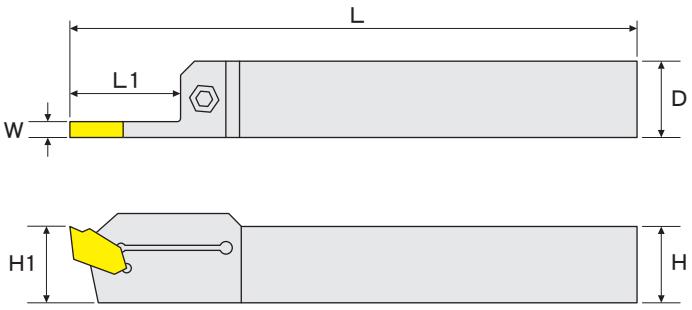
切斷板座 Tool Block

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)							搭配刀板 Blade	Screw	Wrench
	H1	H2	H3	L1	L2	L	D			
SGTBU20-26	26	43	9	21	38	86	20	SGIH26-..	HTM630	PL50
SGTBU25-26	26	43	4	23	40	86	25			
SGTBU20-32	32	50	13	21	40	110	20	SGIH32-..		
SGTBU25-32	32	50	8	23	42	110	25			

外徑切槽切斷車刀桿

EXTERNAL GROOVING & PARTING TOOLHOLDERS



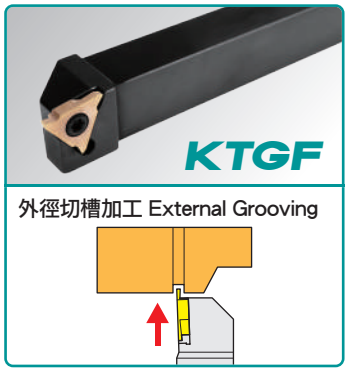


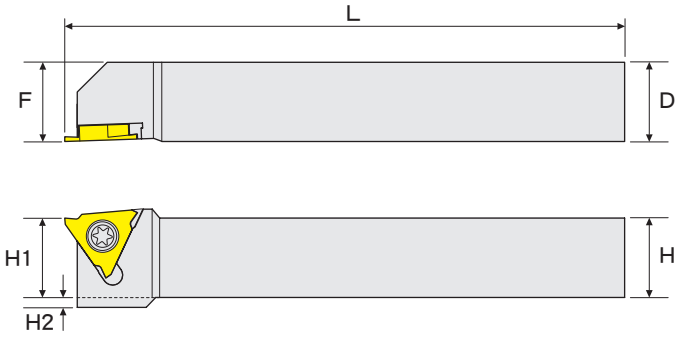
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)					搭配刀片 Insert	Screw	Wrench
	H1 / H	L1	L	D	W			
SGTHR1616-2	16	16	110	16	2	TGTN0220..	HTM521	PL40
SGTHR2020-2	20	18	125	20	2			
SGTHR2020-3	20	20	125	20	3	TGTN0310..	HTM625	PL50
SGTHR2525-3	25	25	150	25	3			
SGTHR2525-4	25	30	150	25	4	TGTN0410..	HTM625	PL50

搭配刀片 Insert P.503 切削條件表 Cutting Condition P.614

外徑切槽車刀桿
EXTERNAL GROOVING TOOLHOLDERS

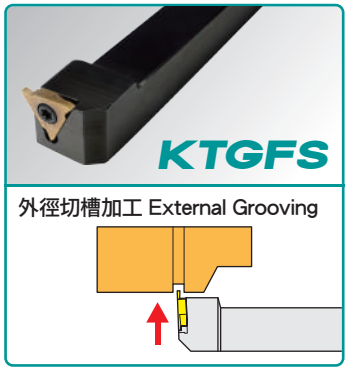


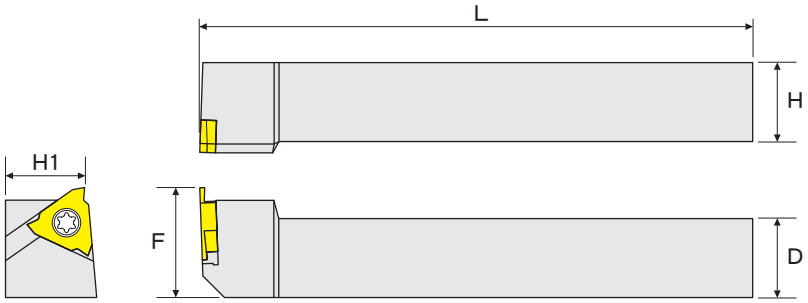


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)					搭配刀片 Insert	Screw	Wrench
	H1/H	F	H2	L	D			
KTGF$^{R}/_{L}$-1010K-16F	10	10	4	125	10	TGF32R.. / TGF32L..	MS4009A	ETF15
KTGFR-1012K-16F	10	12	2	125	12	TGF32R..	MS4011A	
KTGF$^{R}/_{L}$-1212K-16F	12	12	2	125	12	TGF32R.. TGF32L..		
KTGF$^{R}/_{L}$-1616K-16F	16	16	–	125	16			
KTGFR-2020K-16F	20	20	–	125	20	TGF32R..		
KTGF$^{R}/_{L}$-1616K-16	16	20	–	125	16	TGF32R.. TGF32L..		
KTGF$^{R}/_{L}$-2020K-16	20	25	–	125	20			
KTGF$^{R}/_{L}$-2525M-16	25	32	–	150	25			

➡ 搭配刀片 Insert P.504, 505 ➡ 切削條件表 Cutting Condition P.614



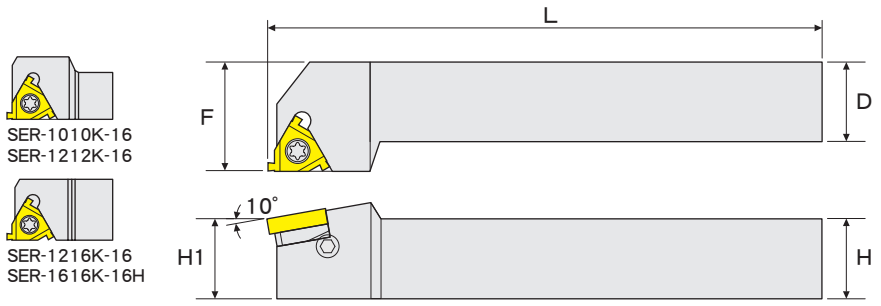


左車刀桿圖示 Left-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert	Screw	Wrench
	H1 / H	F	L	D			
KTGFSL-1616K-16	16	22	125	16	TGF32R..	MS4009A	ETF15
KTGFSL-2020K-16	20	26	125	20			

➡ 搭配刀片 Insert P.504, 505 ➡ 切削條件表 Cutting Condition P.614

外徑切槽車刀桿
EXTERNAL GROOVING TOOLHOLDERS



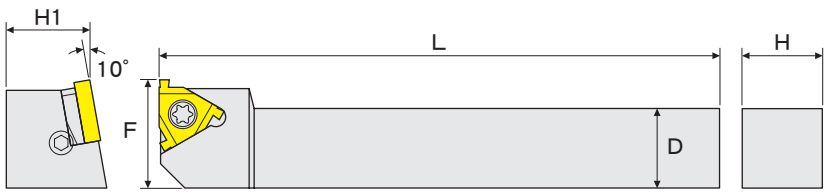
右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert		配 件 Spare Parts
	H1 / H	F	L	D	切槽加工 Grooving	螺紋加工 Threading	
SE$^{R}/_{L}$-1216K-16	12	16	125	16	TGL16ER.. TGL16EL..	16ER.. 16EL..	①
SE$^{R}/_{L}$-1010K-16H	10	10	125	10			
SE$^{R}/_{L}$-1212K-16H	12	12	125	12			
SE$^{R}/_{L}$-1616K-16H	16	16	125	16			
SE$^{R}/_{L}$-1616K-16	16	20	125	16			②
SE$^{R}/_{L}$-2020K-16	20	25	125	20			
SE$^{R}/_{L}$-2525M-16	25	32	150	25			
SE$^{R}/_{L}$-3232P-16	32	40	170	32			

配 件 Spare Parts	Screw	Shim	Screw	Wrench	Wrench
①	MS3509A	–	–	–	ETF15
②	MS3512A	GXN16 / GXE16	HTM309	PL25	ETF15

※ SER 刀桿搭配 GXE 墊片；SEL 刀桿搭配 GXN 墊片。 SER right hand tools shim is GXE ｜ SEL left hand tools shim is GXN.

➡ 搭配刀片 Insert P.506, 507 ➡ 切削條件表 Cutting Condition P.614



右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert		配 件 Spare Parts
	H1 / H	F	L	D	切槽加工 Grooving	螺紋加工 Threading	
SKE$^{R}/_{L}$-1212K-16	12	18	125	12	TGL16ER.. TGL16EL..	16ER.. 16EL..	①
SKE$^{R}/_{L}$-1616K-16	16	22	125	16			②
SKE$^{R}/_{L}$-2020K-16	20	27	125	20			
SKE$^{R}/_{L}$-2525M-16	25	34	150	25			

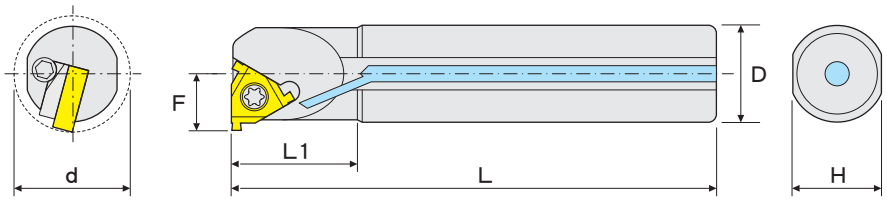
配 件 Spare Parts	Screw	Shim	Screw	Wrench	Wrench
①	MS3509A	–	–	–	ETF15
②	MS3512A	GXN16 / GXE16	HTM309	PL25	ETF15

※ SKER 刀桿搭配 GXE 墊片；SKEL 刀桿搭配 GXN 墊片。 SKER right hand tools shim is GXE ｜ SKEL left hand tools shim is GXN.

➡ 搭配刀片 Insert P.506, 507 ➡ 切削條件表 Cutting Condition P.614

內徑切槽車刀桿

INTERNAL GROOVING TOOLHOLDERS



右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)				最小車徑 d	搭配刀片 Insert		配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	L	D		切槽加工 Grooving	螺紋加工 Threading	
SN$^{R}_{L}$-0010K-11-S10	SN$^{R}_{L}$-A0010K-11-S10	6.5	22	125	10	13	TGL11IR.. TGL11IL..	11IR.. 11IL..	①
SN$^{R}_{L}$-0012M-11-S12	SN$^{R}_{L}$-A0012M-11-S12	8.0	26	150	12	16			
SN$^{R}_{L}$-0016Q-16	SN$^{R}_{L}$-A0016Q-16	10.0	36	180	16	19	TGL16IR.. TGL16IL..	16IR.. 16IL..	②
SN$^{R}_{L}$-0020R-16	SN$^{R}_{L}$-A0020R-16	12.0	40	200	20	24			③
SN$^{R}_{L}$-0025R-16	SN$^{R}_{L}$-A0025R-16	14.5	45	200	25	29			
SN$^{R}_{L}$-0032S-16	SN$^{R}_{L}$-A0032S-16	18.5	45	250	32	36			

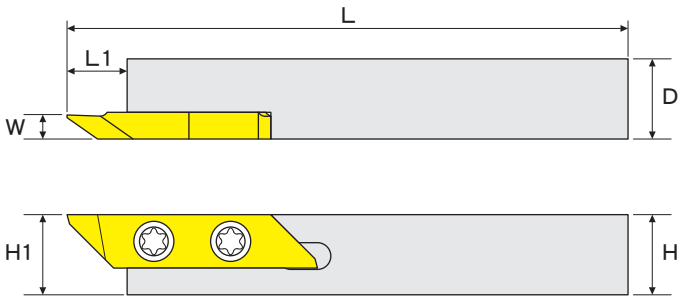
配 件 Spare Parts	Screw	Wrench	Shim	Screw	Wrench
①	MS2507G	ETF08	–	–	–
②	MS3509A	ETF15	–	–	–
③	MS3512A	ETF15	GXN16 / GXE16	HTM309	PL25

※ SNR 刀桿搭配 GXN 墊片；SNL 刀桿搭配 GXE 墊片。 SNR right hand tools shim is GXN ｜ SNL left hand tools shim is GXE.

➡ 搭配刀片 Insert P.506, 507 ➡ 切削條件表 Cutting Condition P.614

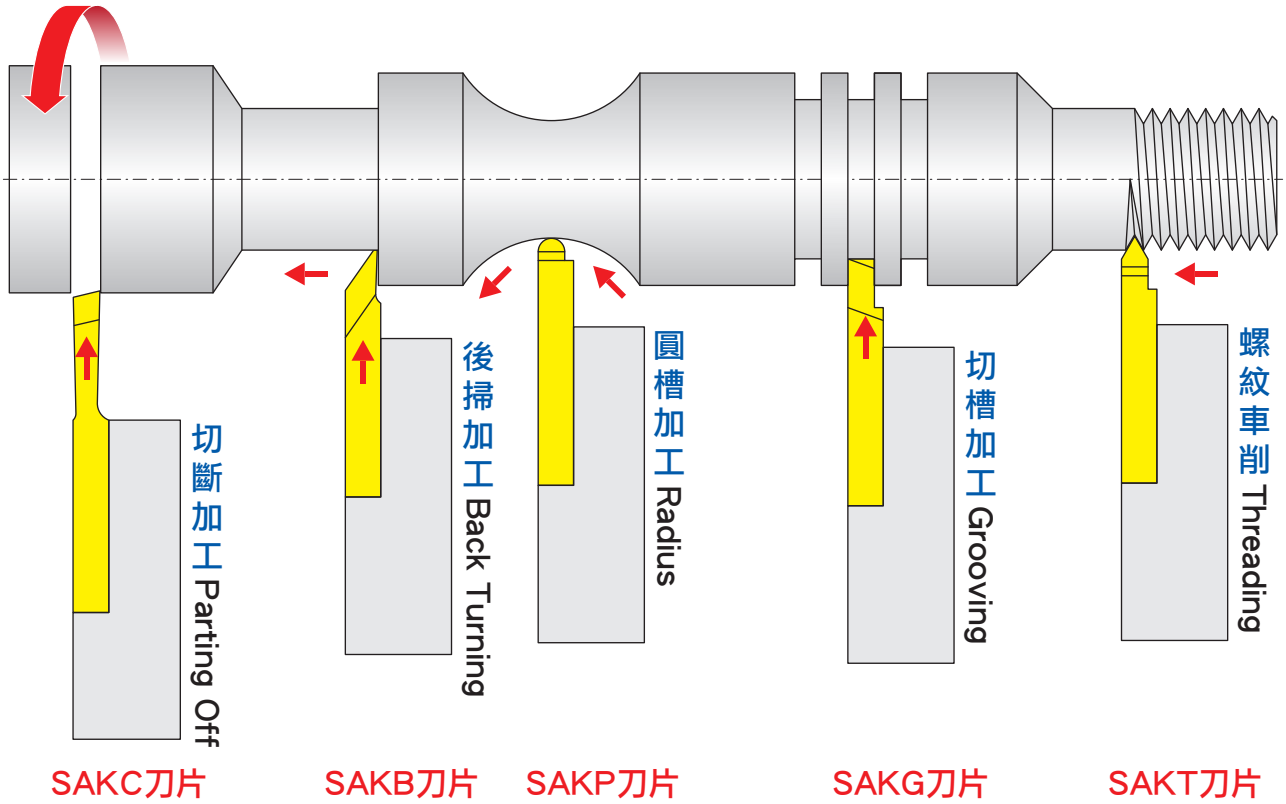
CNC 走心式自動車床用刀桿 - SAK 系列

TOOLHOLDERS FOR AUTOMATIC LATHE- SAK SERIES



鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimensions (mm)					搭配刀片 Insert	Screw	Wrench
	H / H1	L1	L	D	W			
SAKG$^{R}/_{L}$-1010K-374	10	9	125	10	4	SAK..	MS3509A	ETF15
SAKG$^{R}/_{L}$-1212K-374	12	9	125	12	4			
SAKG$^{R}/_{L}$-1212M-374	12	9	150	12	4			
SAKG$^{R}/_{L}$-1616M-374	16	9	150	16	4			
SAKG$^{R}/_{L}$-2020K-374	20	9	125	20	4			
SAKG$^{R}/_{L}$-2525M-374	25	9	150	25	4			

→ 搭配刀片 Insert P.508 → 切削條件表 Cutting Condition P.613



螺紋車刀桿系列

Thread Turning Toolholders Series

泛用鋼材≦50HRC	不銹鋼
鋁合金 / 銅合金	鑄鐵

For general steel (≦50HRC), stainless steel, cast iron and aluminum/copper alloy machining.

產品選擇表
Product Selection Table

鎢鋼外螺紋車刀片 Carbide Thread Inserts- External

泛用型 Partial Profile	ER 右刀片 - 泛用型 55˚ 螺距 Pitch P.521 0.5~3.0	EL 左刀片 - 泛用型 55˚ 螺距 Pitch P.521 0.5~3.0	ER 右刀片 - 泛用型 60˚ 螺距 Pitch P.521 0.5~3.0	EL 左刀片 - 泛用型 60˚ 螺距 Pitch P.521 0.5~3.0
全牙型 Full Profile	ER 右刀片 - ISO 規格 60˚ 螺距 Pitch P.522 0.35~3.00	EL 左刀片 - ISO 規格 60˚ 螺距 Pitch P.522 0.35~3.00	ER 右刀片 - UN 規格 60˚ 螺距 Tpi P.523 Tpi 40~8	EL 左刀片 - UN 規格 60˚ 螺距 Tpi P.523 Tpi 40~8

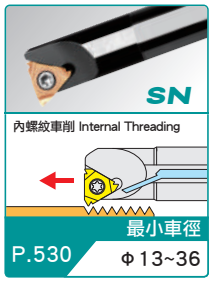
鎢鋼內螺紋車刀片 Carbide Thread Inserts- Internal

泛用型 Partial Profile	IR 右刀片 - 泛用型 55˚ 螺距 Pitch P.524 0.5~3.0	IL 左刀片 - 泛用型 55˚ 螺距 Pitch P.524 0.5~3.0	IR 右刀片 - 泛用型 60˚ 螺距 Pitch P.524 0.5~3.0	IL 左刀片 - 泛用型 60˚ 螺距 Pitch P.524 0.5~3.0
全牙型 Full Profile	IR 右刀片 - ISO 規格 60˚ 螺距 Pitch P.525 0.35~3.00	IL 左刀片 - ISO 規格 60˚ 螺距 Pitch P.525 0.35~3.00	IR 右刀片 - UN 規格 60˚ 螺距 Tpi P.526 Tpi 40~8	IL 左刀片 - UN 規格 60˚ 螺距 Tpi P.526 Tpi 40~8

產品選擇表
Product Selection Table

外徑螺紋車刀桿 External Threading Toolholders

內徑螺紋車刀桿 Internal Threading Toolholders



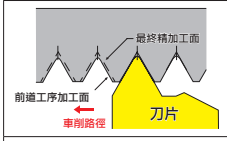
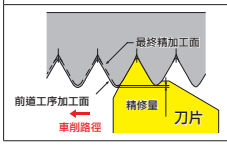
螺紋車刀片編碼規範 Designation For Threading Inserts — P.520

螺紋車削進刀方式 Thread Turning Infeed Methods — P.531

螺紋車削進刀圖示 Thread Turning Methods — P.532

切削條件表【螺紋車削】Threading Condition Table — P.615~616

螺紋牙型設計 Thread Profile

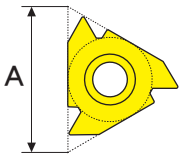
類 型 Type		說 明 Description
	泛用型 Partial Profile	可加工一定範圍的螺距，如一片刀片可加工螺距 0.5~1.5mm。 The same partial profile type can be used to cut threads with different pitch from 0.5mm to 1.5mm.
	全牙型 Full Profile	可加工單一尺寸的螺距，加工牙型完整性佳、毛邊較少。 Each thread pitch of a particular standard requires a different insert. It gives you better dimensional accuracy, and a well finished thread with no burrs.

※ 外螺紋右刀片、外螺紋左刀片、內螺紋右刀片、內螺紋左刀片，四種刀片不能共用。
External right hand threading insert, external left hand threading insert, internal right hand threading insert and internal left hand threading insert are separate.

螺紋車刀片編碼規範
Designation For Threading Inserts

11	E	R	A	60
1	2	3	4	5

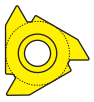
1 刀片邊長 Insert Length

代號 2 碼 2 Code	A 尺寸 Size	圖 示 Diagram
11	11mm	
16	16mm	

2 外螺紋 / 內螺紋 External / Internal

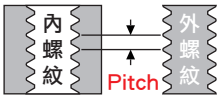
代號 1 碼 1 Code	圖 示 Diagram
E	外螺紋 External
I	內螺紋 Internal

3 刀片方向 Hand of Insert

代號 1 碼 1 Code	說 明 Description	外螺紋 Thread External	內螺紋 Thread Internal
R	右刀片 Right Hand Insert		
L	左刀片 Left Hand Insert		

4 螺距 Thread Pitch

泛用型 Partial Profile			圖 示 Diagram
代號 Code	螺距 Pitch (mm)	牙 / 吋 Tpi (Inch)	
A	0.5 ~ 1.5	48 ~ 16	
AG	0.5 ~ 3.0	48 ~ 8	
G	1.75 ~ 3.0	14 ~ 8	
全牙型 Full Profile			
代號 Code	螺距 Pitch (mm)	牙 / 吋 Tpi (Inch)	
0.75	0.75	—	
36	—	36	
40	—	40	



※ Tpi(牙 / 吋) 英制換算成公制公式 :
25.4 ÷ Tpi = Pitch (mm)
Ex. 36 Tpi →
25.4 ÷ 36 = 0.7mm

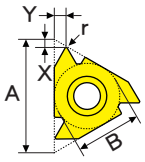
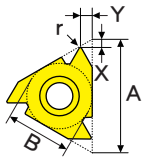
5 螺紋牙型 Thread Profile

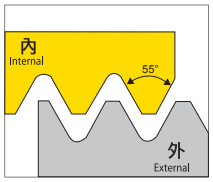
泛用型 Partial Profile	
代號 Code	說 明 Description
55	泛用型 55° Partial Profile 55°
60	泛用型 60° Partial Profile 60°

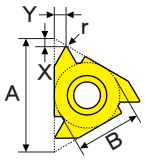
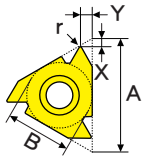
全牙型 Full Profile	
代號 Code	說 明 Description
ISO	ISO 規格 60° ISO Metric 60°
UN	UN 美製規格 60° UN Metric 60°

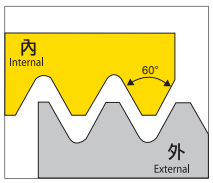
鎢鋼外螺紋車刀片 - 泛用型 - 55˚ / 60˚

CARBIDE THREAD INSERTS- EXTERNAL- PARTIAL PROFILE- 55° / 60°

加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting － 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	－			右車刀片 Right Hand  左車刀片 Left Hand 
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	－			

刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch 公制 (mm)	Tpi (牙/吋)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11ERA55	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	11ELA55	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	16ERA55	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16ELA55	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16ERAG55	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16ELAG55	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16ERG55	●			1.75~3.0	14~8	16	9.52	0.17	1.2	1.7	
	16ELG55	●			1.75~3.0	14~8	16	9.52	0.17	1.2	1.7	

加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting － 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	－			右車刀片 Right Hand  左車刀片 Left Hand 
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	－			

刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch 公制 (mm)	Tpi (牙/吋)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11ERA60	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	11ELA60	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	16ERA60	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16ELA60	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16ERAG60	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16ELAG60	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16ERG60	●			1.75~3.0	14~8	16	9.52	0.17	1.2	1.7	
	16ELG60	●			1.75~3.0	14~8	16	9.52	0.17	1.2	1.7	

➡ 搭配刀桿 Holder P.528, 529 ➡ 切削條件表 Cutting Condition P.615

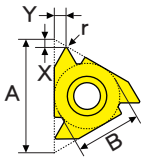
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

鎢鋼外螺紋車刀片 - 全牙型 - ISO 規格 60°

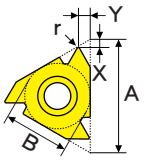
CARBIDE THREAD INSERTS- EXTERNAL- FULL PROFILE- ISO METRIC 60°

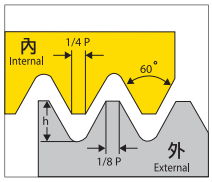
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ✲ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



左車刀片 Left Hand



刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch 公制 (mm)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11ER035ISO	●			0.35	11	6.35	0.04	0.8	0.4	
	11EL035ISO	●			0.35	11	6.35	0.04	0.8	0.4	
	11ER040ISO	●			0.40	11	6.35	0.04	0.7	0.4	
	11ER045ISO	●			0.45	11	6.35	0.05	0.7	0.4	
	11ER050ISO	●			0.50	11	6.35	0.05	0.6	0.6	
	11EL050ISO	●			0.50	11	6.35	0.05	0.6	0.6	
	11ER060ISO	●			0.60	11	6.35	0.07	0.6	0.6	
	11ER070ISO	●			0.70	11	6.35	0.07	0.6	0.6	
	11ER075ISO	●			0.75	11	6.35	0.08	0.6	0.6	
	11EL075ISO	●			0.75	11	6.35	0.08	0.6	0.6	
	11ER080ISO	●			0.80	11	6.35	0.09	0.6	0.6	
	11ER100ISO	●			1.00	11	6.35	0.12	0.7	0.7	
	11EL100ISO	●			1.00	11	6.35	0.12	0.7	0.7	
	11ER125ISO	●			1.25	11	6.35	0.15	0.8	0.9	
	11ER150ISO	●			1.50	11	6.35	0.18	0.8	1.0	
	11EL150ISO	●			1.50	11	6.35	0.18	0.8	1.0	
	16ER075ISO	●			0.75	16	9.52	0.08	0.6	0.6	
	16EL075ISO	●			0.75	16	9.52	0.08	0.6	0.6	
	16ER080ISO	●			0.80	16	9.52	0.09	0.6	0.6	
	16EL080ISO	●			0.80	16	9.52	0.09	0.6	0.6	
	16ER100ISO	●			1.00	16	9.52	0.12	0.7	0.7	
	16EL100ISO	●			1.00	16	9.52	0.12	0.7	0.7	
	16ER125ISO	●			1.25	16	9.52	0.15	0.8	0.9	
	16EL125ISO	●			1.25	16	9.52	0.15	0.8	0.9	
	16ER150ISO	●			1.50	16	9.52	0.18	0.8	1.0	
	16EL150ISO	●			1.50	16	9.52	0.18	0.8	1.0	
	16ER175ISO	●			1.75	16	9.52	0.21	0.9	1.2	
	16EL175ISO	●			1.75	16	9.52	0.21	0.9	1.2	
	16ER200ISO	●			2.00	16	9.52	0.25	1.0	1.3	
	16EL200ISO	●			2.00	16	9.52	0.25	1.0	1.3	
	16ER250ISO	●			2.50	16	9.52	0.31	1.1	1.5	
	16EL250ISO	●			2.50	16	9.52	0.31	1.1	1.5	
	16ER300ISO	●			3.00	16	9.52	0.38	1.2	1.6	
	16EL300ISO	●			3.00	16	9.52	0.38	1.2	1.6	

公差 Tolerance Class 6g / 6H

➡ 搭配刀桿 Holder P.528, 529
➡ 切削條件表 Cutting Condition P.615

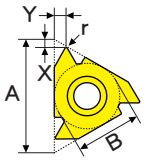
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

鎢鋼外螺紋車刀片 - 全牙型 - UN 規格 60°

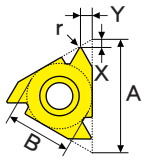
CARBIDE THREAD INSERTS- EXTERNAL- FULL PROFILE- UN METRIC 60°

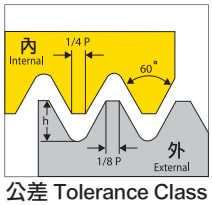
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ✲ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



左車刀片 Left Hand



刀片 Insert	訂購編號 Order No.	材質碼 Grade			螺距 Pitch	尺寸 Dimension (mm)					螺紋 Thread
		CM2560			Tpi (牙/吋)	A	B	r	X	Y	
	11ER32UN	●			32	11	6.35	0.09	0.6	0.6	 公差 Tolerance Class 2A / 2B
	11ER28UN	●			28	11	6.35	0.10	0.6	0.7	
	11EL28UN	●			28	11	6.35	0.10	0.6	0.7	
	11ER18UN	●			18	11	6.35	0.17	0.8	1.0	
	11ER16UN	●			16	11	6.35	0.18	0.9	1.1	
	16ER40UN	●			40	16	9.52	0.06	0.6	0.6	
	16EL40UN	●			40	16	9.52	0.06	0.6	0.6	
	16ER36UN	●			36	16	9.52	0.07	0.6	0.6	
	16EL36UN	●			36	16	9.52	0.07	0.6	0.6	
	16ER32UN	●			32	16	9.52	0.09	0.6	0.6	
	16EL32UN	●			32	16	9.52	0.09	0.6	0.6	
	16ER28UN	●			28	16	9.52	0.10	0.6	0.7	
	16EL28UN	●			28	16	9.52	0.10	0.6	0.7	
	16ER26UN	●			26	16	9.52	0.11	0.7	0.8	
	16EL26UN	●			26	16	9.52	0.11	0.7	0.8	
	16ER24UN	●			24	16	9.52	0.12	0.7	0.8	
	16EL24UN	●			24	16	9.52	0.12	0.7	0.8	
	16ER20UN	●			20	16	9.52	0.15	0.8	0.9	
	16EL20UN	●			20	16	9.52	0.15	0.8	0.9	
	16ER18UN	●			18	16	9.52	0.17	0.8	1.0	
	16EL18UN	●			18	16	9.52	0.17	0.8	1.0	
	16ER16UN	●			16	16	9.52	0.18	0.9	1.1	
	16EL16UN	●			16	16	9.52	0.18	0.9	1.1	
	16ER14UN	●			14	16	9.52	0.22	1.0	1.2	
	16EL14UN	●			14	16	9.52	0.22	1.0	1.2	
	16ER13UN	●			13	16	9.52	0.24	1.0	1.3	
	16EL13UN	●			13	16	9.52	0.24	1.0	1.3	
	16ER12UN	●			12	16	9.52	0.26	1.1	1.4	
	16EL12UN	●			12	16	9.52	0.26	1.1	1.4	
	16ER115UN	●			11.5	16	9.52	0.27	1.1	1.5	
	16EL115UN	●			11.5	16	9.52	0.27	1.1	1.5	
	16ER11UN	●			11	16	9.52	0.28	1.1	1.5	
	16EL11UN	●			11	16	9.52	0.28	1.1	1.5	
	16ER10UN	●			10	16	9.52	0.32	1.1	1.5	
	16EL10UN	●			10	16	9.52	0.32	1.1	1.5	
	16ER9UN	●			9	16	9.52	0.36	1.2	1.7	
	16EL9UN	●			9	16	9.52	0.36	1.2	1.7	
	16ER8UN	●			8	16	9.52	0.41	1.2	1.6	
	16EL8UN	●			8	16	9.52	0.41	1.2	1.6	

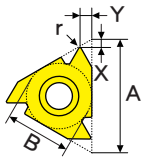
➡ 搭配刀桿 Holder P.528, 529 ➡ 切削條件表 Cutting Condition P.616

鎢鋼內螺紋車刀片 - 泛用型 - 55˚ / 60˚

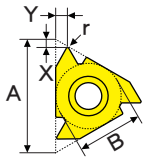
CARBIDE THREAD INSERTS- INTERNAL- PARTIAL PROFILE- 55° / 60°

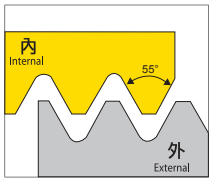
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



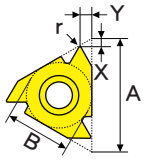
左車刀片 Left Hand



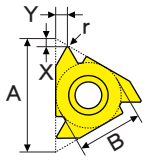
刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch 公制 (mm)	Tpi (牙/吋)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11IRA55	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	11ILA55	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	16IRA55	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16ILA55	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16IRAG55	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16ILAG55	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16IRG55	●			1.75~3.0	14~8	16	9.52	0.12	1.2	1.7	
	16ILG55	●			1.75~3.0	14~8	16	9.52	0.12	1.2	1.7	

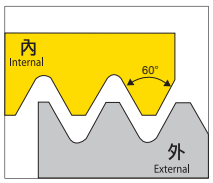
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ❂ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



左車刀片 Left Hand



刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch 公制 (mm)	Tpi (牙/吋)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11IRA60	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	11ILA60	●			0.5~1.5	48~16	11	6.35	0.05	0.8	0.9	
	16IRA60	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16ILA60	●			0.5~1.5	48~16	16	9.52	0.05	0.8	0.9	
	16IRAG60	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16ILAG60	●			0.5~3.0	48~8	16	9.52	0.05	1.2	1.7	
	16IRG60	●			1.75~3.0	14~8	16	9.52	0.12	1.2	1.7	
	16ILG60	●			1.75~3.0	14~8	16	9.52	0.12	1.2	1.7	

➡ 搭配刀桿 Holder P.530 ➡ 切削條件表 Cutting Condition P.615

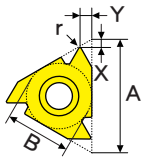
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

鎢鋼內螺紋車刀片 - 全牙型 - ISO 規格 60°

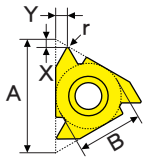
CARBIDE THREAD INSERTS- INTERNAL- FULL PROFILE- ISO METRIC 60°

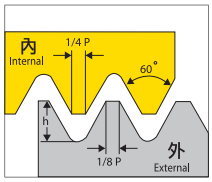
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ✲ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



左車刀片 Left Hand



刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch 公制 (mm)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11IR035ISO	●			0.35	11	6.35	0.02	0.8	0.3	 公差 Tolerance Class 6g / 6H
	11IL035ISO	●			0.35	11	6.35	0.02	0.8	0.3	
	11IR040ISO	●			0.40	11	6.35	0.02	0.8	0.4	
	11IR050ISO	●			0.50	11	6.35	0.03	0.6	0.6	
	11IL050ISO	●			0.50	11	6.35	0.03	0.6	0.6	
	11IR070ISO	●			0.70	11	6.35	0.04	0.6	0.6	
	11IR075ISO	●			0.75	11	6.35	0.04	0.6	0.6	
	11IL075ISO	●			0.75	11	6.35	0.04	0.6	0.6	
	11IR080ISO	●			0.80	11	6.35	0.04	0.6	0.6	
	11IR100ISO	●			1.00	11	6.35	0.05	0.6	0.7	
	11IL100ISO	●			1.00	11	6.35	0.05	0.6	0.7	
	11IR125ISO	●			1.25	11	6.35	0.07	0.8	0.8	
	11IL125ISO	●			1.25	11	6.35	0.07	0.8	0.8	
	11IR150ISO	●			1.50	11	6.35	0.08	0.8	1.0	
	11IL150ISO	●			1.50	11	6.35	0.08	0.8	1.0	
	16IR075ISO	●			0.75	16	9.52	0.04	0.6	0.6	
	16IL075ISO	●			0.75	16	9.52	0.04	0.6	0.6	
	16IR080ISO	●			0.80	16	9.52	0.04	0.6	0.6	
	16IL080ISO	●			0.80	16	9.52	0.04	0.6	0.6	
	16IR100ISO	●			1.00	16	9.52	0.05	0.6	0.7	
	16IL100ISO	●			1.00	16	9.52	0.05	0.6	0.7	
	16IR125ISO	●			1.25	16	9.52	0.07	0.8	0.9	
	16IL125ISO	●			1.25	16	9.52	0.07	0.8	0.9	
	16IR150ISO	●			1.50	16	9.52	0.10	0.8	1.0	
	16IL150ISO	●			1.50	16	9.52	0.10	0.8	1.0	
	16IR175ISO	●			1.75	16	9.52	0.12	0.9	1.2	
	16IL175ISO	●			1.75	16	9.52	0.12	0.9	1.2	
	16IR200ISO	●			2.00	16	9.52	0.13	1.0	1.3	
	16IL200ISO	●			2.00	16	9.52	0.13	1.0	1.3	
	16IR250ISO	●			2.50	16	9.52	0.15	1.1	1.5	
	16IL250ISO	●			2.50	16	9.52	0.15	1.1	1.5	
	16IR300ISO	●			3.00	16	9.52	0.18	1.1	1.5	
	16IL300ISO	●			3.00	16	9.52	0.18	1.1	1.5	

➡ 搭配刀桿 Holder P.530 ➡ 切削條件表 Cutting Condition P.615

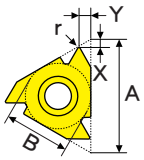
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

鎢鋼內螺紋車刀片 - 全牙型 - UN 規格 60°

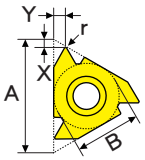
CARBIDE THREAD INSERTS- INTERNAL- FULL PROFILE- UN METRIC 60°

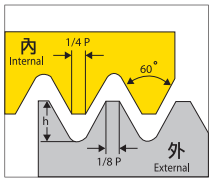
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ✲ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



左車刀片 Left Hand



刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch Tpi (牙/吋)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	11IR32UN	●			32	11	6.35	0.04	0.6	0.6	 公差 Tolerance Class 2A / 2B
	11IL32UN	●			32	11	6.35	0.04	0.6	0.6	
	11IR28UN	●			28	11	6.35	0.04	0.6	0.7	
	11IL28UN	●			28	11	6.35	0.04	0.6	0.7	
	11IR24UN	●			24	11	6.35	0.05	0.7	0.8	
	11IL24UN	●			24	11	6.35	0.05	0.7	0.8	
	11IR20UN	●			20	11	6.35	0.06	0.8	0.9	
	11IL20UN	●			20	11	6.35	0.06	0.8	0.9	
	11IR18UN	●			18	11	6.35	0.07	0.8	1.0	
	11IL18UN	●			18	11	6.35	0.07	0.8	1.0	
	11IR16UN	●			16	11	6.35	0.09	0.9	1.1	
	11IL16UN	●			16	11	6.35	0.09	0.9	1.1	

➡ 搭配刀桿 Holder P.530 ➡ 切削條件表 Cutting Condition P.616

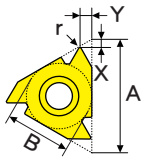
※ 25.4 ÷ Tpi (英制單位 Inch) = Pitch (公制單位 Metric)

鎢鋼內螺紋車刀片 - 全牙型 - UN 規格 60°

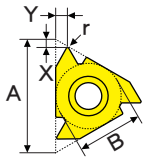
CARBIDE THREAD INSERTS- INTERNAL- FULL PROFILE- UN METRIC 60°

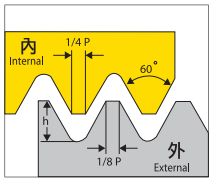
加工材質						
	P	鋼材 Alloy Steels	◐			● 第一推薦 / ○ 第二推薦：連續加工 Continuous Cutting ◐ 第一推薦 / ◔ 第二推薦：一般加工 General Cutting ✱ 第一推薦 / ✲ 第二推薦：斷續加工 Interrupted Cutting – 不推薦 NO Recommend
	M	不銹鋼 Stainless Steels	◐			
	K	鑄鐵 Cast Iron	◐			
	N	鋁合金 Aluminum Alloys	–			
	S	高溫合金 High-Temp Alloys	◐			
	H	調質鋼 Hardened Steels	–			

右車刀片 Right Hand



左車刀片 Left Hand

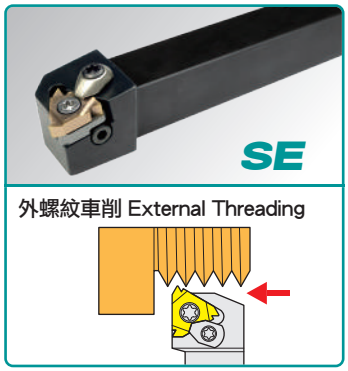


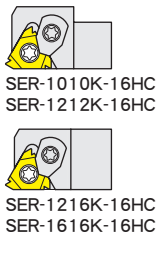
刀片 Insert	訂購編號 Order No.	材質碼 Grade CM2560			螺距 Pitch Tpi (牙/吋)	尺寸 Dimension (mm) A	B	r	X	Y	螺紋 Thread
	16IR40UN	●			40	16	9.52	0.03	0.6	0.6	 公差 Tolerance Class 2A / 2B
	16IL40UN	●			40	16	9.52	0.03	0.6	0.6	
	16IR36UN	●			36	16	9.52	0.03	0.6	0.6	
	16IL36UN	●			36	16	9.52	0.03	0.6	0.6	
	16IR32UN	●			32	16	9.52	0.04	0.6	0.6	
	16IL32UN	●			32	16	9.52	0.04	0.6	0.6	
	16IR28UN	●			28	16	9.52	0.04	0.6	0.7	
	16IL28UN	●			28	16	9.52	0.04	0.6	0.7	
	16IR26UN	●			26	16	9.52	0.04	0.7	0.8	
	16IL26UN	●			26	16	9.52	0.04	0.7	0.8	
	16IR24UN	●			24	16	9.52	0.05	0.7	0.8	
	16IL24UN	●			24	16	9.52	0.05	0.7	0.8	
	16IR20UN	●			20	16	9.52	0.06	0.8	0.9	
	16IL20UN	●			20	16	9.52	0.06	0.8	0.9	
	16IR18UN	●			18	16	9.52	0.07	0.8	1.0	
	16IL18UN	●			18	16	9.52	0.07	0.8	1.0	
	16IR16UN	●			16	16	9.52	0.09	0.9	1.1	
	16IL16UN	●			16	16	9.52	0.09	0.9	1.1	
	16IR14UN	●			14	16	9.52	0.10	0.9	1.2	
	16IL14UN	●			14	16	9.52	0.10	0.9	1.2	
	16IR13UN	●			13	16	9.52	0.11	1.0	1.3	
	16IL13UN	●			13	16	9.52	0.11	1.0	1.3	
	16IR12UN	●			12	16	9.52	0.12	1.1	1.4	
	16IL12UN	●			12	16	9.52	0.12	1.1	1.4	
	16IR115UN	●			11.5	16	9.52	0.13	1.1	1.5	
	16IL115UN	●			11.5	16	9.52	0.13	1.1	1.5	
	16IR11UN	●			11	16	9.52	0.14	1.1	1.5	
	16IL11UN	●			11	16	9.52	0.14	1.1	1.5	
	16IR10UN	●			10	16	9.52	0.15	1.1	1.5	
	16IL10UN	●			10	16	9.52	0.15	1.1	1.5	
	16IR9UN	●			9	16	9.52	0.17	1.2	1.7	
	16IL9UN	●			9	16	9.52	0.17	1.2	1.7	
	16IR8UN	●			8	16	9.52	0.19	1.1	1.5	
	16IL8UN	●			8	16	9.52	0.19	1.1	1.5	

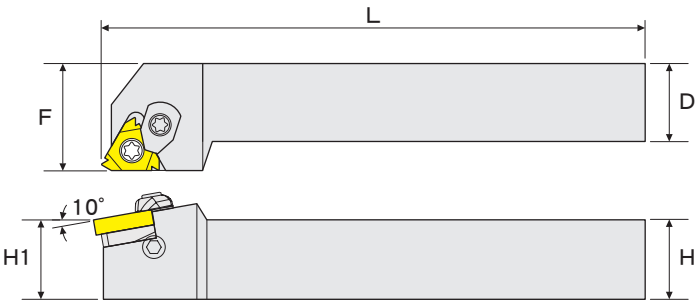
➡ 搭配刀桿 Holder P.530 ➡ 切削條件表 Cutting Condition P.616

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

外徑螺紋車刀桿
EXTERNAL THREADING TOOLHOLDERS



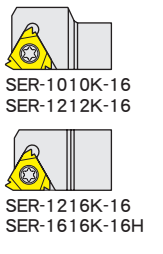


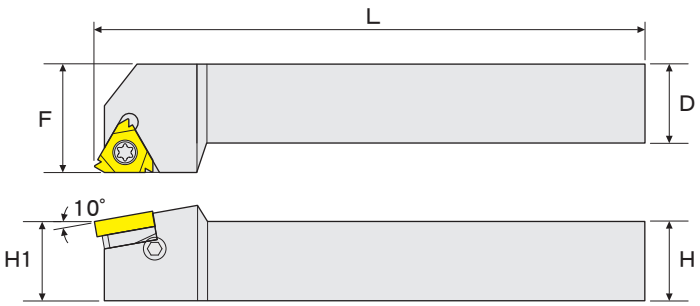


右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert		配 件 Spare Parts
	H1 / H	F	L	D	切槽加工 Grooving	螺紋加工 Threading	
SE$^{R}/_{L}$-1010K-16HC	10	10	125	10	TGL16ER.. TGL16EL..	16ER.. 16EL..	①
SE$^{R}/_{L}$-1212K-16HC	12	12	125	12			
SE$^{R}/_{L}$-1216K-16HC	12	16	125	16			
SE$^{R}/_{L}$-1616K-16HC	16	16	125	16			
SE$^{R}/_{L}$-1616K-16CL	16	20	125	16			②
SE$^{R}/_{L}$-2020K-16CL	20	25	125	20			
SE$^{R}/_{L}$-2525M-16CL	25	32	150	25			
SE$^{R}/_{L}$-3232P-16CL	32	40	170	32			

配 件 Spare Parts	Screw	Shim	Screw	Wrench	Clamp	Wrench
①	MS3509A	–	–	–	–	ETF15
②	MS3512A	GXN16 / GXE16	HTM309	PL25	MC35-3V	ETF15





右車刀桿圖示 Right-Hand Shown

鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert		配 件 Spare Parts
	H1 / H	F	L	D	切槽加工 Grooving	螺紋加工 Threading	
SE$^{R}/_{L}$-1216K-16	12	16	125	16	TGL16ER.. TGL16EL..	16ER.. 16EL..	①
SE$^{R}/_{L}$-1010K-16H	10	10	125	10			
SE$^{R}/_{L}$-1212K-16H	12	12	125	12			
SE$^{R}/_{L}$-1616K-16H	16	16	125	16			
SE$^{R}/_{L}$-1616K-16	16	20	125	16			②
SE$^{R}/_{L}$-2020K-16	20	25	125	20			
SE$^{R}/_{L}$-2525M-16	25	32	150	25			
SE$^{R}/_{L}$-3232P-16	32	40	170	32			

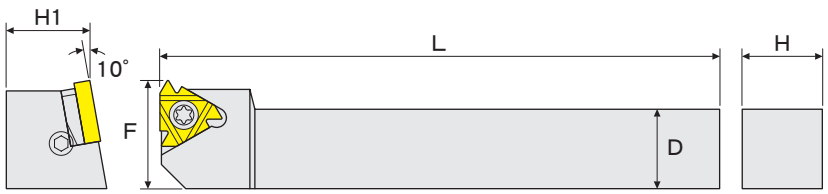
配 件 Spare Parts	Screw	Shim	Screw	Wrench	Wrench
①	MS3509A	–	–	–	ETF15
②	MS3512A	GXN16 / GXE16	HTM309	PL25	ETF15

※ SER 刀桿搭配 GXE 墊片；SEL 刀桿搭配 GXN 墊片。

➡ 搭配刀片 Insert P.521~523
➡ 切削條件表 Cutting Condition P.615, 616

外徑螺紋車刀桿

EXTERNAL THREADING TOOLHOLDERS



右車刀桿圖示 Right-Hand Shown

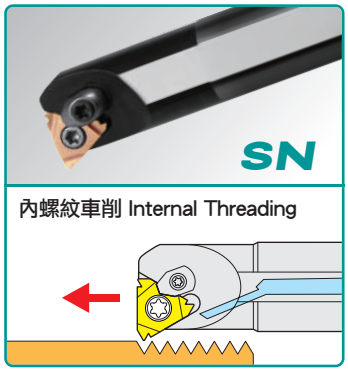
鋼材柄訂購編號 Order No. (Steel Shank)	尺寸 Dimension (mm)				搭配刀片 Insert		配 件 Spare Parts
	H1 / H	F	L	D	切槽加工 Grooving	螺紋加工 Threading	
SKE$^{R}/_{L}$-1212K-16	12	18	125	12	TGL16ER.. TGL16EL..	16ER.. 16EL..	①
SKE$^{R}/_{L}$-1616K-16	16	22	125	16			②
SKE$^{R}/_{L}$-2020K-16	20	27	125	20			
SKE$^{R}/_{L}$-2525M-16	25	34	150	25			

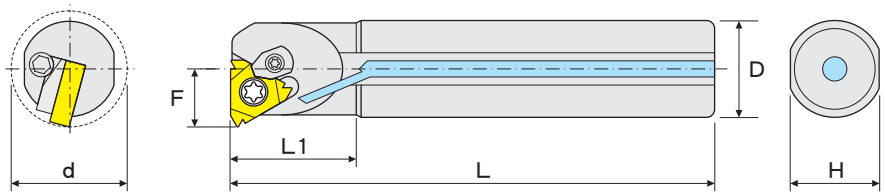
配 件 Spare Parts	Screw	Shim	Screw	Wrench	Wrench
①	MS3509A	–	–	–	ETF15
②	MS3512A	GXN16 / GXE16	HTM309	PL25	ETF15

※ SKER 刀桿搭配 GXE 墊片；SKEL 刀桿搭配 GXN 墊片。 SKER right hand tools shim is GXE ｜ SKEL left hand tools shim is GXN.

➡ 搭配刀片 Insert P.521~523 ➡ 切削條件表 Cutting Condition P.615, 616

內徑螺紋車刀桿
INTERNAL THREADING TOOLHOLDERS





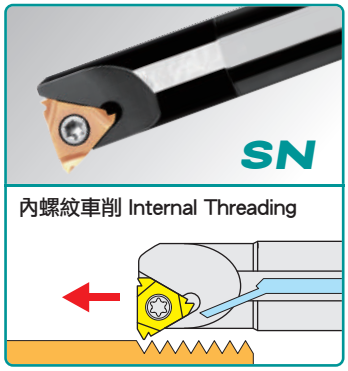
右車刀桿圖示 Right-Hand Shown

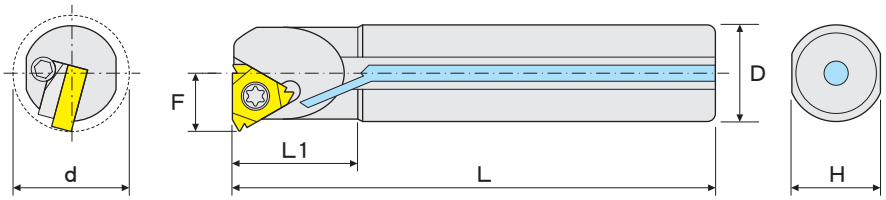
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)				最小車徑 d	搭配刀片 Insert		配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	L	D		切槽加工 Grooving	螺紋加工 Threading	
SN$^{R}_{L}$-0020R-16CL	SN$^{R}_{L}$-A0020R-16CL	12.0	40	200	20	24	TGL16IR.. TGL16IL..	16IR.. 16IL..	①
SN$^{R}_{L}$-0025R-16CL	SN$^{R}_{L}$-A0025R-16CL	14.5	45	200	25	29			
SN$^{R}_{L}$-0032S-16CL	SN$^{R}_{L}$-A0032S-16CL	18.5	45	250	32	36			

配 件 Spare Parts	Screw	Shim	Screw	Wrench	Clamp	Wrench
①	MS3512A	GXN16 / GXE16	HTM309	PL25	MC35-3V	ETF15

※ SNR 刀桿搭配 GXN 墊片；SNL 刀桿搭配 GXE 墊片。 SNR right hand tools shim is GXN ｜ SNL left hand tools shim is GXE.

➡ 搭配刀片 Insert P.524~527 ➡ 切削條件表 Cutting Condition P.615, 616





右車刀桿圖示 Right-Hand Shown

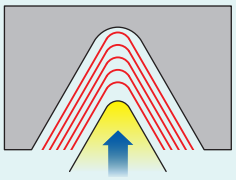
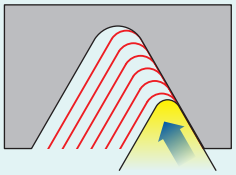
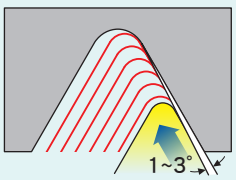
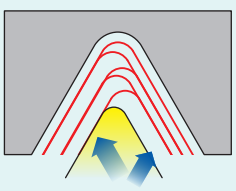
鋼材柄訂購編號 Order No. (Steel Shank)		尺寸 Dimension (mm)				最小車徑 d	搭配刀片 Insert		配 件 Spare Parts
無出水孔 Non-coolant	出水孔 Coolant	F	L1	L	D		切槽加工 Grooving	螺紋加工 Threading	
SN$^{R}_{L}$-0010K-11-S10	SN$^{R}_{L}$-A0010K-11-S10	6.5	22	125	10	13	TGL11IR.. TGL11IL..	11IR.. 11IL..	①
SN$^{R}_{L}$-0012M-11-S12	SN$^{R}_{L}$-A0012M-11-S12	8.0	26	150	12	16			
SN$^{R}_{L}$-0016Q-16	SN$^{R}_{L}$-A0016Q-16	10.0	36	180	16	19	TGL16IR.. TGL16IL..	16IR.. 16IL..	②
SN$^{R}_{L}$-0020R-16	SN$^{R}_{L}$-A0020R-16	12.0	40	200	20	24			③
SN$^{R}_{L}$-0025R-16	SN$^{R}_{L}$-A0025R-16	14.5	45	200	25	29			
SN$^{R}_{L}$-0032S-16	SN$^{R}_{L}$-A0032S-16	18.5	45	250	32	36			

配 件 Spare Parts	Screw	Wrench	Shim	Screw	Wrench
①	MS2507G	ETF08	–	–	–
②	MS3509A	ETF15	–	–	–
③	MS3512A	ETF15	GXN16 / GXE16	HTM309	PL25

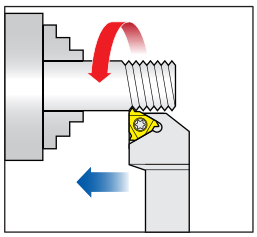
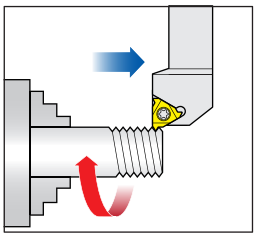
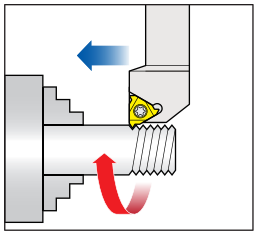
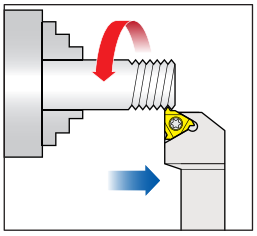
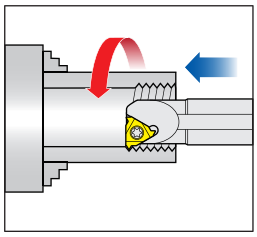
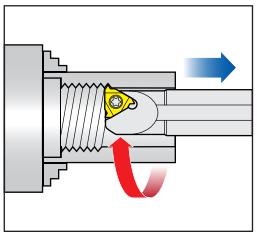
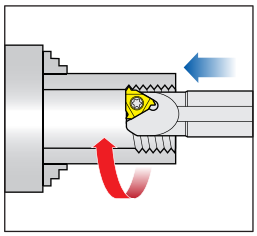
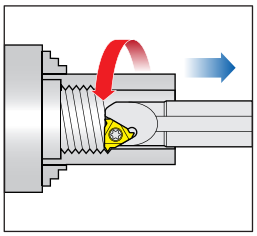
※ SNR 刀桿搭配 GXN 墊片；SNL 刀桿搭配 GXE 墊片。 SNR right hand tools shim is GXN ｜ SNL left hand tools shim is GXE.

➡ 搭配刀片 Insert P.524~527 ➡ 切削條件表 Cutting Condition P.615, 616

螺紋車削進刀方式
Thread Turning Infeed Methods

螺紋車削 進刀方式 Infeed Methods	特色 Features	
	優點 Advantages	缺點 Disadvantages
 徑向式進刀 Radial Infeed	・最容易使用 (螺紋的標準程序)。 Easiest to use.(Standard programme for threading) ・應用廣泛 (切削條件易更改)。 Wide application.(Cutting conditions easy to change.) ・徑向式進刀是最簡單、快速的加工方式。 Radial infeed is the simplest and quickest method. ・適合螺距小於 1.5mm(16Tpi) 加工。 For pitches of less than 1.5mm(16Tpi). ・適合切屑較短的材質。 For material with short chips. ・適合硬質材質的加工。 For work with hardened material. ・切削刃左右兩側磨損均勻。 Uniform wear of the right and left sides of the cutting edge.	・後段加工切削刃接觸工件面積大而產生震動。 Subject to vibration in the later passes due to long cutting edge in contact with workpiece. ・切屑控制困難。 Difficult chip control. ・無法使用在大螺距的螺紋加工。 Ineffective for large pitch threading. ・R 角加工負荷大。 Heavy load on the nose radius.
 側向進刀 Flank Infeed	・工序容易使用 (螺紋的半標準程序)。 Relatively easy to use.(Semi-standard program for threading.) ・適合大螺距和容易加工材質之應用。 Suitable for large pitch threads or materials that peel easily. ・降低切削阻力。 Reduced cutting force. ・良好排屑。 Good chip discharge.	・刀片右側磨損較大。 Large flank wear of the right side of a cutting edge. ・加工深度不易修改 (需要重新編程)。 Relatively difficult to change cutting depth. (Re-programming necessary)
 改進式側向進刀 Flank Infeed(Modified)	・防止切削刃右側磨損。 Preventing flank wear on the right side of the cutting edge. ・適合大螺距和容易加工材質之應用。 Suitable for large pitch threads or materials that peel easily. ・降低切削阻力。 Reduced cutting force. ・良好排屑。 Good chip discharge.	・加工工序複雜。 Complex machining programming. ・加工深度不易修改 (需要重新編程)。 Difficult to change cutting depth. (NC programming necessary)
 交替式進刀 Incremental Infeed	・適合大螺距和容易加工材質之應用。 Good for large pitch or materials that peel easily. ・切削刃左右兩側磨損均勻。 Uniform wear of the right and left ・降低切削阻力。 Reduced cutting force.	・加工工序複雜。 Complex machining programming. ・加工深度不易修改 (需要重新編程)。 Difficult to change cutting depth. (NC programming necessary) ・排屑控制困難。 Chips control is difficult.

螺紋車削進刀圖示
Thread Turning Methods

螺紋 Thread	刀具進給方向 Thread Methods	
外螺紋 - 右螺紋 External- Right Hand Thread	 右車刀桿 Right Hand	 左車刀桿 Left Hand
外螺紋 - 左螺紋 External- Left Hand Thread	 左車刀桿 Left Hand	 右車刀桿 Right Hand
內螺紋 - 右螺紋 Internal- Right Hand Thread	 右車刀桿 Right Hand	 左車刀桿 Left Hand
內螺紋 - 左螺紋 Internal- Left Hand Thread	 左車刀桿 Left Hand	 右車刀桿 Right Hand

切削條件表

Cutting Condition Table

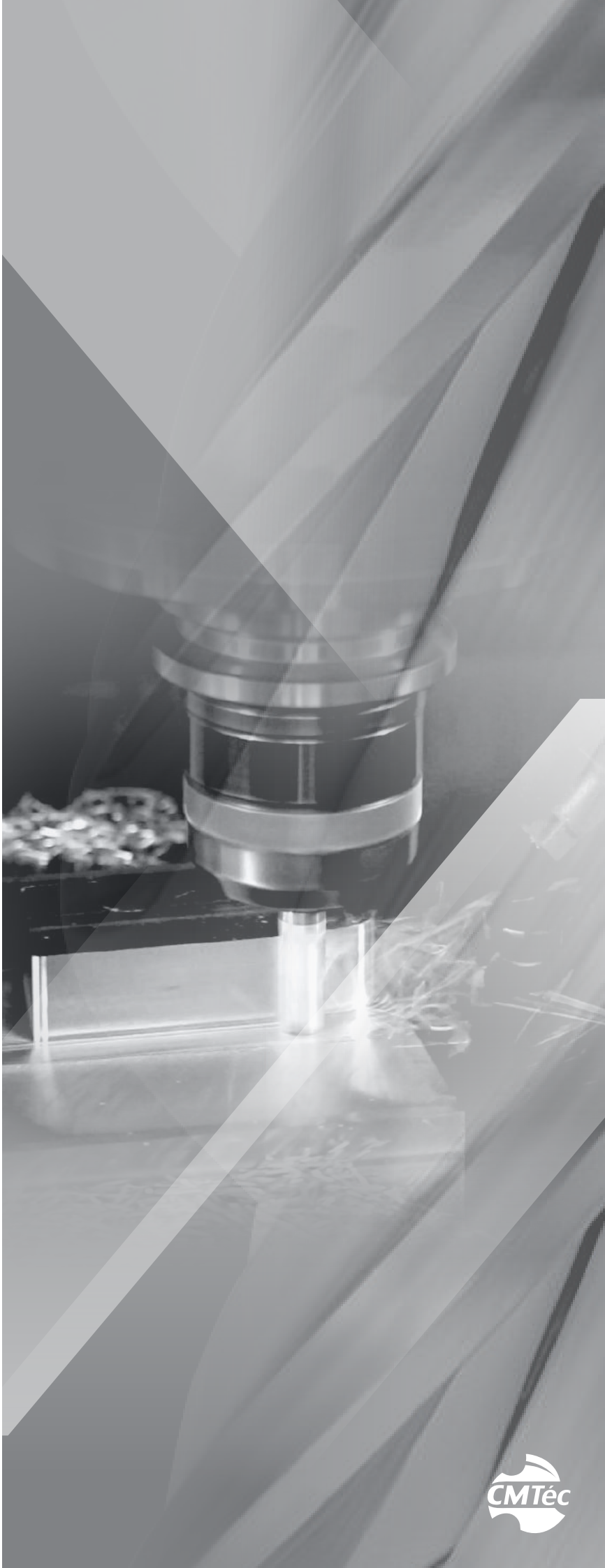


Table 01 S220 鎢鋼銑刀- 2 / 3刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

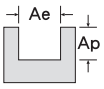
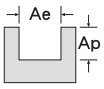
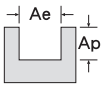
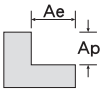
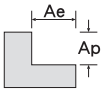
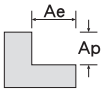
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		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 S220 鎢鋼銑刀- 3 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

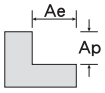
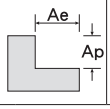
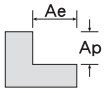
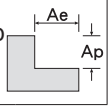
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		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 			

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

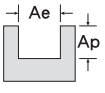
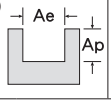
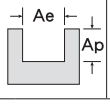
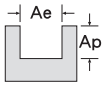
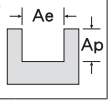
Table 03 M520 極細鎢鋼不等距雙心徑型銑刀- 3刃(鍍膜) 切削條件表

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		Ti-6Al-4V		Inconel 718	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30		HRC<30	
切削速度 Vc	130m/min		120m/min		110m/min		70m/min		60m/min		20m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
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 		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 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		Ti-6Al-4V		Inconel 718	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30		HRC<30	
切削速度 Vc	110m/min		100m/min		80m/min		56m/min		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	250	15,600	230	13,370	170	8,910	160	7,800	140	2,790	30
3mm	12,740	290	10,400	270	8,910	200	6,260	190	5,200	160	1,860	35
4mm	9,550	290	7,800	270	6,690	200	4,460	190	3,900	160	1,390	35
5mm	7,640	290	6,240	270	5,350	200	3,560	190	3,120	160	1,110	35
6mm	6,370	290	5,200	270	4,460	200	2,970	190	2,600	160	930	35
8mm	4,780	420	3,900	390	3,340	290	2,230	270	1,950	230	690	50
10mm	3,820	420	3,120	390	2,670	290	1,790	270	1,560	230	560	50
12mm	3,180	420	2,600	390	2,230	290	1,480	270	1,300	230	460	50
14mm	2,730	420	2,230	390	1,910	290	1,270	270	1,110	230	400	50
16mm	2,380	320	1,950	290	1,670	220	1,110	200	970	170	350	40
20mm	1,910	320	1,560	290	1,340	220	890	200	780	170	280	40
25mm	1,530	320	1,250	290	1,070	220	710	200	620	170	220	40
切削量 Cutting Amount (mm)	Ap=1D 				Ap=0.8D 		Ap=0.8D 		Ap=0.5D 		Ap=0.3D 	

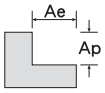
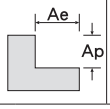
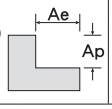
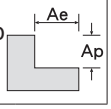
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

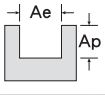
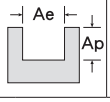
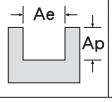
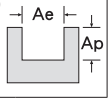
Table 04 M520 極細鎢鋼不等距雙心徑型銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

側銑加工 Side Milling

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

溝銑加工 Slot Milling

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

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 05 S220 鎢鋼球刀- 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 Ae=0.1D													

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

Table 06 S220 鎢鋼球刀- 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 Ae=0.1D													

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 07 S220 鎢鋼圓鼻銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

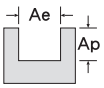
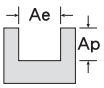
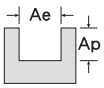
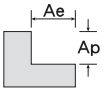
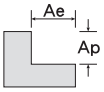
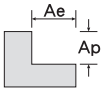
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		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 S220 鎢鋼圓鼻銑刀 / S220 鎢鋼長柄型圓鼻銑刀- 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	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 			

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 09 S220 鎢鋼高導型銑刀- 3刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

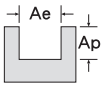
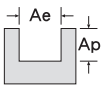
加工材質 Material	合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels	
工件料號 Material Code	SCM,SKT,SKD		SKT,SKD		SKT,SKD	
硬度 Hardness	HRC30~45		HRC45~55		HRC55~63	
切削速度 Vc	27m/min		18m/min		16m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	2,880	75	1,890	75	1,710	70
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 M520 極細鎢鋼銑刀- 6刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

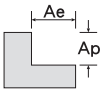
加工材質 Material	合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels	
工件料號 Material Code	SCM,SKT,SKD		SKT,SKD		SKT,SKD	
硬度 Hardness	HRC30~45		HRC45~55		HRC55~63	
切削速度 Vc	27m/min		18m/min		16m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	2,880	75	1,890	75	1,710	70
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					

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 S220 鎢鋼鋁用(特)高導型銑刀- 2 / 3刃(白刀) 切削條件表

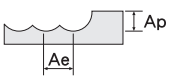
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	鋁合金 Aluminum Alloys		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			

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

Table 12 S220 鎢鋼鋁用球刀- 2刃(白刀) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

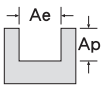
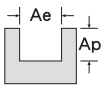
加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075		—	
切削速度 Vc	100~200m/min		70~110m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
1.0R	21,420	1,485	17,190	630
2.0R	10,800	1,485	8,550	810
3.0R	7,200	1,485	5,760	810
4.0R	5,400	1,485	4,320	810
5.0R	7,320	1,485	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 Ae=0.05D			

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 13 S220 鎢鋼鋁用波浪型銑刀- 3刃(白刀) 切削條件表

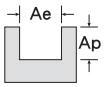
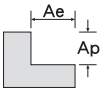
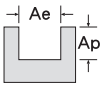
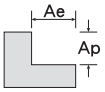
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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 	

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

Table 14 S220 鎢鋼波浪型銑刀- 2 / 3 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

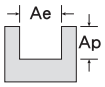
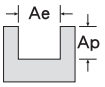
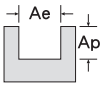
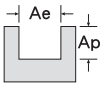
加工材質 Material	鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys	
工件料號 Material Code	Ti-6Al-4V		Ti5Al2Sn		Ti-6Al-4V		Ti5Al2Sn	
硬度 Hardness	HRC＞30		HRC≒30		HRC＞30		HRC≒30	
切削速度 Vc	40m/min		60m/min		40m/min		60m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	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 (2F / 3F) 		Ap=0.6D Ae=0.1D (4F) 		Ap=1D (2F / 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.							

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 15 S220 鎢鋼強力型銑刀- 2刃(鍍膜) 切削條件表

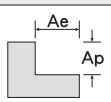
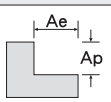
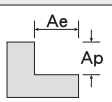
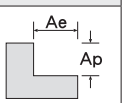
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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		Ti5Al2Sn		Ti-6Al-4V		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) 	

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

Table 16 S220 鎢鋼強力型銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

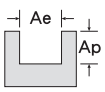
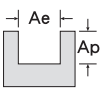
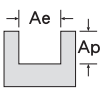
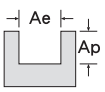
加工材質 Material	不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鋁合金 Aluminum Alloys	
工件料號 Material Code	SUS304		Ti5Al2Sn		Ti-6Al-4V		Al 5052 / 6061 / 7075	
硬度 Hardness	—		HRC≒30		HRC＞30		—	
切削速度 Vc	54m/min		60m/min		40m/min		120m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (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 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 17 S220 鎢鋼高導強力型銑刀- 2刃(鍍膜) 切削條件表

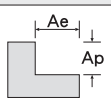
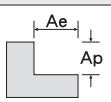
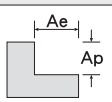
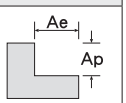
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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		Ti5Al2Sn		Ti-6Al-4V		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) 	

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

Table 18 S220 鎢鋼高導強力型銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

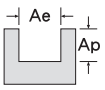
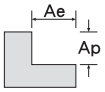
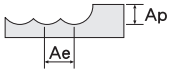
加工材質 Material	不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鈦合金 Titanium Alloys		鋁合金 Aluminum Alloys	
工件料號 Material Code	SUS304		Ti5Al2Sn		Ti-6Al-4V		Al 5052 / 6061 / 7075	
硬度 Hardness	—		HRC≒30		HRC＞30		—	
切削速度 Vc	54 m/min		60m/min		40m/min		120m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (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 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 19 S220 鎢鋼石墨用銑刀- 2 / 4刃(鍍膜) 切削條件表

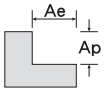
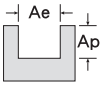
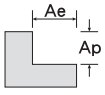
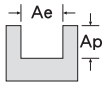
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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)						

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

Table 20 S220 鎢鋼銅鋁用銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

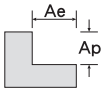
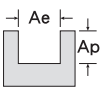
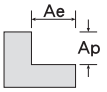
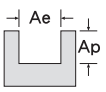
加工材質 Material	鋁合金 Aluminum Alloys				銅合金 Copper Alloys			
切削速度 Vc	150m/min		150m/min		80m/min		80m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.5mm	15,920	480	15,920	400	12,740	300	12,740	250
1.0mm	15,920	480	15,920	400	12,740	300	12,740	250
1.5mm	15,920	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 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 21 S220 鎢鋼銅鋁用長刃型銑刀- 2刃(鍍膜) 切削條件表

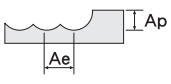
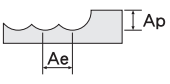
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	鋁合金 Aluminum Alloys				銅合金 Copper Alloys			
切削速度 Vc	150m/min		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)	Ap≦1.5D Ae≦0.1D 		Ap≦0.5D 		Ap≦1.5D Ae≦0.1D 		Ap≦0.5D 	

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

Table 22 S220 鎢鋼銅鋁用球刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

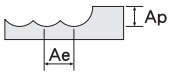
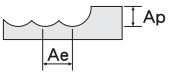
加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
切削速度 Vc	150m/min		80m/min	
半徑 R	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.50R	15,920	550	12,740	300
0.75R	15,920	550	12,740	300
1.00R	15,920	550	12,740	300
1.25R	15,920	610	10,190	330
1.50R	15,920	610	8,490	330
2.00R	11,940	760	6,370	410
2.50R	9,550	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)	Ap=0.02D Ae=0.05D 		Ap=0.02D Ae=0.05D 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 23 S220 鎢鋼銅鋁用長頸型球刀- 2刃(鍍膜) 切削條件表

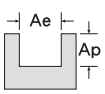
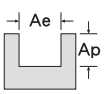
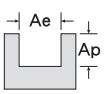
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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	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=0.02D Ae=0.05D 		Ap=0.02D Ae=0.05D 	

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

Table 24 M520 極細鎢鋼銑刀- 2刃(鍍膜) 切削條件表

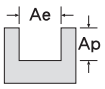
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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) 			

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 25 M520 極細鎢鋼短刃型 / 短刃長柄型銑刀- 2刃(鍍膜) 切削條件表

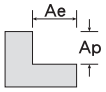
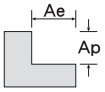
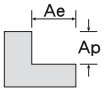
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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	5030	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									

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

Table 26 M520 極細鎢鋼銑刀- 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						Ap=1D Ae=0.03D				Ap=1.5D Ae=0.06D			

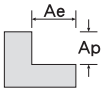
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 27 M520 極細鎢鋼短刃型 / 短刃長柄型銑刀- 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									

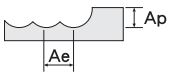


※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

Table 28 M520 極細鎢鋼球刀- 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 Ae=0.1D													

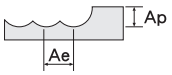


※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 29 M520 極細鎢鋼短刃型 / 短刃長柄型球刀- 2刃(鍍膜) 切削條件表

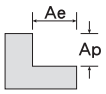
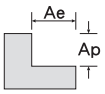
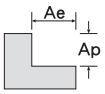
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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	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 Ae=0.1D													

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

Table 30 M520 極細鎢鋼短刃型 / 短刃長柄型圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	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	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 31 M520 極細鎢鋼強重型銑刀- 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	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 M520 極細鎢鋼圓鼻銑刀- 2刃(鍍膜) 切削條件表

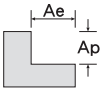
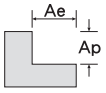
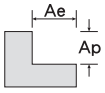
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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)			

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 33 M520 極細鎢鋼圓鼻銑刀- 4刃(鍍膜) 切削條件表

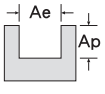
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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 			

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

Table 34 N620 奈米鎢鋼短刃型銑刀- 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 									

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

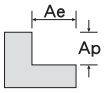
1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
2. 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
3. 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed 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 35 N620 奈米鎢鋼短刃型銑刀- 3刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

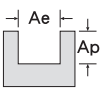
側銑加工 Side Milling

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 MaterialCode	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)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (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=1D, Ae=0.02D D>6, Ap=1D, 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 MaterialCode	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							

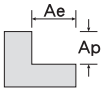


※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

Table 36 N620 奈米鎢鋼短刃型銑刀- 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=0.02D D>6, Ap=1D, Ae=0.05D									

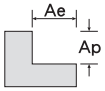
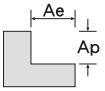
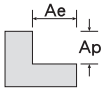
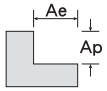


※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 37 N620 奈米鎢鋼高導短刃型銑刀- 6刃(鍍膜) 切削條件表

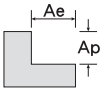
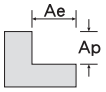
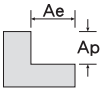
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	合金鋼 Alloy Steels		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 	

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

Table 38 N620 奈米鎢鋼短刃型圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

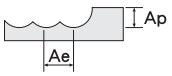
加工材質 Material	合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		鑄鐵 Cast Iron	
工件料號 Material Code	SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		FC,FCD	
硬度 Hardness	HRC20~30		HRC30~45		HRC45~55		HRC55~63		HRC<30	
切削速度 Vc	161m/min		135m/min		81m/min		61m/min		237m/min	
外徑 Diameter	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=1D Ae=0.06D 				Ap=1D Ae=0.03D 				Ap=1D Ae=0.06D 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 N620 奈米鎢鋼短刃型 / 短刃長柄型球刀- 2刃(鍍膜) 切削條件表

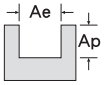
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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 Ae=0.05D									

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

Table 40 N620 奈米鎢鋼短刃長頸型銑刀- 2刃(鍍膜) 切削條件表

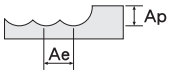
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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			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- 2E	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- 4E	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- 6E	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- 8E	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- 8E	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- 8E	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- 10E	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- 12E	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- 08E	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- 12E	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- 16E	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- 20E	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- 16E	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- 20E	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- 20E	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- 30E	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)															

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 41 N620 奈米鎢鋼短刃長頸型球刀- 2刃(鍍膜) 切削條件表

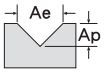
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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- 3E	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- 4E	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- 4E	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- 6E	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- 6E	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- 8E	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- 9E	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- 12E	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- 12E	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- 16E	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- 12E	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- 25E	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- 25E	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- 30E	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- 30E	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- 40E	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- 30E	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- 45E	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)																				

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

Table 42 鎢鋼雕刻銑刀- 1刃(白刃) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

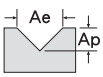
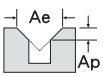
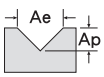
加工材質 Material	碳素鋼 Carbon Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron		鋁合金 Aluminum Alloys		高溫合金 High-Temp Alloys		非金屬 Non-metal	
工件料號 Material Code	S35C,S45C,S50C		SUS304		FC,FCD		Al 6061		Ti-6Al-4V		塑膠 Plastic	
硬度 Hardness	—		—		HRC<30		—		HRC<30		—	
切削速度 Vc	75m/min		40m/min		75m/min		75m/min		30m/min		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 											

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 鎢鋼鋁用倒角銑刀- 1刃(白刀) 切削條件表

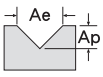
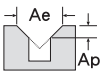
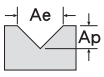
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	鋁合金 Aluminum Alloys					
工件料號 Material Code	Al 5052 / 6061 / 7075					
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 	

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

Table 44 極細鎢鋼高硬用倒角銑刀- 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					
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 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 45 鎢鋼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		—		—	
切削數度 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						

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

Table 46 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.											

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 47 鎢鋼內R角銑刀- 2刃(白刀) 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 F Roughing (mm/min)	精加工 F Finishing (mm/min)	S (rpm)	粗加工 F Roughing (mm/min)	精加工 F Finishing (mm/min)	S (rpm)	粗加工 F Roughing (mm/min)	精加工 F Finishing (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)	※ R≦0.5mm 精加工預留量(單邊)=0.02mm。 R≦0.5mm Finishing Stock Amount(Indicates Radius)=0.02mm ※ R>0.5mm 精加工預留量(單邊)=0.05mm。 R>0.5mm Finishing Stock Amount(Indicates Radius)=0.05mm ※ 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.								

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

Table 48 鎢鋼中心鑽頭- 2刃(白刀) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SUS304		FC,FCD		Ti-6Al-4V	
硬度 Hardness	HRC<20		HRC20~30		—		HRC<30		HRC<30	
切削速度 Vc	60m/min		50m/min		50m/min		50m/min		50m/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)
1.0mm	12,740	200	9,550	124	15,920	254	15,920	207	15,920	365
1.5mm	12,740	382	10,620	244	11,990	359	10,615	244	10,615	244
2.0mm	9,550	382	7,960	239	7,960	318	7,960	239	7,960	239
3.0mm	6,370	318	5,305	121	5,310	212	5,310	212	5,310	212
5.0mm	3,820	382	3,185	255	3,185	318	3,185	255	3,185	255
備註 Remarks										

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 49 鎢鋼定點鑽頭- 2刃(白刃) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SUS304		FC,FCD		Ti-6Al-4V	
硬度 Hardness	HRC<20		HRC20~30		—		HRC<30		HRC<30	
切削速度 Vc	48m/min		40m/min		28m/min		40m/min		24m/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)
4mm	3,820	310	3,180	220	2,230	160	3,180	220	1,910	110
5mm	3,060	240	2,550	180	1,780	120	2,550	180	1,530	90
6mm	2,550	200	2,120	150	1,490	100	2,120	150	1,270	80
8mm	1,910	210	1,590	140	1,110	100	1,590	140	960	80
10mm	1,530	240	1,270	170	890	120	1,270	170	760	80
12mm	1,270	360	1,060	220	740	160	1,060	220	640	130
16mm	960	310	800	190	560	130	800	190	480	120
備註 Remarks										

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

Table 50 CDM 鎢鋼微徑鑽頭- 2刃(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		—		HRC<30	
切削速度 Vc	60m/min		40m/min		20m/min		50m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
0.50mm	38,220	630	25,480	400	12,740	70	31,850	550
0.95mm	20,110	700	13,410	450	6,710	80	16,760	610
1.00mm	19,110	630	12,740	380	6,370	70	15,920	550
1.45mm	13,180	670	8,790	450	4,390	60	10,980	610
1.50mm	12,740	640	8,490	400	4,250	70	10,620	550
1.95mm	9,800	700	6,530	450	3,270	80	8,170	620
2.00mm	9,550	640	6,370	380	3,190	70	7,960	560
2.45mm	7,800	700	5,200	440	2,600	80	6,500	510
2.50mm	7,640	630	5,100	410	2,550	70	6,370	540
2.95mm	6,480	700	4,320	450	2,160	80	5,400	610
備註 Remarks								

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 51 CDS 鎢鋼短刃型同柄鑽頭- 2刃(3倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

濕式鑽孔 Wet Drilling

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	110m/min		100m/min		60m/min		50m/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)	S (rpm)	F (mm/min)
3mm	11,680	860	10,620	620	6,370	470	5,310	240	12,740	780
5mm	7,000	860	6,370	640	3,820	350	3,190	190	7,640	760
8mm	4,380	820	3,980	600	2,390	320	1,990	180	4,780	740
10mm	3,500	800	3,190	560	1,910	280	1,590	140	3,820	730
12mm	2,920	770	2,650	550	1,590	270	1,330	130	3,190	720
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

乾式鑽孔 Dry Drilling

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	90m/min		65m/min		50m/min		40m/min		100m/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	9,550	720	6,900	520	5,310	420	4,250	200	10,620	650
5mm	5,730	720	4,140	530	3,190	320	2,550	160	6,370	630
8mm	3,580	680	2,590	500	1,990	290	1,590	150	3,980	620
10mm	2,870	670	2,070	470	1,590	250	1,270	120	3,190	610
12mm	2,390	640	1,730	460	1,330	240	1,060	110	2,650	600
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 52 CDH 鎢鋼短刃型高速鑽頭- 2刃(3倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	120m/min		100m/min		60m/min		40m/min		130m/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	12,740	1,040	10,620	770	6,370	510	4,250	290	13,800	1,080
4mm	9,550	1,040	7,960	770	4,780	510	3,180	290	10,350	1,080
5mm	7,640	780	6,370	590	3,820	380	2,550	220	8,280	810
6mm	6,370	780	5,310	590	3,190	350	2,120	220	6,900	810
8mm	4,780	720	3,980	540	2,390	350	1,590	200	5,180	760
10mm	3,820	640	3,180	490	1,910	320	1,270	180	4,140	680
12mm	3,180	600	2,650	430	1,590	290	1,060	160	3,450	610
14mm	2,730	600	2,270	430	1,370	290	910	160	2,960	610
16mm	2,390	490	1,990	380	1,190	260	800	140	2,590	530
18mm	2,120	490	1,770	380	1,060	260	710	140	2,300	530
20mm	1,910	390	1,590	300	960	210	640	110	2,070	420
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

Table 53 CDHF 鎢鋼標準型高速鑽頭- 2刃(5倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		GG40	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	120m/min		100m/min		60m/min		40m/min		130m/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	12,740	930	10,620	690	6,370	470	4,250	260	13,800	970
4mm	9,550	930	7,960	690	4,780	470	3,180	260	10,350	970
5mm	7,640	700	6,370	520	3,820	350	2,550	200	8,280	730
6mm	6,370	700	5,310	520	3,190	350	2,120	200	6,900	730
8mm	4,780	660	3,980	490	2,390	320	1,590	180	5,180	680
10mm	3,820	580	3,180	430	1,910	280	1,270	160	4,140	610
12mm	3,180	530	2,650	390	1,590	270	1,060	150	3,450	550
14mm	2,730	530	2,270	390	1,370	270	910	150	2,960	550
16mm	2,390	450	1,990	350	1,190	240	800	130	2,590	470
18mm	2,120	450	1,770	350	1,060	240	710	130	2,300	470
20mm	1,910	360	1,590	280	960	190	640	100	2,070	380
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 54 CDHC 鎢鋼短刃內冷型高速鑽頭- 2刃(3倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	150m/min		135m/min		70m/min		60m/min		160m/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)
4mm	11,940	1,130	10,750	860	5,570	570	4,780	320	12,740	1,180
5mm	9,550	860	8,600	640	4,460	430	3,820	240	10,190	890
6mm	7,960	860	7,170	640	3,720	430	3,180	240	8,490	890
8mm	5,970	790	5,370	590	2,790	400	2,390	220	6,370	830
10mm	4,780	710	4,300	530	2,230	360	1,910	200	5,100	740
12mm	3,980	660	3,580	490	1,860	330	1,590	180	4,250	740
14mm	3,410	660	3,070	490	1,590	330	1,360	180	3,640	660
16mm	2,990	560	2,690	420	1,390	280	1,190	160	3,180	570
18mm	2,650	560	2,390	420	1,240	280	1,060	160	2,830	570
20mm	2,390	450	2,150	340	1,120	220	960	130	2,550	460
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

Table 55 CDHCF 鎢鋼標準內冷型高速鑽頭- 2刃(5倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	150m/min		135m/min		70m/min		60m/min		160m/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)
4mm	11,940	1,020	10,750	770	5,570	510	4,780	280	12,740	1,060
5mm	9,550	770	8,600	570	4,460	380	3,820	210	10,190	800
6mm	7,960	770	7,170	570	3,720	380	3,180	210	8,490	800
8mm	5,970	720	5,370	540	2,790	350	2,390	200	6,370	740
10mm	4,780	640	4,300	490	2,230	320	1,910	180	5,100	660
12mm	3,980	570	3,580	430	1,860	290	1,590	160	4,250	610
14mm	3,410	570	3,070	430	1,590	290	1,360	160	3,640	610
16mm	2,990	490	2,690	380	1,390	260	1,190	140	3,180	530
18mm	2,650	490	2,390	380	1,240	260	1,060	140	2,830	530
20mm	2,390	390	2,150	300	1,120	210	960	110	2,550	420
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 56 CDHCS 鎢鋼長刃內冷型高速鑽頭- 2刃(7倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	120m/min		85m/min		50m/min		40m/min		130m/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	12,700	910	10,600	680	5,310	450	4,200	250	13,800	950
4mm	9,500	910	8,000	680	3,980	450	3,100	250	10,300	950
5mm	7,600	690	6,400	510	3,190	340	2,500	190	8,200	710
6mm	6,400	690	5,300	510	2,650	340	2,100	190	6,900	710
8mm	4,800	640	4,000	470	1,990	320	1,600	180	5,100	670
10mm	3,800	560	3,200	430	1,590	280	1,300	160	4,100	590
12mm	3,200	510	2,600	390	1,330	270	1,000	150	3,500	530
14mm	2,700	510	2,300	390	1,140	270	910	150	3,000	530
16mm	2,400	450	2,000	330	995	210	700	120	2,300	470
18mm	2,100	450	1,800	330	890	210	700	120	2,300	470
20mm	1,900	360	1,600	260	800	170	650	100	2,000	380
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

Table 57 鎢鋼銅鋁用直刃鑽鉸刀(白刀) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

加工材質 Material	鑄鐵 Cast Iron		青銅 Bronze		鋁合金 Aluminum Alloys	
工件料號 Material Code	FC,FCD		—		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<30		HRC≦25		—	
切削速度 Vc	120m/min		80m/min		140m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
5mm	7,640	960	5,100	410	8,920	1,430
6mm	6,370	800	4,250	340	7,430	1,190
8mm	4,780	600	3,190	260	5,570	890
10mm	3,820	480	2,550	200	4,460	710
12mm	3,190	400	2,120	170	3,720	600
16mm	2,390	300	1,590	130	2,790	450
20mm	1,910	240	1,270	100	2,230	360
備註 Remarks						

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 58 鎢鋼螺旋機械鉸刀(白刀) 切削條件表

SOLID CARBIDE REAMERS- REAMING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels			合金鋼 Alloy Steels			鑄鐵 Cast Iron			銅合金 Copper Alloys			鋁合金 Aluminum Alloys		
工件料號 Material Code	S35C,S45C,S50C			SCM,SKT,SKD			FC,FCD			—			Al 5052 / 6061 / 707		
硬度 Hardness	HRC<20			HRC 20~30			HRC<30			—			—		
切削速度 Vc	16m/min			12m/min			18m/min			30m/min			30m/min		
外徑 Diameter	S (rpm)	F (mm/min)	預留量 Stock Amount	S (rpm)	F (mm/min)	預留量 Stock Amount	S (rpm)	F (mm/min)	預留量 Stock Amount	S (rpm)	F (mm/min)	預留量 Stock Amount	S (rpm)	F (mm/min)	預留量 Stock Amount
2mm	2,550	200	0.1~0.2	1,910	100	0.1~0.2	2,870	180	0.1~0.2	4,780	480	0.1~0.2	4,780	480	0.1~0.2
4mm	1,270	200	0.1~0.2	960	100	0.1~0.2	1,430	180	0.1~0.2	2,390	480	0.1~0.2	2,390	480	0.1~0.2
5mm	1,020	160	0.1~0.2	760	80	0.1~0.2	1150	140	0.1~0.2	1,910	380	0.1~0.2	1,910	380	0.1~0.2
8mm	640	160	0.2	480	80	0.2	720	140	0.2	1,190	370	0.2~0.3	1,190	370	0.2
10mm	510	160	0.2	380	80	0.2	570	140	0.2	960	380	0.2~0.3	960	380	0.2~0.3
備註 Remarks															

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

Table 59 鎢鋼車刀 切削條件表

SOLID CARBIDE TURNING TOOLS- TURNING CONDITION TABLE

材質 Material Group	加工材質 Material		切削速度 Vc (m/min)	每轉進給量 f (mm/rev)
P	非合金鋼 Unalloyed Steels	低碳Low Carbon	20~125	0.01~0.03
		中碳Medium Carbon	20~125	0.01~0.03
		高碳High Carbon	30~90	0.01~0.03
	合金鋼 Alloy Steels		40~80	0.01~0.03
M	不銹鋼 Stainless Steels		20~80	0.01~0.03
K	鑄鋼 Cast Steels		40~80	0.01~0.03
	鑄鐵 Cast Iron		40~110	0.01~0.03
N	非金屬 & 鋁 Non-Ferrous & Aluminium		50~110	0.01~0.03
S	高溫合金 High-Temp Alloys		15~25	0.01~0.03
	鈦 Titanium		15~25	0.01~0.03
H	高硬度材 Hard Materials		13~25	0.01~0.03

車牙進刀數 Threading Passes							
牙距 Pitch:	mm	0.5	0.7	0.8	1.0	1.25	1.5
進刀數 Number of Passes		6~12	7~14	7~16	8~18	8~20	10~22

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 60 鎢鋼多功能螺旋鑽銑牙刀(鍍膜) 切削條件表

SOLID CARBIDE THREAD MILLS- THREADING 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)	切削速度 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)								

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 61 鎢鋼銑牙刀 切削條件表

SOLID CARBIDE THREAD MILLS- THREADING CONDITION TABLE

材質 Material Group	加工材質 Material		布式硬度 HB	直刃 Straight		螺旋刃 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
	鑄鋼 Cast steels	低合金鋼(含量≦5%) Low alloy	200	60~160	0.008~0.024	65~200	0.024~0.08
		高合金鋼(含量>5%) Hight alloy	225	50~120	0.004~0.008	50~135	0.008~0.024
M	鐵素不銹鋼 Stainless steels Feritic	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
	奧式不銹鋼 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 Feritic	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
	奧式鑄造不銹鋼 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 Malleabe Cast Iron	鐵素(短屑) Feritic(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 Hight tensile strength	260	30~90	0.004~0.008	30~95	0.024~0.04
	可鍛造鑄鐵 Nodular SG Iron	鐵素 Feritic	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
	銅及鋁合金 Copper & Aluminium Alloys	黃銅 Brass	90	120~200	0.04~0.12	160~240	0.08~0.2
		青銅、紫銅 Bronze & non leaded copper	100	80~180	0.024~0.08	120~200	0.08~0.16
S	高溫合金 High-Temp Alloys	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
		α+β 合金 α+β alloys	1050Rm	15~40	0.006~0.016	15~40	0.024~0.04
H	超硬鋼 Extra Hard Steels	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.

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 62 鎢鋼鋸片 切削條件表

SOLID CARBIDE SLITTING SAWS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~45	—	HRC<30	—	HRC<30
切削速度 Vc	70~140m/min	50~80m/min	50~80m/min	70~140m/min	150~200m/min	30~70m/min
外徑 Diameter	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)
10~30mm	0.002~0.004	0.001~0.004	0.001~0.004	0.002~0.004	0.001~0.004	0.001~0.004
30~50mm	0.003~0.007	0.002~0.005	0.002~0.005	0.003~0.007	0.002~0.005	0.002~0005
50~80mm	0.004~0.008	0.002~0.008	0.002~0.008	0.004~0.010	0.002~0.008	0.002~0.008
80~125mm	0.004~0.012	0.003~0.012	0.003~0.012	0.004~0.010	0.003~0.012	0.003~0.012
125~200mm	0.004~0.012	0.003~0.012	0.003~0.012	0.004~0.010	0.003~0.012	0.003~0.012
備註 Remarks						

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

Table 63 高速鋼 / 高鈷鋼鋸片 切削條件表

SOLID HSS & HSS-Co SLITTING SAWS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~45	—	HRC<30	—	HRC<30
切削速度 Vc	50m/min	30m/min	40m/min	50m/min	100m/min	30m/min
外徑 Diameter	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)
10~30mm	0.002~0.004	0.001~0.004	0.001~0.004	0.002~0.004	0.001~0.004	0.001~0.004
30~50mm	0.003~0.007	0.002~0.005	0.002~0.005	0.003~0.007	0.002~0.005	0.002~0005
50~80mm	0.004~0.008	0.002~0.008	0.002~0.008	0.004~0.010	0.002~0.008	0.002~0.008
80~125mm	0.004~0.012	0.003~0.012	0.003~0.012	0.004~0.010	0.003~0.012	0.003~0.012
125~200mm	0.004~0.012	0.003~0.012	0.003~0.012	0.004~0.010	0.003~0.012	0.003~0.012
備註 Remarks						

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 64 M520 極細鎢鋼高精度型球刀- 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	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=0.02D Ae=0.05D													

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

Table 65 M520 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)			

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 66 M520 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			

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

Table 67 M520 極細鎢鋼高效型銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

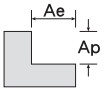
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		Ti-6Al-4V	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	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	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 68 M520 極細鎢鋼高效型銑刀- 4刃(鍍膜) 切削條件表

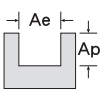
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		Ti-6Al-4V	
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	

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

Table 69 M520 極細鎢鋼高效型圓鼻銑刀- 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		不銹鋼 Stainless Steels		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		Ti-6Al-4V	
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	

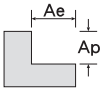
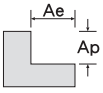
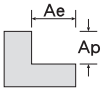
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 70 M520 極細鎢鋼高效型圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

側銑加工 Side Milling

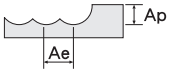
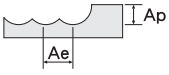
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		Ti-6Al-4V	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	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 	

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

Table 71 M520 極細鎢鋼高效型球刀- 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		Ti-6Al-4V		Inconel 718	
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 Ae=0.5D 						Ap=1D Ae=0.4D		Ap=1D Ae=0.2D 			

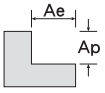
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

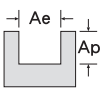
Table 72 S220 鎢鋼鋁用強力型銑刀- 3刃(白刀) 切削條件表

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

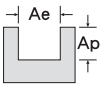
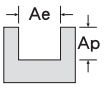
加工材質 Material	鋁合金 Aluminum Alloys		銅合金 Copper Alloys	
工件料號 Material Code	Al 5052 / 6061 / 7075		C1100	
硬度 Hardness	—		—	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	17,100	590	7,110	270
4mm	13,050	620	5,310	290
5mm	10,350	630	4,230	320
6mm	8,100	720	3,510	330
8mm	7,160	750	2,610	380
10mm	5,670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

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 73 M520 極細鎢鋼銑刀- 2刃(鍍膜) 切削條件表

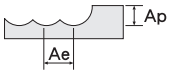
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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)	

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

Table 74 M520 極細鎢鋼長頸型球刀- 2 / 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

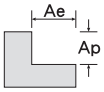
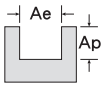
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	90m/min		75m/min		65m/min		50m/min		35m/min		55m/min		90m/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)
0.50R	28,660	790	23,890	600	20,700	500	15,920	350	11,150	200	17,520	400	28,660	870
0.75R	19,110	820	15,920	650	13,800	540	10,620	370	7,430	200	11,680	400	19,110	900
1.00R	14,330	820	11,940	680	10,350	570	7,960	370	5,570	200	8,760	430	14,330	900
1.25R	11,470	820	9,550	680	8,280	570	6,370	370	4,460	200	7,010	430	11,470	900
1.50R	9,550	820	7,960	680	6,900	570	5,310	370	3,720	200	5,840	430	9,550	900
2.00R	7,170	820	5,970	680	5,180	570	3,980	370	2,790	200	4,380	430	7,170	900
切削量 Cutting Amount (mm)	Ap=0.02D Ae=0.05D 													

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 75 M520 極細鎢鋼不銹鋼用高導型銑刀- 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)
1mm	22,290	300~1,000	22,290	100~200
2mm	11,146	300~1,000	11,146	100~200
3mm	7,430	300~1,000	7,430	100~200
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
7mm	3,190	500~1,200	3,190	300~400
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
14mm	1,590	600~800	1,590	250~300
15mm	1,490	400~600	1,490	250~300
16mm	1,390	400~600	1,390	250~300
18mm	1,240	300~500	1,240	100~250
20mm	1,120	300~500	1,120	100~250
25mm	890	300~500	890	100~250
切削量 Cutting Amount (mm)	Ap≦0.5D Ae=0.1~0.5D 		Ap≦0.5D 	

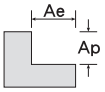
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

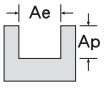
Table 76 S220 鎢鋼鋁用高效型銑刀- 3刃(白刀) 切削條件表

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	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 77 鎢鋼多功能單 / 雙牙鑽銑牙刀 切削條件表

SOLID CARBIDE THREAD MILLS- THREADING 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	—	—	—	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.

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

Table 78 CDSF 鎢鋼標準型同柄鑽頭- 2刃(5倍長)(鍍膜) 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC/FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30	
切削速度 Vc	90m/min		65m/min		50m/min		40m/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)	S (rpm)	F (mm/min)
3mm	9,550	830	6,900	620	5,310	410	4,250	230	8,490	860
5mm	5,730	620	4,140	460	3,190	320	2,550	170	5,100	840
8mm	3,580	570	2,590	440	1,990	290	1,590	160	3,190	810
10mm	2,870	530	2,070	390	1,590	260	1,270	140	2,550	800
12mm	2,390	470	1,730	350	1,330	230	1,060	140	2,120	800
16mm	1,790	400	1,290	310	1,000	210	800	110	1,590	790
備註 Remarks	※ 未鍍膜鑽頭，請依照上表，減少30%左右轉速和進給量。 Uncoated Drills Reduce 30% RPM & FEED From Coating One.									

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 79 鎢鋼平底型鑽頭- 2刃 切削條件表

SOLID CARBIDE DRILLS- DRILLING CONDITION TABLE

鋁合金加工 For Aluminum Alloy Machining

加工材質 Material	鋁合金 Aluminum Alloys	
工件料號 Material Code	Al 6061	
硬度 Hardness	—	
切削速度 Vc	100m/min	
外徑 Diameter	S (rpm)	F (mm/min)
2mm	16,700	350
3mm	10,620	400
4mm	7,960	400
5mm	6,370	400
6mm	5,310	500
8mm	4,000	500
10mm	3,180	600
12mm	2,650	600
16mm	1,990	550
20mm	1,590	550
切削量 Cutting Amount (mm)	Ap≦3D	
備註 Remarks	※ 加工工件斜度(θ)在30°以下，建議使用進給速度(F)40~60%。 When drilling incline angle is less than 30°, reduce the feed rate to 40~60%. ※ 加工工件斜度在(θ)30°以上，建議使用主軸轉速(S)60~80%和進給速度(F)40~60%以下。 When drilling incline angle is over 30°, reduce the spindle speed to 60~80%, the feed rate to 40~60%.	

鋼材加工 For Steel Machining

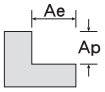
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC<30	
切削速度 Vc	75m/min		65m/min		35m/min		65m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
2mm	11,100	350	10,550	300	5,550	150	10,550	250
3mm	7,950	400	6,900	350	3,700	170	6,900	300
4mm	5,950	400	5,150	350	2,800	170	5,150	300
5mm	4,800	420	4,150	350	2,200	170	4,150	300
6mm	4,000	420	3,450	350	1,800	170	3,450	300
8mm	3,000	420	2,600	350	1,400	170	2,600	300
10mm	2,400	420	2,050	350	1,100	170	2,050	300
12mm	2,000	420	1,700	350	950	170	1,700	300
16mm	1,500	350	1,300	300	700	150	1,300	280
20mm	1,200	350	1,050	300	550	150	1,050	280
切削量 Cutting Amount (mm)	Ap≦3D							
備註 Remarks	※ 加工工件斜度(θ)在30°以下，建議使用進給速度(F)40~60%。 When drilling incline angle is less than 30°, reduce the feed rate to 40~60%. ※ 加工工件斜度在(θ)30°以上，建議使用主軸轉速(S)60~80%和進給速度(F)40~60%以下。 When drilling incline angle is over 30°, reduce the spindle speed to 60~80%, the feed rate to 40~60%.							

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 80 鎢鋼複合材料用銑刀- DIA鑽石塗層- 切削條件表

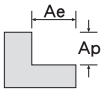
SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

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	640	7,430	450
4	7,960	720	5,570	500
5	6,370	960	4,450	670
6	5,310	1,110	3,710	780
8	3,980	1,310	2,780	910
10	3,180	1,530	2,230	1,060
12	2,650	1,700	1,860	1,190
切削量 Cutting Amount (mm)	Ap≦2D Ae≦0.35D			

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

Table 81 鎢鋼複合材料用銑刀- RD彩鑽塗層- 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			

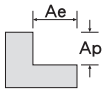
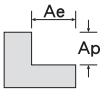
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

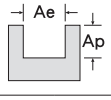
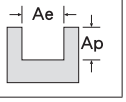
Table 82 M520 極細鎢鋼不等距高導型銑刀- 4刃(鍍膜) 切削條件表

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≦1.5D Ae≦0.2D						Ap≦1.5D Ae≦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≦1D						Ap≦0.2D	

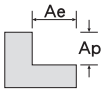
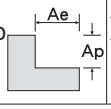
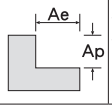
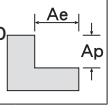
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

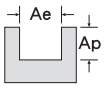
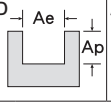
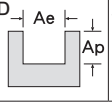
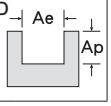
Table 83 M520 極細鎢鋼鈦合金用高效型銑刀- 4刃(鍍膜) 切削條件表

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		不銹鋼 Stainless Steels		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		Ti-6Al-4V	
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 		Ap≦1.5D Ae≦0.05D 	

溝銑加工 Slot Milling

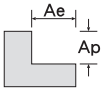
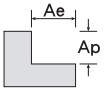
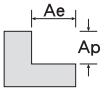
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		高溫合金 High-Temp Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		Ti-6Al-4V	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		—		HRC<30	
切削速度 Vc	95m/min		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≦0.2D 		Ap≦0.5D 		Ap≦0.2D 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 84 M520 極細鎢鋼高硬型銑刀- 6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		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 	

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

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 86 JDG 粉末高速鋼鑽頭- 2刃(3倍長)(鍍膜) 切削條件表

POWDER HIGH SPEED STEEL DRILLS- DRILLING CONDITION TABLE

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		鑄鐵 Cast Iron		鋁合金 Aluminum Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		FC,FCD		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30		—	
切削速度 Vc	35m/min		30m/min		20m/min		10m/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)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
1mm	9,500	250	8,000	190	6,370	140	3,500	65	12,000	400	15,000	500
2mm	5,570	360	4,780	240	3,190	160	1,900	80	6,370	490	9,550	760
3mm	3,720	460	3,190	320	2,120	170	1,300	80	4,250	640	6,370	980
4mm	2,790	430	2,390	290	1,590	165	800	80	3,190	600	4,780	920
5mm	2,230	430	1,910	290	1,270	165	760	80	2,550	600	3,820	920
6mm	1,860	370	1,590	250	10,60	150	530	80	2,120	530	3,190	790
7mm	1,590	370	1,370	250	910	150	500	65	1,820	530	2,730	790
8mm	1,400	370	1,190	250	800	150	480	65	1,590	530	2,390	790
9mm	1,240	340	1,060	230	710	140	390	65	1,420	460	2,120	730
10mm	1,120	340	960	230	640	140	380	65	1,270	460	1,910	730
11mm	1,010	310	870	210	580	130	350	70	1,160	430	1,740	670
12mm	930	310	800	210	530	130	320	70	1,060	430	1,590	670
13mm	860	290	740	200	490	120	290	70	980	390	1,470	610
14mm	800	290	680	200	460	120	270	70	910	390	1,370	610
15mm	740	290	640	200	430	120	250	65	850	390	1,270	610
16mm	700	290	600	200	400	120	240	65	800	390	1,190	610
17mm	660	260	560	180	380	110	220	65	750	350	1,120	550
18mm	620	260	530	180	350	110	210	60	710	350	1,060	550
19mm	590	260	500	180	340	110	200	60	670	350	1,010	550
20mm	560	260	480	180	320	110	190	60	640	350	960	550
備註 Remarks	※ 加工3字頭不銹鋼建議使用程式碼G83(啄鑽工序)進行加工。 For machining stainless steel(300 series), code G83(peck drilling) are recommended.											

Table 87 鎢鋼端面槽刀 切削條件表

SOLID CARBIDE TURNING TOOLS- TURNING CONDITION TABLE

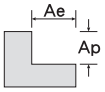
加工材質 Material	碳素鋼 Carbon Steels	碳素鋼 Carbon Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	S35C,S45C,S50C	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~45	—	HRC<30	—	HRC<30
切削速度 Vc	40~100m/min	30~80m/min	30~80m/min	40~100m/min	50~120m/min	20~40m/min
每轉進給量 f (mm)	0.01~0.04	0.01~0.03	0.01~0.03	0.01~0.04	0.02~0.05	0.005~0.030
備註 Remarks						

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 150 ELN / HLN / FLN 高進給型銑刀桿 切削條件表

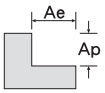
HIGH FEED MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~50	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.6	0.3~1.0	0.3~1.2	0.3~1.6	0.3~0.8
加工深度 Ap (mm)	0.3~0.9	0.3~0.7	0.3~0.9	0.3~0.9	0.3~0.7
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

Table 151 ELO / HLO / FLO 高進給型銑刀桿 切削條件表

HIGH FEED MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~50	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.6	0.3~1.0	0.3~1.2	0.3~1.6	0.3~0.8
加工深度 Ap (mm)	0.3~0.9	0.3~0.7	0.3~0.9	0.3~0.9	0.3~0.7
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

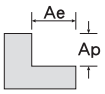
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

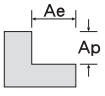
Table 152 EBN / HBN / FBN 高進給型銑刀桿 切削條件表

HIGH FEED MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：BNMX0603 For BNMX0603 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.6	0.3~1.0	0.3~1.2	0.3~1.6	0.3~0.8
加工深度 Ap (mm)	0.3~0.9	0.3~0.7	0.3~0.9	0.3~0.9	0.3~0.7
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：BNMX0904 For BNMX0904 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.8	0.3~1.2	0.3~1.4	0.3~1.8	0.3~1.0
加工深度 Ap (mm)	0.3~1.4	0.3~1.2	0.3~1.2	0.3~1.4	0.3~1.2
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

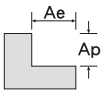
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

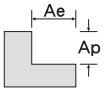
Table 153 EWN / FWN 高進給型銑刀桿 切削條件表

HIGH FEED MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：WNMX09T3 For WNMX09T3 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.5	0.3~1.1	0.3~1.2	0.3~1.5	0.3~1.0
加工深度 Ap (mm)	0.40~1.35	0.4~1.0	0.4~1.0	0.40~1.35	0.4~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：WNMX1305 For WNMX1305 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.7	0.3~1.3	0.3~1.4	0.3~1.7	0.3~1.2
加工深度 Ap (mm)	0.4~1.7	0.4~1.3	0.4~1.4	0.4~1.7	0.4~1.3
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

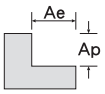
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

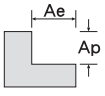
Table 154 FJD 高進給型銑刀盤 切削條件表

HIGH FEED FACE MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：JDMW1204 For JDMW1204 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.3	0.3~1.0	0.3~1.0	0.3~1.3	0.3~1.0
加工深度 Ap (mm)	0.3~1.5	0.3~1.0	0.3~1.0	0.3~1.5	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：JDMW1405 For JDMW1405 Inserts

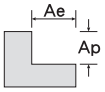
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.5	0.3~1.2	0.3~1.2	0.3~1.5	0.3~1.2
加工深度 Ap (mm)	0.5~2.0	0.5~1.5	0.5~1.5	0.5~2.0	0.5~1.5
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 155 FSD 高進給型銑刀盤 切削條件表

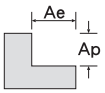
HIGH FEED FACE MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~120m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.5	0.3~1.2	0.3~1.2	0.3~1.5	0.3~1.2
加工深度 Ap (mm)	0.3~1.5	0.3~1.0	0.3~1.0	0.3~1.5	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

Table 156 FHN 面銑刀盤 切削條件表

FACE MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	60~140m/min	100~250m/min	40~80m/min
每刃進給量 fz (mm)	0.1~0.3	0.08~0.25	0.1~0.3	0.08~0.20
加工深度 Ap (mm)	0.3~3.5	0.3~2.0	0.3~3.5	0.3~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 			

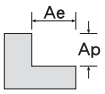
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

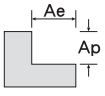
Table 157 FSN / FON 面銑刀盤 切削條件表

FACE MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：SNMX1205 For SNMX1205 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	80~200m/min	40~80m/min	60~120m/min	80~200m/min	40~70m/min
每刃進給量 fz (mm)	0.1~0.3	0.08~0.25	0.08~0.25	0.1~0.3	0.08~0.20
加工深度 Ap (mm)	0.3~5.0	0.3~2.0	0.3~3.5	0.3~5.0	0.3~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：ONMX0505 For ONMX0505 Inserts

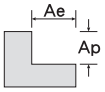
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	80~200m/min	40~80m/min	60~120m/min	80~200m/min	40~70m/min
每刃進給量 fz (mm)	0.1~0.3	0.08~0.25	0.08~0.25	0.1~0.3	0.08~0.20
加工深度 Ap (mm)	0.3~2.0	0.3~1.5	0.3~1.5	0.3~2.0	0.3~1.5
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 158 FOF 面銑刀盤 切削條件表

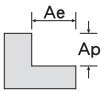
FACE MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.08~0.25	0.08~0.25	0.1~0.3	0.08~0.25
加工深度 Ap (mm)	0.3~2.8	0.3~1.7	0.3~1.7	0.3~2.8	0.3~1.7
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

Table 159 FSE..12 面銑刀盤 切削條件表

FACE MILLING CUTTERS- CUTTING CONDITION TABLE

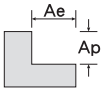
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	150~300m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.08~0.25	0.08~0.25	0.1~0.3	0.1~0.4	0.08~0.25
加工深度 Ap (mm)	0.3~4.0	0.3~2.0	0.3~3.0	0.3~4.0	0.3~4.0	0.3~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 160 FSE..13 面銑刀盤 切削條件表

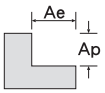
FACE MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	150~300m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.08~0.25	0.08~0.25	0.1~0.3	0.1~0.4	0.08~0.25
加工深度 Ap (mm)	0.3~4.0	0.3~2.0	0.3~3.0	0.3~4.0	0.3~4.0	0.3~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

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

Table 161 FSP 面銑刀盤 切削條件表

FACE MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD
硬度 Hardness	HRC<30	HRC30~45	—	HRC<30
切削速度 Vc	100~200m/min	80~150m/min	80~160m/min	100~200m/min
每刃進給量 fz (mm)	0.1~0.3	0.05~0.20	0.1~0.3	0.1~0.3
加工深度 Ap (mm)	0.5~2.5	0.5~2.0	0.5~2.5	0.5~2.5
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 			

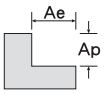
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

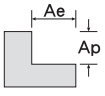
Table 162 EXN / HXN / FXN 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：XNMX0403 For XNMX0403 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.10~0.16	0.08~0.12	0.08~0.12	0.10~0.16	0.08~0.12
加工深度 Ap (mm)	0.3~3.0	0.3~1.5	0.3~1.5	0.3~3.0	0.3~1.5
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：XNMX0806 For XNMX0806 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.2	0.08~0.15	0.08~0.15	0.1~0.2	0.08~0.15
加工深度 Ap (mm)	0.3~4.0	0.3~2.0	0.3~2.0	0.3~4.0	0.3~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

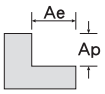
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

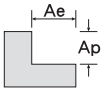
Table 163 EAP / HAP / FAP 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：APKT1003 For APKT1003 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	150~300m/min	50~100m/min
每刃進給量 fz (mm)	0.10~0.25	0.07~0.15	0.08~0.18	0.10~0.25	0.10~0.25	0.07~0.15
加工深度 Ap (mm)	0.3~3.0	0.3~1.0	0.3~2.0	0.3~3.0	0.3~4.0	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

使用銑刀片型號：APKT1604, APET1604 For APKT1604 & APET1604 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	150~300m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.1~0.2	0.10~0.22	0.1~0.3	0.1~0.3	0.1~0.2
加工深度 Ap (mm)	0.5~3.0	0.5~1.0	0.5~2.0	0.5~3.0	0.5~4.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

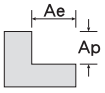
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

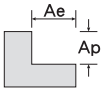
Table 164 EAP / HAP / FAP 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：APMT1035 / APMT1135 For APMT1035 / APMT1135 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	—	50~100m/min
每刃進給量 fz (mm)	0.10~0.25	0.07~0.15	0.08~0.18	0.10~0.25	—	0.07~0.15
加工深度 Ap (mm)	0.3~3.0	0.3~1.0	0.3~2.0	0.3~3.0	—	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

使用銑刀片型號：APMT1604, APGT1604 For APMT1604 & APGT1604 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	150~300m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.1~0.2	0.10~0.22	0.1~0.3	0.1~0.3	0.1~0.2
加工深度 Ap (mm)	0.5~3.0	0.5~1.0	0.5~2.0	0.5~3.0	0.5~4.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

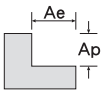
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

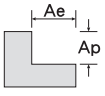
Table 165 EAX / HAX / FAX 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：AXMT1235 For AXMT1235 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.10~0.25	0.07~0.15	0.08~0.18	0.10~0.25	0.07~0.15
加工深度 Ap (mm)	0.3~3.0	0.3~1.0	0.3~2.0	0.3~3.0	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：AXMT1705 For AXMT1705 Inserts

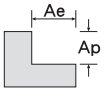
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.1~0.2	0.10~0.22	0.1~0.3	0.1~0.2
加工深度 Ap (mm)	0.5~3.0	0.5~1.0	0.5~2.0	0.5~3.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 166 EJD 直角型銑刀桿 切削條件表

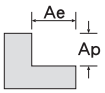
SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.3	0.1~0.2	0.10~0.22	0.1~0.3	0.1~0.2
加工深度 Ap (mm)	0.5~3.0	0.5~1.0	0.5~2.0	0.5~3.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

Table 167 FSO 直角型銑刀盤 切削條件表

SHOULDER FACE MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	—	HRC<30
切削速度 Vc	120~250m/min	50~100m/min	80~160m/min	120~250m/min	150~300m/min	50~100m/min
每刃進給量 fz (mm)	0.05~0.15	0.03~0.10	0.04~0.12	0.05~0.15	0.05~0.15	0.03~0.10
加工深度 Ap (mm)	0.3~7.0	0.3~4.0	0.3~6.0	0.3~7.0	0.3~9.0	0.3~4.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 					

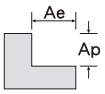
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

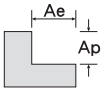
Table 168 ETP / HTP / FTP 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：TPMX1004 For TPMX1004 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.08~0.20	0.05~0.12	0.05~0.15	0.08~0.20	0.05~0.10
加工深度 Ap (mm)	0.3~5.0	0.3~2.0	0.3~2.0	0.3~5.0	0.3~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：TPMX1505 For TPMX1505 Inserts

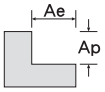
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.12~0.30	0.10~0.18	0.1~0.2	0.12~0.30	0.10~0.18
加工深度 Ap (mm)	0.5~5.0	0.5~2.0	0.5~2.0	0.5~5.0	0.5~2.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 169 EW390 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.10~0.22	0.07~0.15	0.08~0.20	0.10~0.22	0.07~0.15
加工深度 Ap (mm)	0.5~3.0	0.5~1.0	0.5~2.0	0.5~3.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

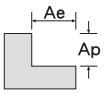
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

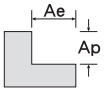
Table 170 ERT / HRT / FRT 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：ANRT0702 For ANRT0702 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.08~0.20	0.05~0.13	0.05~0.15	0.08~0.20	0.05~0.12
加工深度 Ap (mm)	0.3~2.0	0.3~1.0	0.3~2.0	0.3~2.0	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：ANRT1003 For ANRT1003 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.10~0.22	0.07~0.15	0.08~0.18	0.10~0.22	0.07~0.15
加工深度 Ap (mm)	0.5~2.0	0.5~1.0	0.5~2.0	0.5~2.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

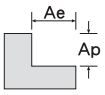
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

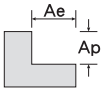
Table 171 EAD / HAD / FAD 直角型銑刀桿 切削條件表

SHOULDER MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：ADMT0602 For ADMT0602 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.08~0.20	0.05~0.13	0.05~0.15	0.08~0.20	0.05~0.13
加工深度 Ap (mm)	0.3~2.0	0.3~1.0	0.3~2.0	0.3~2.0	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

使用銑刀片型號：ADMT10T3 For ADMT10T3 Inserts

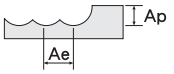
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.10~0.22	0.07~0.15	0.07~0.18	0.10~0.22	0.07~0.15
加工深度 Ap (mm)	0.5~2.0	0.5~1.0	0.5~2.0	0.5~2.0	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 172 EBCM / HBCM 高精度球刀桿 切削條件表

HIGH PRECISION- BALL NOSED CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Al 5052/6061/7075
硬度 Hardness	HRC<30	HRC30~45	HRC45~55	—	HRC<30	—
切削速度 Vc	100~250m/min	80~150m/min	50~120m/min	80~160m/min	100~200m/min	150~300m/min
外徑 Diameter	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)
8~16mm	0.3~0.6	0.25~0.60	0.2~0.5	0.25~0.60	0.3~0.6	0.3~0.7
20~32mm	0.35~0.70	0.30~0.65	0.25~0.55	0.25~0.70	0.5~0.8	0.35~0.70
備註 Remarks	Ap=0.05D Ae=0.15D 		Ap=0.04D Ae=0.1D	Ap=0.05D Ae=0.15D	Ap=0.05D Ae=0.15D	Ap=0.05D Ae=0.15D

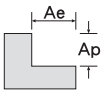
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

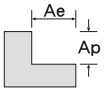
Table 173 EWP / FWP 高進給型銑刀桿 切削條件表

HIGH FEED MILLING CUTTERS- CUTTING CONDITION TABLE

使用銑刀片型號：WP26339R14 For WP26339R14 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.5	0.3~1.2	0.3~1.5	0.3~1.0
加工深度 Ap (mm)	0.4~1.5	0.4~1.0	0.4~1.5	0.4~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 			

使用銑刀片型號：WP26379R25 For WP26379R25 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	80~160m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.3~1.5	0.3~1.2	0.3~1.5	0.3~1.0
加工深度 Ap (mm)	0.4~2.0	0.4~1.5	0.4~2.0	0.4~1.5
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 			

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

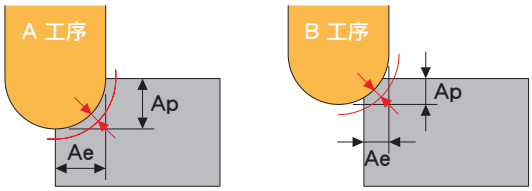
1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
2. 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
3. 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed 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 174 HBWP 球刀頭(粗加工) 切削條件表

BALL NOSED CUTTERS- ROUGHING- CUTTING CONDITION TABLE

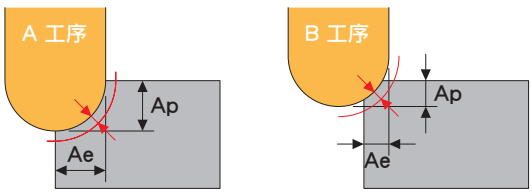
使用銑刀片型號：WP26339R14 For WP26339R14 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	80~160m/min	100~250m/min	50~100m/min
A 工序 每刃進給量 fz (mm)	0.16~0.30	0.08~0.14	0.16~0.30	0.08~0.12
B 工序 每刃進給量 fz (mm)	0.2~0.4	0.10~0.18	0.2~0.4	0.10~0.18
備註 Remarks	A 工序：Ap = 0.50D, Ae = 0.50D B 工序：Ap = 0.25D, Ae = 0.25D			



使用銑刀片型號：WP26379R25 For WP26379R25 Inserts

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	80~160m/min	100~250m/min	50~100m/min
A 工序 每刃進給量 fz (mm)	0.20~0.35	0.08~0.15	0.20~0.35	0.08~0.12
B 工序 每刃進給量 fz (mm)	0.25~0.45	0.1~0.2	0.25~0.45	0.1~0.2
備註 Remarks	A 工序：Ap = 0.50D, Ae = 0.50D B 工序：Ap = 0.25D, Ae = 0.25D			



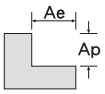
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

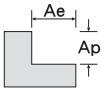
Table 175 ERD / HRD / FRD 圓角型銑刀桿 切削條件表

CORNER ROUNDING MILLING CUTTERS- CUTTING CONDITION TABLE

※ 外徑 ≦ 10mm Diameter ≦ 10mm

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.6	0.08~0.30	0.08~0.30	0.1~0.6	0.08~0.30
加工深度 Ap (mm)	0.3~1.5	0.3~1.0	0.3~1.5	0.3~1.5	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

※ 外徑 > 10mm Diameter > 10mm

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.15~0.80	0.1~0.3	0.15~0.40	0.15~0.80	0.1~0.3
加工深度 Ap (mm)	0.5~1.5	0.5~1.0	0.5~1.5	0.5~1.5	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

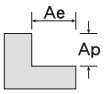
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

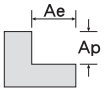
Table 176 ERP / HRP / FRP 圓角型銑刀桿 切削條件表

CORNER ROUNDING MILLING CUTTERS- CUTTING CONDITION TABLE

※ 外徑 ≦ 10mm Diameter ≦ 10mm

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.1~0.6	0.08~0.30	0.08~0.30	0.1~0.6	0.08~0.30
加工深度 Ap (mm)	0.3~1.5	0.3~1.0	0.3~1.5	0.3~1.5	0.3~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

※ 外徑 > 10mm Diameter > 10mm

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	50~100m/min
每刃進給量 fz (mm)	0.15~0.80	0.1~0.3	0.15~0.40	0.15~0.80	0.1~0.3
加工深度 Ap (mm)	0.5~1.5	0.5~1.0	0.5~1.5	0.5~1.5	0.5~1.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 177 ETCC / FTCC- T型銑刀桿 切削條件表

T-SLOT MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<40	—	HRC<30	—	HRC<30
切削速度 Vc	70~120m/min	50~150m/min	70~120m/min	100~200m/min	40~80m/min
每刃進給量 fz (mm)	0.02~0.10	0.02~0.08	0.02~0.10	0.05~0.10	0.02~0.06
備註 Remarks					

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

Table 178 EDDC 鳩尾槽型銑刀桿 切削條件表

DOVETAIL CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	—	HRC<30	—	HRC<30
切削速度 Vc	70~120m/min	50~100m/min	70~120m/min	100~200m/min	40~80m/min
每刃進給量 fz (mm)	0.02~0.10	0.02~0.08	0.02~0.10	0.05~0.10	0.02~0.06
備註 Remarks					

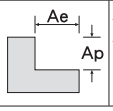
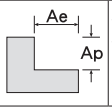
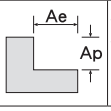
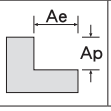
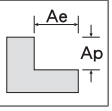
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

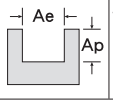
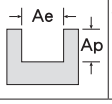
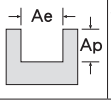
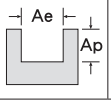
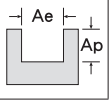
Table 179 CHS / CHCR 鎖牙式- S220鎢鋼銑刀頭 4刃 切削條件表

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		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鋁合金 Aluminum Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SKT,SKD		SUS304		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		—	
切削速度 Vc	120m/min		100m/min		65m/min		65m/min		170m/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)
8mm	4,780	1,000	3,980	800	2,590	520	2,590	620	6,770	1,090
10mm	3,810	920	3,190	770	2,070	420	2,070	500	5,420	870
12mm	3,190	770	2,660	640	1,730	350	1,730	420	4,520	730
16mm	2,390	580	1,990	480	1,300	260	1,300	320	3,390	550
20mm	1,910	450	1,600	390	1,040	210	1,040	250	2,710	440
25mm	1,530	370	1,280	310	830	170	830	200	2,170	350
備註 Remarks	Ap≦0.5D Ae≦0.15D 		Ap≦0.5D Ae≦0.15D 		Ap≦0.5D Ae≦0.1D 		Ap≦0.5D Ae≦0.1D 		Ap≦0.5D Ae≦0.2D 	

溝銑加工 Slot Milling

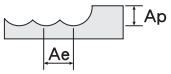
加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鋁合金 Aluminum Alloys	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SKT,SKD		SUS304		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		—	
切削速度 Vc	90m/min		70m/min		50m/min		50m/min		150m/min	
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)
8mm	3,590	720	2,790	560	1,990	320	1,990	400	5,970	900
10mm	2,870	600	2,230	450	1,600	250	1,600	320	4,780	720
12mm	2,390	500	1,860	380	1,330	220	1,330	270	3,980	600
16mm	1,800	380	1,400	280	1,000	150	1,000	200	2,990	450
20mm	1,440	300	1,120	230	800	130	800	150	2,390	360
25mm	1,150	250	900	180	640	100	640	130	1,910	290
備註 Remarks	Ap≦0.3D 		Ap≦0.3D 		Ap≦0.1D 		Ap≦0.25D 		Ap≦0.3D 	

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 180 CHB 鎖牙式- S220鎢鋼球刀頭 4刃 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

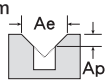
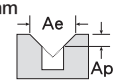
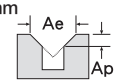
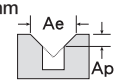
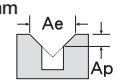
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鋁合金 Aluminum Alloys	
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SUS304		Al 5052 / 6061 / 7075	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		—	
切削速度 Vc	120m/min		100m/min		65m/min		65m/min		170m/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)
4.0R	4,780	1,440	3,980	1,200	2,590	520	2,590	650	6,770	1,700
5.0R	3,810	1,150	3,190	960	2,070	420	2,070	520	5,420	1,470
6.0R	3,190	960	2,660	800	1,730	350	1,730	440	4,520	1,360
8.0R	2,390	720	1,990	600	1,300	260	1,300	330	3,390	1,020
10.0R	1,910	580	1,600	480	1,040	210	1,040	260	2,710	820
12.5R	1,530	460	1,280	390	830	170	830	210	2,170	650
備註 Remarks	Ap=0.05D Ae=0.15D 				Ap=0.04D Ae=0.1D		Ap=0.05D Ae=0.15D		Ap=0.05D Ae=0.15D	

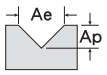
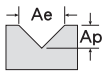
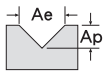
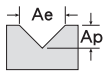
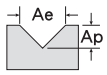
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

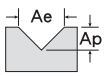
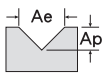
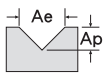
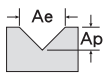
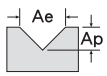
1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
2. 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
3. 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed 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.

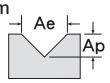
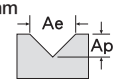
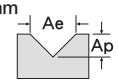
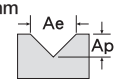
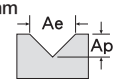
Table 181 ECSC / HCSC / ECDC / ECTCX 多功能倒角型銑刀桿 切削條件表

INDEXABLE TOOLS- MULTIPURPOSE- CHAMFERING CONDITION TABLE

加工方式 Cutting Mode	倒角加工 Chamfering				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	150~300m/min	100~250m/min	60~120m/min	150~250m/min	150~350m/min
每轉進給量 f	0.15~0.20mm/rev	0.1~0.2mm/rev	0.1~0.2mm/rev	0.15~0.25mm/rev	0.15~0.30mm/rev
切削量 Cutting Amount (mm)	Ap=0.5~1mm 	Ap=0.5~1mm 	Ap=0.5~1mm 	Ap=0.5~1mm 	Ap=0.5~1mm 

加工方式 Cutting Mode	定點加工 Spotting				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	60~250m/min	50~200m/min	60~120m/min	100~200m/min	100~300m/min
每轉進給量 f	0.05~0.10mm/rev	0.04~0.06mm/rev	0.03~0.06mm/rev	0.05~0.10mm/rev	0.05~0.10mm/rev
切削量 Cutting Amount (mm)	Ap≦5.5mm 	Ap≦5.5mm 	Ap≦5.5mm 	Ap≦5.5mm 	Ap≦5.5mm 

加工方式 Cutting Mode	開V槽加工 V-Grooving				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	60~250m/min	50~200m/min	60~120m/min	100~200m/min	100~300m/min
每轉進給量 f	0.05~0.07mm/rev	0.04~0.06mm/rev	0.03~0.06mm/rev	0.05~0.07mm/rev	0.05~0.07mm/rev
切削量 Cutting Amount (mm)	Ap≦5.5mm 	Ap≦5.5mm 	Ap≦5.5mm 	Ap≦5.5mm 	Ap≦5.5mm 

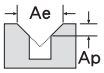
加工方式 Cutting Mode	雕刻加工 Engraving				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	60~250m/min	50~200m/min	60~120m/min	100~200m/min	100~300m/min
每轉進給量 f	0.02~0.05mm/rev	0.02~0.03mm/rev	0.01~0.02mm/rev	0.02~0.05mm/rev	0.02~0.05mm/rev
切削量 Cutting Amount (mm)	Ap=0.2~1mm 	Ap=0.2~1mm 	Ap=0.2~1mm 	Ap=0.2~1mm 	Ap=0.2~1mm 

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 182 ECSP 倒角型銑刀桿 切削條件表

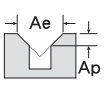
INDEXABLE TOOLS- CHAMFERING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~45	—	HRC<30	HRC<30
加工方式 Cutting Mode	倒角加工 Chamfering				
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	40~100m/min
外徑 Diameter	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)	每刃進給量 fz (mm)
11~15mm	0.06~0.12	0.03~0.06	0.05~0.10	0.06~0.12	0.03~0.06
16~22mm	0.06~0.12	0.03~0.06	0.05~0.10	0.06~0.12	0.03~0.06
23~33mm	0.06~0.12	0.03~0.06	0.05~0.10	0.06~0.12	0.03~0.06
34~41mm	0.12~0.24	0.05~0.10	0.10~0.17	0.12~0.24	0.05~0.10
42~50mm	0.12~0.25	0.05~0.10	0.10~0.17	0.12~0.25	0.05~0.10
備註 Remarks	Ap=0.5~1.0mm 				

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

Table 183 ECTC 倒角型銑刀桿 切削條件表

INDEXABLE TOOLS- CHAMFERING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<30	HRC30~45	—	HRC<30	—
加工方式 Cutting Mode	倒角加工 Chamfering				
切削速度 Vc	100~250m/min	50~100m/min	80~180m/min	100~250m/min	150~350m/min
外徑 Diameter	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)	每轉進給量 f (mm/rev)
20~25mm	0.06~0.12	0.03~0.06	0.05~0.10	0.06~0.12	0.12~0.25
30~40mm	0.12~0.24	0.05~0.10	0.10~0.17	0.12~0.24	0.15~0.30
備註 Remarks	Ap=0.5~1.0mm 				

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 184 DSP 快速鑽頭 切削條件表

INDEXABLE- HIGH SPEED DRILLS- DRILLING CONDITION TABLE

加工材質 Material	工件料號 Material Code	硬度 Hardness	切削速度 Vc (m/min)	每轉進給量 f (mm/rev)				
				Φ13~15	Φ16~21	Φ22~27	Φ28~33	Φ34~41
碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<30	100~150	0.04~0.08	0.05~0.09	0.06~0.12	0.07~0.13	0.08~0.15
		HRC30~45	70~140	0.04~0.07	0.05~0.08	0.05~0.09	0.06~0.12	0.07~0.14
調質鋼 Hardened Steels	SKT,SKD	HRC45~55	—	—	—	—	—	—
不銹鋼 Stainless Steels	SUS304	—	80~140	0.04~0.08	0.05~0.09	0.05~0.10	0.06~0.12	0.07~0.14
鑄鐵 Cast Iron	FC,FCD	HRC<30	100~150	0.05~0.08	0.06~0.11	0.07~0.13	0.08~0.15	0.10~0.18
鋁合金 Aluminum Alloys	Al 5052 / 6061 / 7075	—	150~250	0.04~0.08	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
高溫合金 High-Temp Alloys	Ti-6Al-4V	HRC<30	30~60	0.02~0.04	0.03~0.05	0.03~0.05	0.04~0.06	0.05~0.08
備註 Remarks	※ 4倍長請調降主軸轉速(S)和每轉進給量(f) 10%。 When 4xD, please reduce 10% of rpm and feed per tooth.							

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

Table 185 DW / DDW 快速鑽頭 切削條件表

INDEXABLE- HIGH SPEED DRILLS- DRILLING CONDITION TABLE

加工材質 Material	工件料號 Material Code	硬度 Hardness	切削速度 Vc (m/min)	每轉進給量 f (mm/rev)				
				Φ14~20.5	Φ22~25.5	Φ26~30	Φ31~39	Φ40~60
碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<30	90~140	0.06~0.09	0.06~0.11	0.07~0.13	0.08~0.18	0.10~0.25
		HRC30~45	70~120	0.05~0.07	0.05~0.09	0.06~0.11	0.07~0.14	0.08~0.17
調質鋼 Hardened Steels	SKT,SKD	HRC45~55	—	—	—	—	—	—
不銹鋼 Stainless Steels	SUS304	—	60~140	0.05~0.09	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
鑄鐵 Cast Iron	FC,FCD	HRC<30	90~140	0.06~0.10	0.06~0.12	0.07~0.14	0.08~0.16	0.10~0.20
鋁合金 Aluminum Alloys	Al 5052 / 6061 / 7075	—	150~250	0.06~0.11	0.08~0.13	0.09~0.15	0.11~0.18	0.12~0.25
高溫合金 High-Temp Alloys	Ti-6Al-4V	HRC<30	30~60	0.03~0.05	0.03~0.06	0.04~0.08	0.05~0.10	0.06~0.12
備註 Remarks	※ 4倍長請調降主軸轉速(S)和每轉進給量(f) 10%。 When 4xD, please reduce 10% of rpm and feed per tooth.							

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 186 正角型車刀片 切削條件表

CARBIDE TURNING INSERTS(POSITIVE INSERT)- TURNING CONDITION TABLE

ISO 材質 Material Group	加工材質 Material		硬度 Hardness	斷屑槽 Chip Breaker	切削速度 Vc (m/min)	每轉進給量 f (mm/rev)	加工深度 (單邊) Ap (mm) (Indicates Radius)
P	碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<20	MP	80 ~ 200	0.10 ~ 0.30	0.20 ~ 2.00
				MK		0.10 ~ 0.50	0.20 ~ 3.00
				FX		0.05 ~ 0.15	0.20 ~ 1.50
				FY		0.05 ~ 0.18	0.20 ~ 1.00
				FB		0.05 ~ 0.18	0.20 ~ 2.00
	合金鋼 Alloy Steels	SCM,SKT,SKD	HRC20~40	MP	60 ~ 150	0.10 ~ 0.30	0.20 ~ 2.00
				MK		0.10 ~ 0.45	0.20 ~ 2.50
				FX		0.05 ~ 0.15	0.20 ~ 1.50
				FY		0.05 ~ 0.18	0.20 ~ 1.00
				FB		0.05 ~ 0.18	0.20 ~ 2.00
M	不銹鋼 Stainless Steels	SUS304	—	MP	60 ~ 100	0.10 ~ 0.25	0.20 ~ 1.50
				MK		0.10 ~ 0.30	0.20 ~ 2.00
				FX		0.05 ~ 0.15	0.10 ~ 1.50
				FY		0.05 ~ 0.18	0.10 ~ 1.00
				FB		0.05 ~ 0.18	0.10 ~ 1.50
K	鑄鐵 Cast Iron	FC,FCD	HRC<30	MP	80 ~ 200	0.10 ~ 0.30	0.20 ~ 2.00
				MK		0.10 ~ 0.50	0.20 ~ 3.00
				FX		0.05 ~ 0.15	0.20 ~ 1.50
				FY		0.05 ~ 0.18	0.20 ~ 1.00
				FB		0.05 ~ 0.18	0.20 ~ 2.00
N	鋁合金 Aluminum Alloys	Al 5052 / 6061 / 7075	—	FA	100 ~ 300	0.10 ~ 0.40	0.30 ~ 4.00
				PCD 聚晶鑽石	300 ~ 1,000	0.05 ~ 0.25	0.10 ~ 1.00
S	鈦合金 Titanium Alloys	TiAl6V4	—	MP	30 ~ 70	0.10 ~ 0.20	0.20 ~ 1.00
				MK		0.10 ~ 0.25	0.20 ~ 1.00
				FX		0.05 ~ 0.10	0.10 ~ 1.00
				FY		0.05 ~ 0.13	0.10 ~ 0.50
				FB		0.05 ~ 0.13	0.10 ~ 1.00
H	調質鋼 Hardened Steels	SKT,SKD	HRC45~65	PCBN 聚晶立方氮化硼	100 ~ 200	0.05 ~ 0.30	精加工 Finishing 0.05 ~ 0.20 粗加工 Roughing 0.20 ~ 0.30

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)
※ 建議先採用最低切削速度 Vc 和每轉進給量 f 參數加工，如加工狀況良好，再逐步調高參數。
We recommend starting with slow speeds and feeds. If processing goes well, you can raise parameters gradually.

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 187 負角型車刀片 切削條件表

CARBIDE TURNING INSERTS(NEGATIVE INSERT)- TURNING CONDITION TABLE

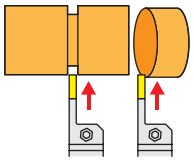
ISO 材質 Material Group	加工材質 Material		硬度 Hardness	斷屑槽 Chip Breaker	切削速度 Vc (m/min)	每轉進給量 f (mm/rev)	加工深度 (單邊) Ap (mm) (Indicates Radius)
P	碳素鋼 Carbon Steels	S35C,S45C,S50C	HRC<20	FP	80 ~ 200	0.10 ~ 0.30	1.00 ~ 3.00
				SM		0.15 ~ 0.35	0.80 ~ 3.00
				SP		0.08 ~ 0.25	0.80 ~ 3.00
				MP		0.18 ~ 0.50	0.80 ~ 4.00
				ME		0.15 ~ 0.35	1.00 ~ 4.00
				RK		0.20 ~ 0.50	1.00 ~ 4.50
				RG		0.25 ~ 0.58	1.50 ~ 5.50
				RP		0.25 ~ 0.58	1.50 ~ 5.50
				HG		0.20 ~ 0.60	1.50 ~ 6.00
	合金鋼 Alloy Steels	SCM,SKT,SKD	HRC20~40	FP	60 ~ 150	0.10 ~ 0.30	1.00 ~ 3.00
				SM		0.15 ~ 0.35	0.80 ~ 3.00
				SP		0.08 ~ 0.25	0.80 ~ 3.00
				MP		0.18 ~ 0.45	0.80 ~ 3.50
				ME		0.15 ~ 0.30	1.00 ~ 3.50
				RK		0.20 ~ 0.47	1.00 ~ 4.00
				RG		0.25 ~ 0.54	1.50 ~ 5.00
				RP		0.25 ~ 0.54	1.50 ~ 5.00
				HG		0.20 ~ 0.55	1.50 ~ 5.50
M	不銹鋼 Stainless Steels	SUS304	—	FP	60 ~ 100	0.08 ~ 0.25	0.50 ~ 1.50
				SM		0.10 ~ 0.30	0.10 ~ 3.00
				SP		0.10 ~ 0.30	0.20 ~ 3.00
				MP		0.15 ~ 0.35	0.30 ~ 3.50
				ME		0.15 ~ 0.35	0.30 ~ 3.50
				RK		0.20 ~ 0.53	0.40 ~ 3.50
				RG		0.20 ~ 0.53	0.40 ~ 3.50
				RP		0.20 ~ 0.53	0.40 ~ 3.50
				HG		0.20 ~ 0.55	0.40 ~ 3.50
K	鑄鐵 Cast Iron	FC,FCD	HRC<30	FP	80 ~ 200	0.10 ~ 0.30	1.00 ~ 3.50
				SM		0.15 ~ 0.35	0.80 ~ 3.00
				SP		0.08 ~ 0.25	0.80 ~ 3.00
				MP		0.18 ~ 0.50	0.80 ~ 4.00
				ME		0.15 ~ 0.35	1.00 ~ 4.00
				RK		0.20 ~ 0.50	1.00 ~ 4.50
				RG		0.25 ~ 0.58	1.50 ~ 5.50
				RP		0.25 ~ 0.58	1.50 ~ 5.50
				HG		0.20 ~ 0.60	1.50 ~ 6.00
N	鋁合金 Aluminum Alloys	Al 5052 / 6061 / 7075	—	PCD 聚晶鑽石	300 ~ 1,000	0.05 ~ 0.25	0.10 ~ 2.00
S	鈦合金 Titanium Alloys	TiAl6V4	—	FP	30 ~ 70	0.08 ~ 0.20	0.50 ~ 1.00
				SM		0.10 ~ 0.25	0.10 ~ 1.00
				SP		0.10 ~ 0.25	0.20 ~ 1.00
				MP		0.15 ~ 0.30	0.30 ~ 1.00
				ME		0.15 ~ 0.30	0.30 ~ 1.00
				RK		0.20 ~ 0.30	0.40 ~ 1.00
				RG		0.20 ~ 0.30	0.40 ~ 1.00
				RP		0.20 ~ 0.30	0.40 ~ 1.00
				HG		0.20 ~ 0.30	0.40 ~ 1.00
H	調質鋼 Hardened Steels	SKT,SKD	HRC45~65	PCBN 聚晶立方氮化硼	100 ~ 200	0.05 ~ 0.30	精加工 Finishing 0.05 ~ 0.20 粗加工 Roughing 0.20 ~ 0.30

※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)
※ 建議先採用最低切削速度 Vc 和每轉進給量 f 參數加工，如加工狀況良好，再逐步調高參數。
We recommend starting with slow speeds and feeds. If processing goes well, you can raise parameters gradually.

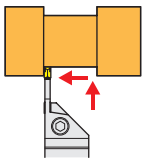
Table 188 切槽切斷車刀片 切削條件表

CARBIDE GROOVING / PARTING INSERTS- CUTTING CONDITION TABLE

切槽加工 & 切斷加工 Grooving & Parting

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~40	—	HRC<30	—	HRC<30
切削速度 Vc	50~130m/min	50~130m/min	50~100m/min	50~150m/min	80~200m/min	50~100m/min
每轉進給量 f (mm/rev)	0.03~0.07	0.03~0.07	0.02~0.06	0.03~0.08	0.03~0.10	0.02~0.07
備註 Remarks	※ 建議先採用最低切削速度Vc和每轉進給量f 參數加工，如加工狀況良好，再逐步調高參數。 We recommend starting with slow speeds and feeds. If processing goes well, you can raise parameters gradually. 					

橫向加工 Plunge Turning

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~40	—	HRC<30	—	HRC<30
切削速度 Vc	50~130m/min	50~130m/min	50~100m/min	50~150m/min	80~200m/min	50~100m/min
每轉進給量 f (mm/rev)	0.02~0.07	0.02~0.07	0.02~0.06	0.02~0.08	0.03~0.10	0.02~0.06
備註 Remarks	※ 建議先採用最低切削速度Vc和每轉進給量f 參數加工，如加工狀況良好，再逐步調高參數。 We recommend starting with slow speeds and feeds. If processing goes well, you can raise parameters gradually. 					

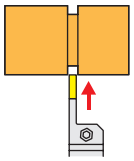
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 189 切槽車刀片 切削條件表

CARBIDE GROOVING INSERTS- CUTTING CONDITION TABLE

切槽加工 Grooving

加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075	Ti-6Al-4V
硬度 Hardness	HRC<30	HRC30~40	—	HRC<30	—	HRC<30
切削速度 Vc	50~130m/min	50~130m/min	50~100m/min	50~150m/min	80~200m/min	50~100m/min
每轉進給量 f (mm/rev)	0.02~0.06	0.02~0.06	0.02~0.06	0.02~0.07	0.02~0.09	0.02~0.06
備註 Remarks	※ 建議先採用最低切削速度Vc和每轉進給量f 參數加工，如加工狀況良好，再逐步調高參數。 We recommend starting with slow speeds and feeds. If processing goes well, you can raise parameters gradually. 					

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 190 螺紋車削- ISO規格60˚切削條件表

CARBIDE THREAD INSERTS(ISO METRIC 60˚)- THREADING CONDITION TABLE

螺距 Pitch (mm)	外螺紋 (ISO 規格 60˚) EXTERNAL (ISO METRIC 60˚) 走刀數 No. of Passes																總切深 (單邊) All Cut
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
0.50	0.102	0.102	0.076	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.356
0.75	0.178	0.152	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.508
0.80	0.178	0.152	0.127	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.533
1.00	0.178	0.178	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	0.660
1.25	0.178	0.178	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	–	0.813
1.50	0.229	0.203	0.178	0.152	0.127	0.076	–	–	–	–	–	–	–	–	–	–	0.965
1.75	0.229	0.203	0.152	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.143
2.00	0.254	0.229	0.178	0.152	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	1.270
2.50	0.279	0.254	0.203	0.178	0.152	0.127	0.127	0.102	0.102	0.076	–	–	–	–	–	–	1.600
3.00	0.279	0.254	0.203	0.178	0.152	0.152	0.127	0.127	0.127	0.102	0.102	0.076	–	–	–	–	1.880
3.50	0.330	0.305	0.254	0.203	0.178	0.178	0.152	0.152	0.152	0.127	0.102	0.076	–	–	–	–	2.210
4.00	0.330	0.330	0.254	0.229	0.178	0.178	0.152	0.152	0.152	0.127	0.127	0.127	0.102	0.076	–	–	2.515
4.50	0.381	0.330	0.279	0.229	0.229	0.203	0.178	0.178	0.152	0.152	0.152	0.127	0.127	0.102	–	–	2.819
5.00	0.406	0.381	0.330	0.279	0.229	0.229	0.203	0.178	0.178	0.178	0.152	0.152	0.127	0.102	–	–	3.124
5.50	0.432	0.406	0.330	0.279	0.229	0.229	0.203	0.178	0.178	0.178	0.152	0.152	0.127	0.127	0.127	0.102	3.429
6.00	0.457	0.432	0.356	0.305	0.279	0.229	0.229	0.203	0.203	0.178	0.178	0.152	0.152	0.152	0.127	0.102	3.734

螺距 Pitch (mm)	內螺紋 (ISO 規格 60˚) INTERNAL (ISO METRIC 60˚) 走刀數 No. of Passes																總切深 (單邊) All Cut
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
0.50	0.102	0.102	0.076	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.356
0.75	0.178	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.483
0.80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1.00	0.178	0.152	0.102	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	0.610
1.25	0.203	0.178	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	–	–	0.787
1.50	0.254	0.203	0.152	0.102	0.102	0.076	–	–	–	–	–	–	–	–	–	–	0.889
1.75	0.229	0.203	0.152	0.127	0.102	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.092
2.00	0.254	0.229	0.178	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.219
2.50	0.279	0.229	0.178	0.152	0.152	0.127	0.102	0.102	0.102	0.076	–	–	–	–	–	–	1.499
3.00	0.279	0.229	0.203	0.152	0.152	0.152	0.127	0.102	0.102	0.102	0.102	0.076	–	–	–	–	1.778
3.50	0.305	0.279	0.229	0.203	0.178	0.152	0.152	0.152	0.127	0.102	0.102	0.076	–	–	–	–	2.057
4.00	0.330	0.305	0.229	0.203	0.178	0.152	0.152	0.152	0.127	0.127	0.102	0.102	0.102	0.076	–	–	2.337
4.50	0.356	0.330	0.279	0.229	0.203	0.178	0.152	0.152	0.152	0.152	0.127	0.127	0.102	0.102	–	–	2.642
5.00	0.381	0.356	0.305	0.254	0.229	0.203	0.178	0.152	0.152	0.152	0.152	0.152	0.127	0.102	–	–	2.896
5.50	0.381	0.356	0.305	0.254	0.229	0.203	0.178	0.178	0.152	0.152	0.152	0.152	0.152	0.127	0.127	0.102	3.200
6.00	0.406	0.406	0.356	0.279	0.229	0.229	0.203	0.178	0.178	0.152	0.152	0.152	0.152	0.152	0.127	0.102	3.454

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63	–	HRC<30	–	HRC<30
切削速度 Vc (m/min)	60~140	60~120	40~100	20~60	–	40~120	60~120	–	20~60

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 191 螺紋車削- UN美製規格60° 切削條件表

CARBIDE THREAD INSERTS(UN METRIC 60°)- THREADING CONDITION TABLE

螺距 Tpi (牙/吋)	外螺紋 (UN 美製規格 60°) EXTERNAL (UN METRIC 60°) 走刀數 No. of Passes																總切深 (單邊) All Cut
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
32	0.178	0.152	0.127	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.533
28	0.178	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	0.635
24	0.178	0.178	0.152	0.127	0.076	–	–	–	–	–	–	–	–	–	–	–	0.711
20	0.203	0.178	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	–	0.838
18	0.229	0.203	0.152	0.152	0.127	0.076	–	–	–	–	–	–	–	–	–	–	0.940
16	0.229	0.203	0.152	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	1.041
14	0.229	0.229	0.178	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.194
13	0.254	0.229	0.178	0.152	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	1.270
12	0.279	0.229	0.203	0.152	0.152	0.152	0.127	0.076	–	–	–	–	–	–	–	–	1.372
11	0.279	0.254	0.203	0.178	0.152	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	1.499
10	0.279	0.229	0.203	0.178	0.152	0.152	0.152	0.127	0.102	0.076	–	–	–	–	–	–	1.651
9	0.279	0.229	0.203	0.178	0.152	0.152	0.152	0.127	0.127	0.102	0.076	–	–	–	–	–	1.778
8	0.305	0.254	0.229	0.178	0.178	0.152	0.152	0.152	0.127	0.127	0.102	0.076	–	–	–	–	2.032

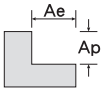
螺距 Tpi (牙/吋)	內螺紋 (UN 美製規格 60°) INTERNAL (UN METRIC 60°) 走刀數 No. of Passes																總切深 (單邊) All Cut
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
32	0.178	0.152	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	–	0.508
28	0.178	0.152	0.102	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	0.610
24	0.178	0.152	0.152	0.102	0.076	–	–	–	–	–	–	–	–	–	–	–	0.660
20	0.203	0.178	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	–	–	0.787
18	0.229	0.178	0.152	0.127	0.102	0.076	–	–	–	–	–	–	–	–	–	–	0.864
16	0.229	0.178	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	–	0.940
14	0.229	0.203	0.152	0.152	0.102	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.118
13	0.254	0.229	0.152	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.194
12	0.279	0.229	0.178	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	–	1.245
11	0.279	0.229	0.178	0.152	0.152	0.127	0.102	0.102	0.076	–	–	–	–	–	–	–	1.397
10	0.279	0.229	0.152	0.152	0.152	0.127	0.102	0.102	0.102	0.076	–	–	–	–	–	–	1.499
9	0.279	0.229	0.178	0.152	0.152	0.152	0.127	0.102	0.102	0.102	0.076	–	–	–	–	–	1.651
8	0.305	0.279	0.203	0.178	0.152	0.152	0.127	0.102	0.102	0.102	0.102	0.076	–	–	–	–	1.880

應用材質 Work Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys	高溫合金 High-Temp Alloys
	HRC<20	HRC20~30	HRC30~45	HRC45~55	HRC55~63	–	HRC<30	–	HRC<30
切削速度 Vc (m/min)	60~140	60~120	40~100	20~60	–	40~120	60~120	–	20~60

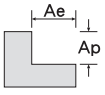
1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
2. 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
3. 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed 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 192 ELP / HLP 高進給型銑刀桿 切削條件表

HIGH FEED MILLING CUTTERS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~50	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.2~0.7	0.2~0.5	0.2~0.6	0.2~0.7	0.2~0.4
加工深度 Ap (mm)	0.2~0.5	0.2~0.3	0.2~0.4	0.2~0.5	0.2~0.3
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

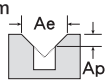
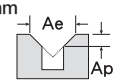
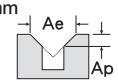
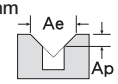
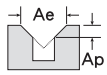
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~50	—	HRC<30	HRC<30
切削速度 Vc	100~250m/min	50~100m/min	100~180m/min	120~250m/min	50~100m/min
每刃進給量 fz (mm)	0.2~0.6	0.2~0.3	0.2~0.5	0.2~0.6	0.2~0.3
加工深度 Ap (mm)	0.2~0.5	0.2~0.3	0.2~0.4	0.2~0.5	0.2~0.3
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

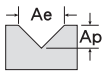
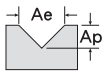
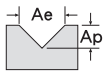
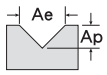
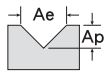
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

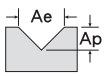
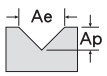
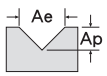
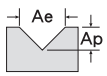
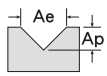
1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
2. 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
3. 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed 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.

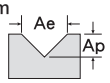
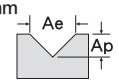
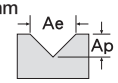
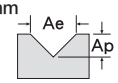
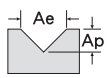
Table 193 ECSD 多功能倒角型銑刀桿 切削條件表

INDEXABLE TOOLS- MULTIPURPOSE- CHAMFERING CONDITION TABLE

加工方式 Cutting Mode	倒角加工 Chamfering				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	100~150m/min	100~130m/min	60~120m/min	100~150m/min	—
每轉進給量 f	0.03~0.06mm/rev	0.03~0.06mm/rev	0.01~0.05mm/rev	0.05~0.08mm/rev	—
切削量 Cutting Amount (mm)	Ap=0.5~1mm 	Ap=0.5~1mm 	Ap=0.5~1mm 	Ap=0.5~1mm 	

加工方式 Cutting Mode	定點加工 Spotting				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	—
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	100~150m/min	100~130m/min	60~120m/min	100~150m/min	—
每轉進給量 f	0.02~0.03mm/rev	0.02~0.03mm/rev	0.01~0.05mm/rev	0.02~0.03mm/rev	—
切削量 Cutting Amount (mm)	Ap≦2mm 	Ap≦2mm 	Ap≦2mm 	Ap≦2mm 	

加工方式 Cutting Mode	開V槽加工 V-Grooving				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	100~150m/min	100~130m/min	60~120m/min	100~150m/min	—
每轉進給量 f	0.05~0.07mm/rev	0.04~0.06mm/rev	0.01~0.05mm/rev	0.05~0.07mm/rev	—
切削量 Cutting Amount (mm)	Ap≦2mm 	Ap≦2mm 	Ap≦2mm 	Ap≦2mm 	

加工方式 Cutting Mode	雕刻加工 Engraving				
加工材質 Material	碳素鋼 Carbon Steels	合金鋼 Alloy Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	鋁合金 Aluminum Alloys
工件料號 Material Code	S35C,S45C,S50C	SCM,SKT,SKD	SUS304	FC,FCD	Al 5052 / 6061 / 7075
硬度 Hardness	HRC<20	HRC20~45	—	HRC<30	—
切削速度 Vc	100~150m/min	100~130m/min	60~120m/min	100~150m/min	—
每轉進給量 f	0.02~0.05mm/rev	0.02~0.03mm/rev	0.01~0.05mm/rev	0.02~0.05mm/rev	—
切削量 Cutting Amount (mm)	Ap=0.2~1mm 	Ap=0.2~1mm 	Ap=0.2~1mm 	Ap=0.2~1mm 	

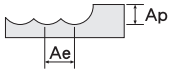
※ 切削公式 Cutting Formula：S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π(3.14)　　F(進給速度) = f(每轉進給量) × S(主軸轉速)

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

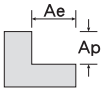
Table 194 EBC 圓角型銑刀桿 切削條件表

CORNER ROUNDING MILLING CUTTERS- CUTTING CONDITION TABLE

仿形加工 Profile Milling

加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~50	—	HRC<30	HRC<30
切削速度 Vc	150~250m/min	80~150m/min	120~180m/min	150~250m/min	50~80m/min
每刃進給量 fz (mm)	0.2~0.30	0.15~0.20	0.15~0.20	0.2~0.25	0.15~0.20
加工深度 Ap (mm)	≦0.03D	≦0.02D	≦0.03D	≦0.03D	≦0.02D
步距 Ae (mm)	≦0.03D	≦0.02D	≦0.03D	≦0.03D	≦0.02D
備註 Remarks					

面銑加工 Face Milling

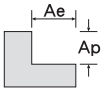
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~50	—	HRC<30	HRC<30
切削速度 Vc	120~200m/min	50~130m/min	100~160m/min	120~200m/min	50~80m/min
每刃進給量 fz (mm)	0.2~0.30	0.15~0.20	0.15~0.20	0.2~0.25	0.15~0.20
加工深度 Ap (mm)	0.1~3.0	0.1~0.5	0.1~2.0	0.1~3.0	0.1~0.5
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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 195 FAN 直角型銑刀盤 切削條件表

SHOULDER FACE MILLING CUTTERS- CUTTING CONDITION TABLE

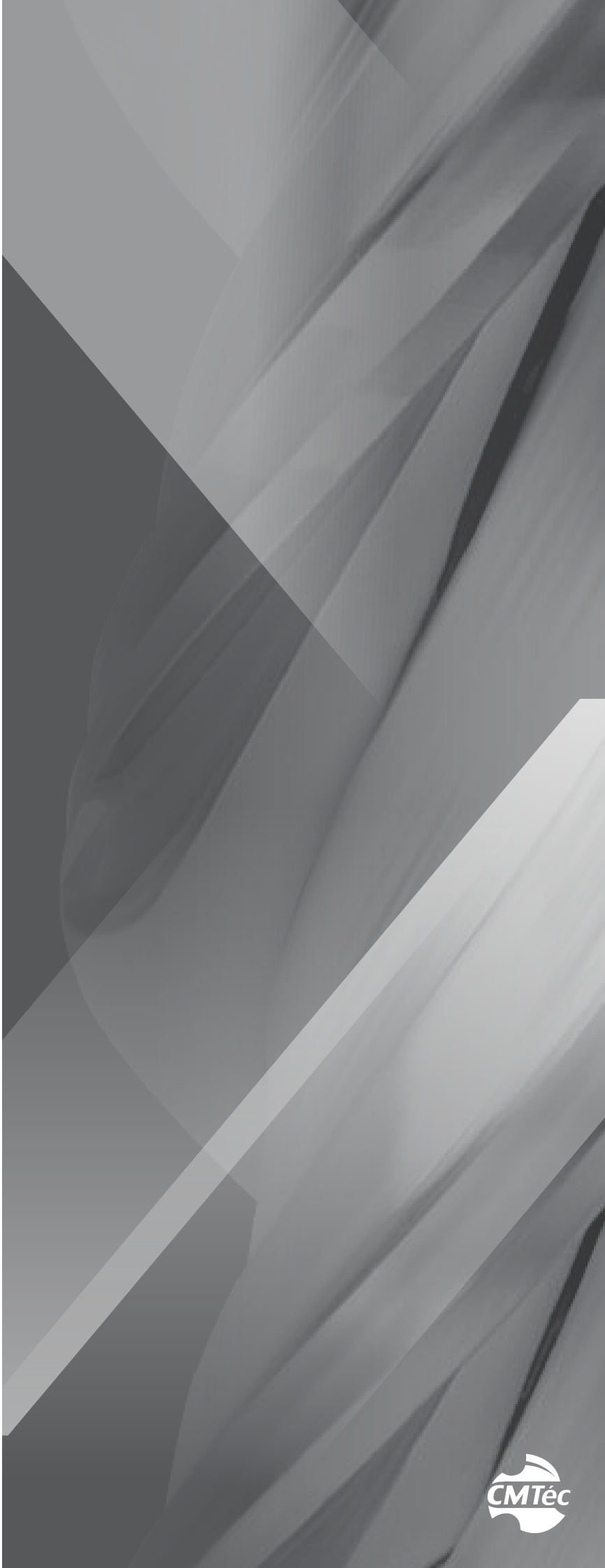
加工材質 Material	碳素鋼 / 合金鋼 Carbon Steels Alloy Steels	調質鋼 Hardened Steels	不銹鋼 Stainless Steels	鑄鐵 Cast Iron	高溫合金 High-Temp Alloys
工件料號 Material Code	S35C,S45C,S50C SCM,SKT,SKD	SKT,SKD	SUS304	FC,FCD	Ti-6Al-4V
硬度 Hardness	HRC<40	HRC40~55	—	HRC<30	HRC<30
切削速度 Vc	120~250m/min	50~100m/min	80~160m/min	120~250m/min	50~70m/min
每刃進給量 fz (mm)	0.05~0.15	0.03~0.10	0.04~0.12	0.05~0.15	0.03~0.10
加工深度 Ap (mm)	0.3~7.0	0.3~4.0	0.3~6.0	0.3~7.0	0.3~4.0
備註 Remarks	※ 面銑加工寬度(Ae)建議 = 外徑 < 80%。 Recommended cutting width(Ae) for face milling is less than 80% of diameter. 				

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

1. 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
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.

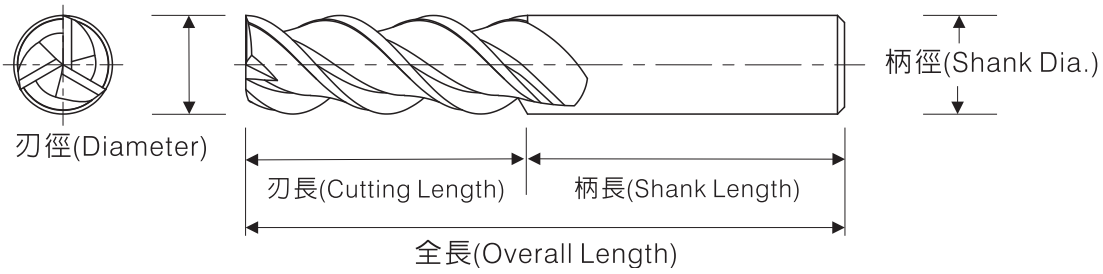
技術資料

Technical Data

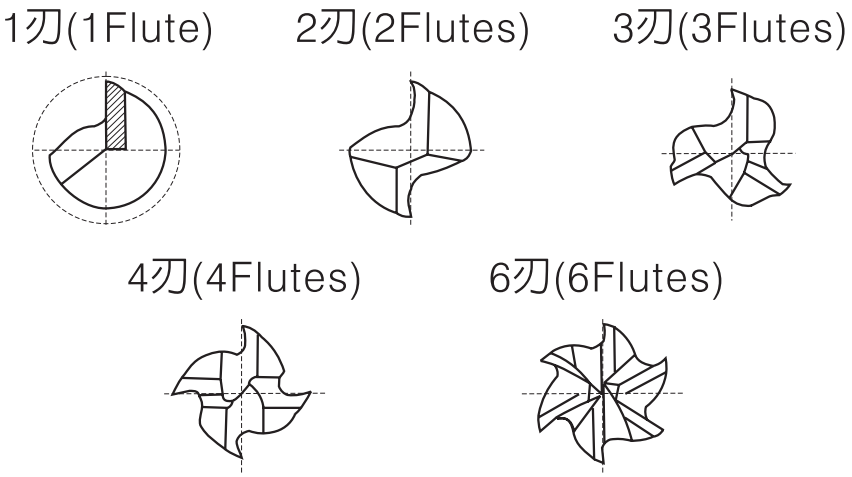


銑刀篇之技術資料
Technical Data for Solid Carbide End mills

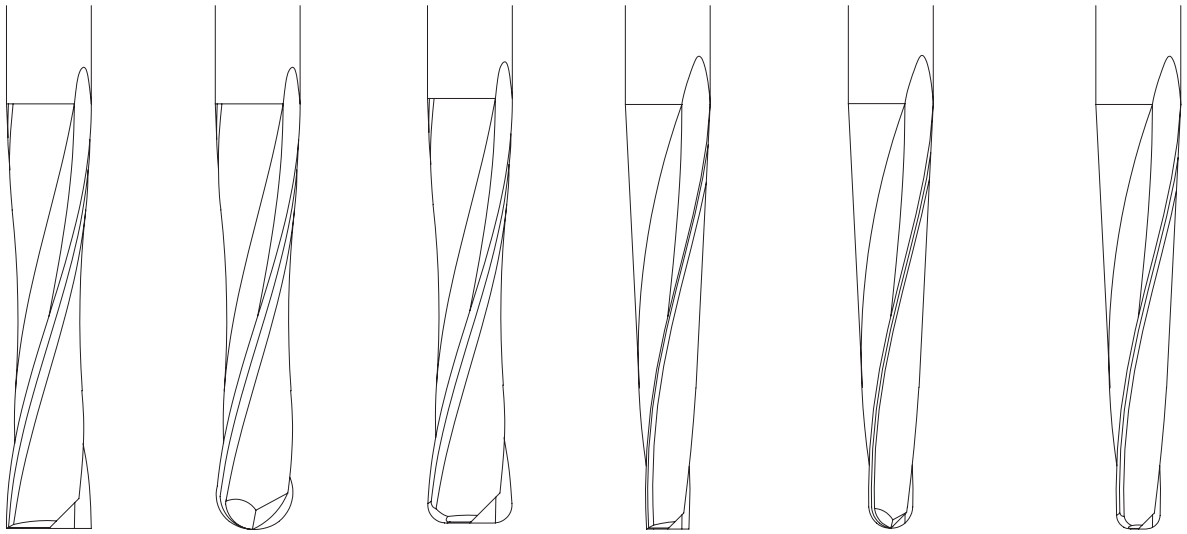
1. 尺寸名稱介紹
Nomenclature & Size



2. 刃數
Flutes



3. 類型
Types



平銑刀
Square
End Mill

球型銑刀
Ball Nosed
End Mill

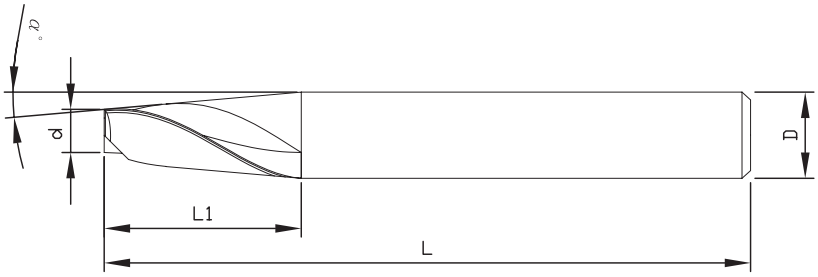
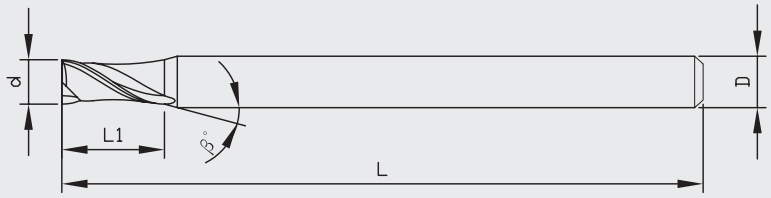
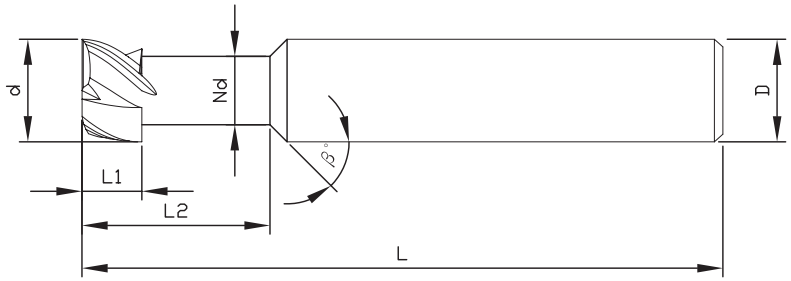
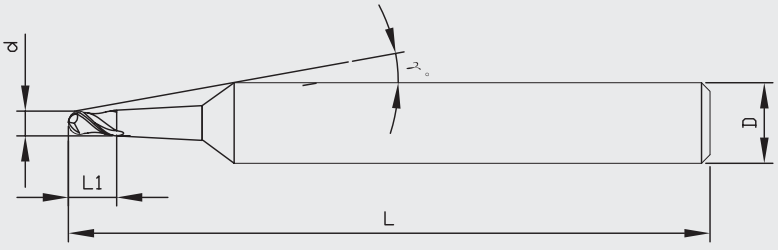
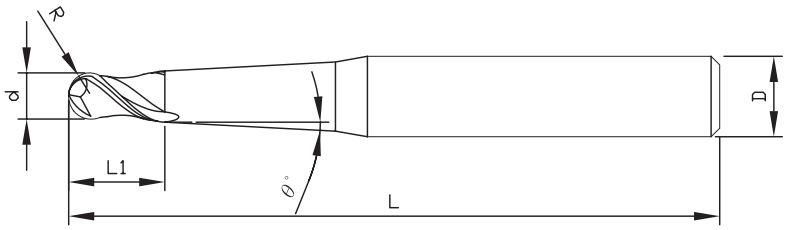
圓鼻銑刀
Corner
Radius
End Mill

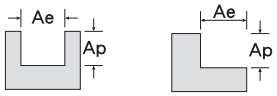
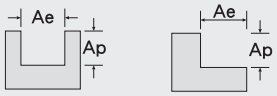
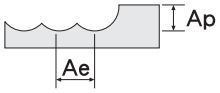
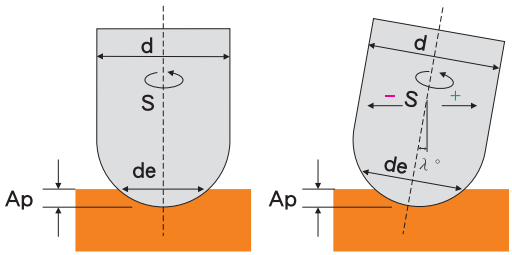
斜度銑刀
Taper
End Mill

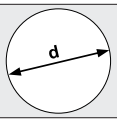
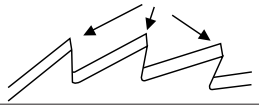
斜度球型銑刀
Taper
Ball Nosed
End Mill

斜度圓鼻銑刀
Taper
Corner
Radius
End Mill

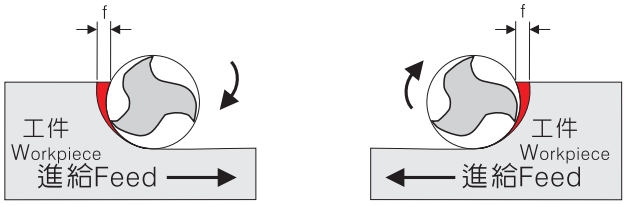
4. 符號說明
Symbol Guide

符號 Symbols	描述 Description
α	
β	
β	
γ	
θ	

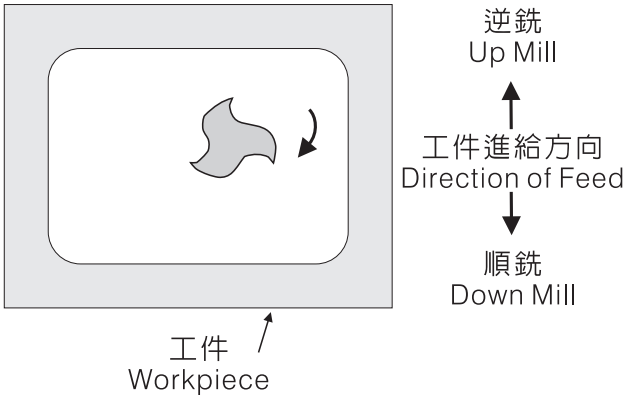
符號 Symbols	描述 Description	公式&標記 Formula&Icon
Ap	加工深度（mm） Axial depth of cutting	
Ae	加工寬度（mm） Radial depth of cutting	
Ae	步距（mm） Axial Pitch of cutting depth or width	
Vc	切削速度（m/min） Cutting speed	$Vc=d\times S\times\pi\ /\ 1000$
S	主軸轉速（rpm） Spindle speed	$S=Vc\times 1000\ /\ d\ /\ \pi$
F	進給速度（mm/min） Feed rate	$F=fz\times S\times Z$
fz	每刃進給量（mm） Feed per tooth	$fz=F\ /\ S\ /\ Z$
f	每轉進給量（mm/rev） Feed per revolution	$f=fz\times Z$
Q	切削移除率（mm^3/min） Removal rate	$Q=Ap\times Ae\times F$
λ	刃傾角（°） Angle of inclination	如下圖所示： To see the picture below：
de	球刀有效直徑（mm） Working diameter of ball nosed end mills 	當 λ =0時 When λ =0 $de=2\sqrt{Ap\times(d\text{-}Ap)}$ 當 λ ≠0時 When λ ≠0 $de=d\times sin\left[\lambda\pm arccos\left(\frac{d-2Ap}{d}\right)\right]$

符號 Symbols	描述 Description	公式&標記 Formula&Icon
Ve	銑刀的有效切削速度（m/min） Effective cutting speed of mills	$Ve=d\times S\times\pi / 1000$
d	銑刀直徑（mm） Diameter of End mill	
F / Z	刃數 / 齒數 Number of teeth	

側面切削Side Milling



槽穴切削Slotting



逆銑vs.順銑：

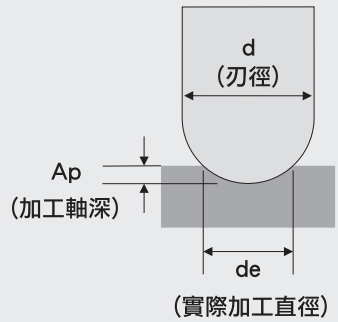
一般而言，要使刀具壽命長及得到好的表面粗糙度，推薦用「順銑」；若工件表面很粗糙不平整且夾砂，推薦用「逆銑」。

Up Mill vs. Down Mill：

We recommend 'down mill' to get long tool life and good finishing of workpiece. If the surface roughness of workpiece is poor,e.g.having sand,we would recommend you 'up mill'.

	適用性 Application
逆銑 Up cut (Up mill)	粗銑、中銑 Roughing , Semi-finishing
順銑 Down cut (Down mill)	精銑、超精銑 Finishing, Bright Finishing

球刀實際加工直徑計算式
Calculation of Virtual Diameter



$$de=2\sqrt{Ap\times(d-Ap)}$$

5. 球刀實際加工直徑速查表
Simplified Virtual Diameter of Ball Nosed End Mill Table

R	刃徑	切削量(加工深度) Depth of Cutting (Ap)							
Radius	Diameter	0.01	0.02	0.03	0.04	0.05	0.08	0.1	0.15
0.1	0.2	0.087	0.120	0.143	0.160	0.173	0.196	0.20	–
0.2	0.4	0.125	0.174	0.211	0.240	0.265	0.320	0.35	0.39
0.3	0.6	0.154	0.215	0.262	0.299	0.332	0.410	0.45	0.52
0.4	0.8	0.178	0.250	0.304	0.349	0.387	0.480	0.53	0.62
0.5	1.0	0.199	0.280	0.341	0.392	0.436	0.540	0.60	0.71
1.0	2.0	0.282	0.398	0.486	0.560	0.624	0.780	0.87	1.05
1.5	3.0	0.346	0.488	0.597	0.688	0.768	0.970	1.08	1.31
2.0	4.0	0.399	0.564	0.690	0.796	0.889	1.120	1.25	1.52
2.5	5.0	0.447	0.631	0.722	0.891	0.995	1.250	1.40	1.71
3.0	6.0	0.489	0.692	0.846	0.977	1.091	1.380	1.54	1.87
4.0	8.0	0.565	0.799	0.978	1.129	1.261	1.590	1.78	2.17
5.0	10.0	0.632	0.894	1.094	1.262	1.411	1.780	1.99	2.43
6.0	12.0	0.693	0.979	1.198	1.383	1.546	1.950	2.18	2.67
7.0	14.0	0.748	1.058	1.295	1.495	1.670	2.110	2.36	2.88
8.0	16.0	0.800	1.131	1.384	1.598	1.786	2.260	2.52	3.08
9.0	18.0	0.848	1.199	1.468	1.695	1.895	2.390	2.68	3.27
10.0	20.0	0.894	1.264	1.548	1.787	1.997	2.520	2.82	3.45

R	刃徑	切削量(加工深度) Depth of Cutting (Ap)							
Radius	Diameter	0.2	0.3	0.5	0.8	1	2	3	
0.1	0.2								
0.2	0.4	0.40							
0.3	0.6	0.57	0.60						
0.4	0.8	0.69	0.77						
0.5	1.0	0.80	0.92						
1.0	2.0	1.20	1.43	1.73	1.96	2.00			
1.5	3.0	1.50	1.80	2.24	2.65	2.83			
2.0	4.0	1.74	2.11	2.65	3.20	3.46	4.00		
2.5	5.0	1.96	2.37	3.00	3.67	4.00	4.90		
3.0	6.0	2.15	2.62	3.32	4.08	4.47	5.66	6.00	
4.0	8.0	2.50	3.04	3.87	4.80	5.29	6.93	7.75	
5.0	10.0	2.80	3.41	4.36	5.43	6.00	8.00	9.17	
6.0	12.0	3.07	3.75	4.80	5.99	6.63	8.94	10.39	
7.0	14.0	3.32	4.05	5.20	6.50	7.21	9.80	11.49	
8.0	16.0	3.56	4.34	5.57	6.97	7.75	10.58	12.49	
9.0	18.0	3.77	4.61	5.92	7.42	8.25	11.31	13.42	
10.0	20.0	3.98	4.86	6.24	7.84	8.72	12.00	14.28	

6. 轉速度速查表(1)
Simplified Spindle Speed Table (1)

刃徑 d	切削速度(Vc) Cutting Speed (m/min)						
Diameter	20	30	40	50	60	70	80
0.2	31,850	47,770	63,690	79,620	95,540	111,460	127,390
0.3	21,230	31,850	42,460	53,080	63,690	74,310	84,930
0.4	15,920	23,890	31,850	39,810	47,770	55,730	63,690
0.5	12,740	19,110	25,480	31,850	38,220	44,590	50,960
0.6	10,620	15,920	21,230	26,540	31,850	37,150	42,460
0.7	9,100	13,650	18,200	22,750	27,300	31,850	36,400
0.8	7,960	11,940	15,920	19,900	23,890	27,870	31,850
0.9	7,080	10,620	14,150	17,690	21,230	24,770	28,310
1.0	6,370	9,550	12,740	15,920	19,110	22,290	25,480
1.4	4,550	6,820	9,100	11,370	13,650	15,920	18,200
1.6	3,980	5,970	7,960	9,950	11,940	13,390	15,920
1.8	3,540	5,310	7,080	8,850	10,620	12,380	14,150
2.0	3,180	4,780	6,370	7,960	9,550	11,150	12,740
2.2	2,900	4,340	5,790	7,240	8,690	10,130	11,580
2.4	2,650	3,980	5,310	6,630	7,960	9,290	10,620
2.6	2,450	3,670	4,900	6,120	7,350	8,570	9,800
2.8	2,270	3,410	4,550	5,690	6,820	7,960	9,100
3.0	2,120	3,180	4,250	5,310	6,370	7,430	8,490
4.0	1,590	2,390	3,180	3,980	4,780	5,570	6,370
5.0	1,270	1,910	2,550	3,180	3,820	4,460	5,100
6.0	1,060	1,590	2,120	2,650	3,180	3,720	4,250
7.0	910	1,360	1,820	2,270	2,730	3,180	3,640
8.0	800	1,190	1,590	1,990	2,390	2,790	3,180
9.0	710	1,060	1,420	1,770	2,120	2,480	2,830
10.0	640	960	1,270	1,590	1,910	2,230	2,550
11.0	580	870	1,160	1,450	1,740	2,030	2,320
12.0	530	800	1,060	1,330	1,590	1,860	2,120
13.0	490	730	980	1,220	1,470	1,710	1,960
14.0	450	680	910	1,140	1,360	1,590	1,820
15.0	420	640	850	1,060	1,270	1,490	1,700
16.0	400	600	800	1,000	1,190	1,390	1,590
17.0	370	560	750	940	1,120	1,310	1,500
18.0	350	530	710	880	1,060	1,240	1,420
19.0	340	500	670	840	1,010	1,170	1,340
20.0	320	480	640	800	960	1,110	1,270
21.0	300	450	610	760	910	1,060	1,210
22.0	290	430	580	720	870	1,010	1,160
23.0	280	420	550	690	830	970	1,100
24.0	270	400	530	660	800	930	1,060
25.0	250	380	510	640	760	890	1,020

7. 轉速度速查表(2)
Simplified Spindle Speed Table (2)

刃徑 d	切削速度(Vc) Cutting Speed (m/min)						
Diameter	90	100	120	140	150	180	200
0.2	143,310	159,240	191,080	222,930	238,850	286,620	318,470
0.3	95,540	106,160	127,390	148,620	159,240	191,080	212,310
0.4	71,660	79,620	95,540	111,460	119,430	143,310	159,240
0.5	57,320	63,690	76,430	89,170	95,540	114,650	127,390
0.6	47,770	53,080	63,690	74,310	79,620	95,540	106,160
0.7	40,950	45,500	54,590	63,690	68,240	81,890	90,990
0.8	35,830	39,810	47,770	55,730	59,710	71,660	79,620
0.9	31,850	35,390	42,640	49,540	53,080	63,690	70,770
1.0	28,660	31,850	38,220	44,590	47,770	57,320	63,390
1.4	20,470	22,750	27,300	31,850	34,120	40,950	45,500
1.6	17,910	19,900	23,890	27,870	29,860	35,830	39,810
1.8	15,920	17,690	21,230	24,770	26,540	31,850	35,390
2.0	14,330	15,920	19,110	22,290	23,890	28,660	31,850
2.2	13,030	14,480	17,370	20,270	21,710	26,060	28,950
2.4	11,940	13,270	15,920	18,580	19,900	23,890	26,540
2.6	11,020	12,250	14,700	17,150	18,370	22,050	24,500
2.8	10,240	11,370	13,650	15,920	17,060	20,470	22,750
3.0	9,550	10,620	12,740	14,860	15,920	19,110	21,230
4.0	7,170	7,960	9,550	11,150	11,940	14,330	15,920
5.0	5,730	6,370	7,640	8,920	9,550	11,460	12,740
6.0	4,780	5,310	6,370	7,430	7,960	9,550	10,620
7.0	4,090	4,550	5,460	6,370	6,820	8,190	9,100
8.0	3,580	3,980	4,780	5,570	5,970	7,170	7,960
9.0	3,180	3,540	4,250	4,950	5,310	6,370	7,080
10.0	2,870	3,180	3,820	4,460	4,780	5,730	6,370
11.0	2,610	2,900	3,470	4,050	4,340	5,210	5,790
12.0	2,390	2,650	3,180	3,720	3,980	4,780	5,310
13.0	2,200	2,450	2,940	3,430	3,670	4,410	4,900
14.0	2,050	2,270	2,730	3,180	3,410	4,090	4,550
15.0	1,910	2,120	2,550	2,970	3,180	3,820	4,250
16.0	1,790	1,990	2,390	2,790	2,990	3,580	3,980
17.0	1,690	1,870	2,250	2,620	2,810	3,370	3,750
18.0	1,590	1,770	2,120	2,480	2,650	3,180	3,540
19.0	1,510	1,680	2,020	2,350	2,510	3,020	3,350
20.0	1,430	1,590	1,910	2,230	2,390	2,870	3,180
21.0	1,360	1,520	1,820	2,120	2,270	2,730	3,030
22.0	1,300	1,450	1,740	2,030	2,170	2,610	2,900
23.0	1,250	1,380	1,660	1,940	2,080	2,490	2,770
24.0	1,190	1,330	1,590	1,860	1,990	2,390	2,650
25.0	1,150	1,270	1,530	1,780	1,910	2,290	2,550

8. 銑刀加工異常原因及對策
Troubleshooting in Milling

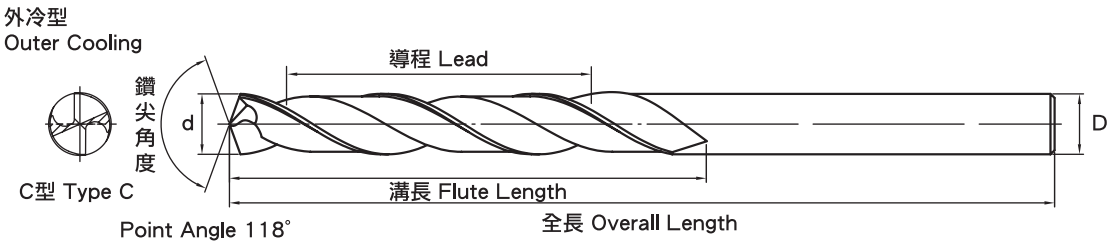
情況 Trouble	原因 Occurrences	對策 Countermeasures
崩刃 Chipping	進給速度(F)過高 High feed rate.	降低進給速度(F) Reduce feed rate.
	逆銑(向上切削) Up milling.	順銑(向下切削) Change down milling.
	切削刃太鋒利 Sharp cutting edge.	修磨切削刃-必要時倒角或倒圓 Honing at the cutting edge-chamfering or rounding if needed.
	加工震動 Chattering.	降低主軸轉速(S) Reduce spindle speed.
	刀具突出量太長 Too much overhang.	將刀具突出量調整為最小 Adjust to minimize overhang.
	銑刀末牢固夾緊 Unfixed chucking of end mill.	調整夾治具精度 Check the precision of chuck and collet.
磨損 Wear	切削速度(Vc)過高 High cutting speed.	降低切削速度(Vc) Reduce cutting speed.
	進給速度(F)過低 Low feed rate.	提高進給速度(F) Increase feed rate.
	逆銑(向上切削) Up milling.	順銑(向下切削) Down milling.
	材質硬度過高 High-hardened work piece.	選用特殊鍍膜的銑刀 Choosing special coating end mill.
刀具折斷 Tool breakage	切削量過大 Too much cutting amount.	降低切削量 Reduce cutting amount.
	切削力過大 High cutting force.	降低進給速度(F)，提高主軸轉速(S) Reduce feed rate, Increase spindle speed.
	刀具突出量太長 Too much overhang.	將刀具突出量調整為最小 Adjust to minimize overhang.
表面粗糙度 Surface roughness	加工震動 Chattering.	改變切削條件 Change the cutting condition.
	排屑不良 Generation of built-up edge.	提高切削速度(Vc)，進給速度(F)或順銑 Increasing cutting speed, feed rate or down milling.
	高進給速度(F)，低切削速度(Vc) High feed rate, low spindle speed.	降低進給速度(F)，提高切削速度(Vc) Reduce feed rate, Increase spindle speed.
加工精度 Accuracy of finished work piece	刃數不夠 Incorrect numbers of flute.	更換多刃銑刀 Replace more flutes end mill.
	刀具偏差 Deflection of tool.	使用大刃徑和突出量減至最小 Using big diameter tool & minimize the overhang.

鑽頭篇之技術資料
Technical Data for Drills

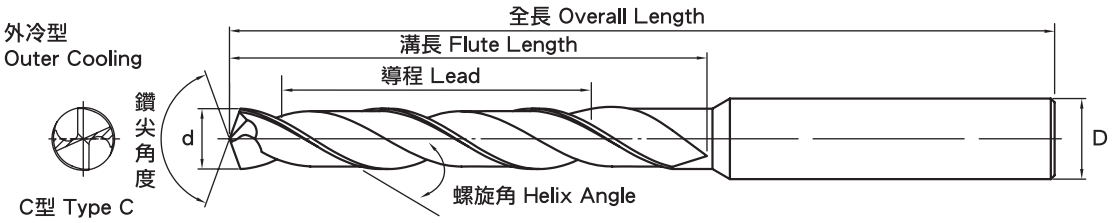
1. 鑽頭尺寸名稱介紹
Nomenclature & Size of Drill

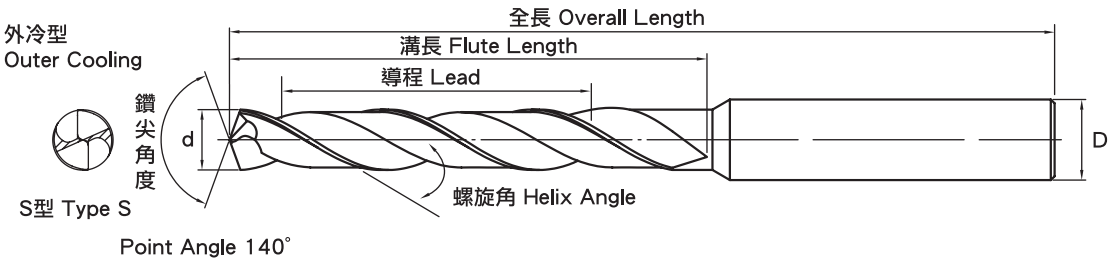
A. 螺旋刃鑽頭
Twist Drill

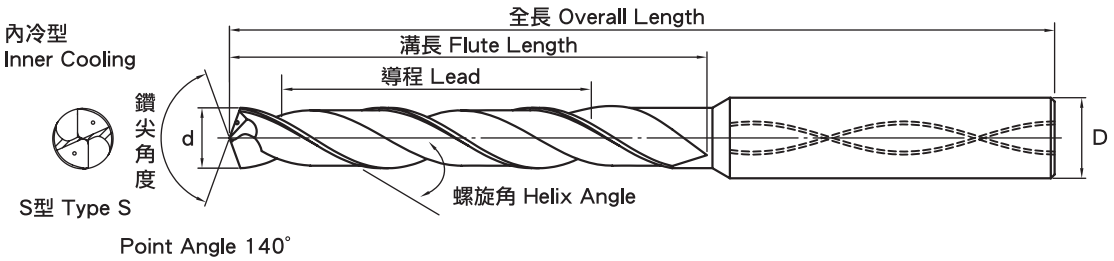
同柄徑Straight Shank



不同柄徑 End Mill Shank

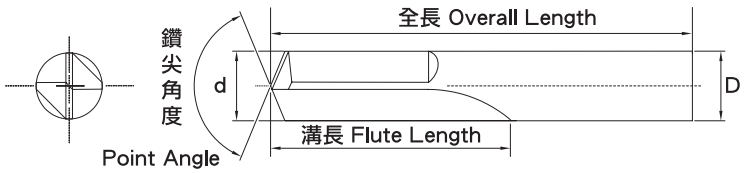




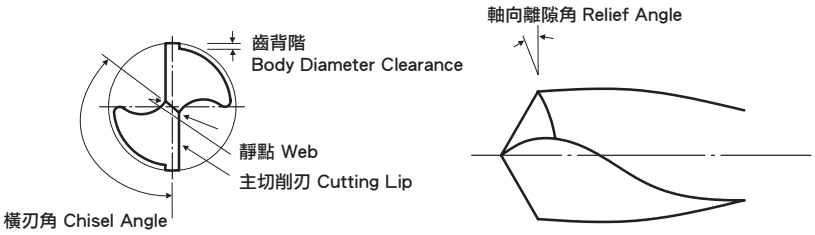


B. 直刃鑽鉸刀
Straight Flute Drill

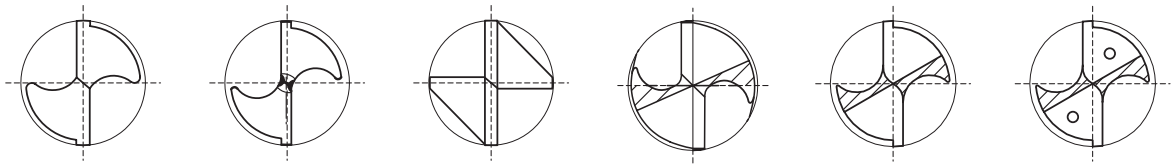
同柄徑 Straighi Shank



刀底圖解
Drill Point Geometry



刀底形式
Drill Point Style

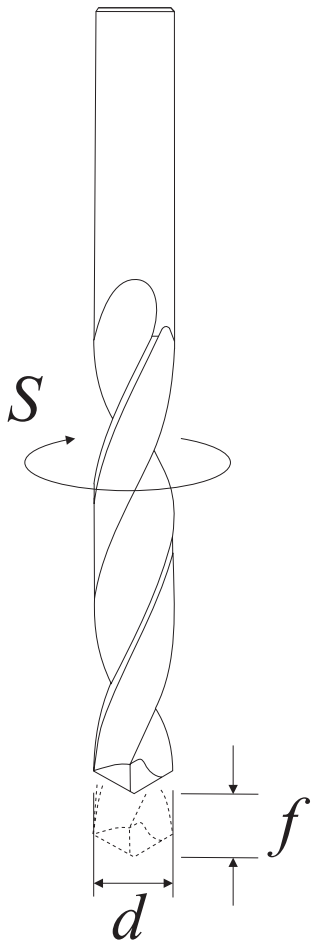


標準型 (Standard)	E型 (Type E)	2刃直刃 (Straight Flute) 2F	C型(平面型) Type C (Flat Relief)	S型(偏心型) Type S (Eccentric Relief)	S型(偏心型) 含出水孔 Type S (Eccentric Relief) with oil holes

2. 計算公式
Formula

切削速度	$Vc = d \times S \times \pi / 1000$
進給速度	$F = fz \times S \times Z$
每轉進給量	$f = fz \times Z$
螺旋角度	$\delta = \tan^{-1}(\pi \times d / L)$
鑽削時間	$Tc = Ap \times i / S / f$
鑽削移除量	$Q = \pi \times d^2 / 4 \times S \times f$

Ap (加工深度)	mm
Tc (鑽削時間)	min
Vc (切削速度)	m/min
d (外徑)	mm
S (轉速)	rpm
π (圓周率)	3.14
F (進給速度)	mm/min
f (每轉進給量)	mm/rev
δ (螺旋角)	°
L (導程)	mm
i (孔數)	pcs



3. 鑽頭加工異常原因及對策
Troubleshooting in Drilling

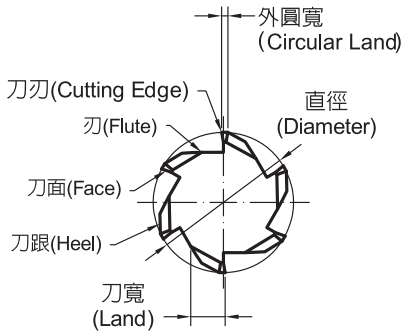
情況 Trouble	原因 Occurrences	對策 Countermeasures
鑽孔成橢圓 Deformation of hole	形成螺紋刮痕 Becoming thread scratch in the hole.	1.使用適合之鑽套 Check for suitable guide-bush. 2.減少間隙角度 Reduce relief angle. 3.檢查鑽頭尖端角度和兩邊長度是否對稱 Check for proper point angle & length of lips.
	產生顫動、振動 Generation of chattering & vibration.	1.減少間隙角度 Reduce relief angle. 2.腹板削薄 Grind web thinning. 3.縮短鑽頭長度，增加剛性 Shortening length of drill. 4.檢查鑽頭角度研磨是否正確 Check for proper drill. 5.檢查夾具與鑽頭接觸情形 Check for chuck & collet & socket. 6.預先鑽好中心孔 Pre-centering. 7.提高工作機械的剛性 Inspect rigidity of the drill machine.
	切屑排出不易 Poor chip evacuation.	1.提高每轉進給量(f) Increase feed per revolution. 2.選擇正確螺旋角 Check for proper helix angle. 3.加大槽寬比 Check for proper chip space. 4.採用間歇式進給 Using step feed.

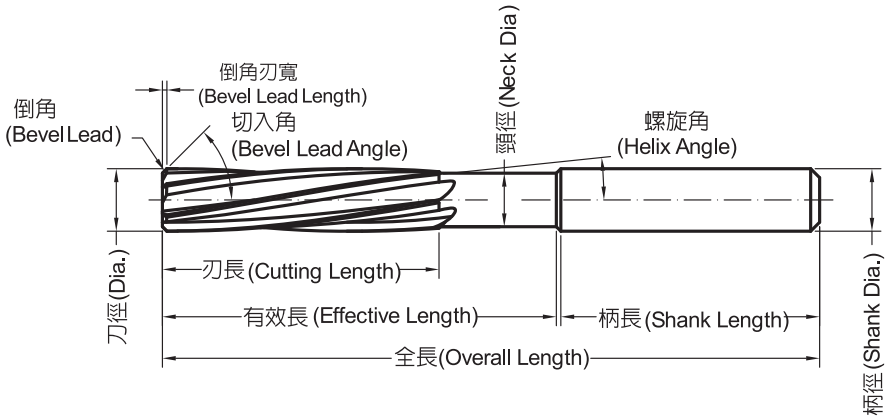
情況 Trouble	原因 Occurrences	對策 Countermeasures
鑽孔傾斜 Deflection of hole	剛進刀時不良 Drill won't enter work.	1.使用適合的鑽套 Check for suitable guide-bush. 2.降低進刀時的每轉進給量(f) Reduce feed per revolution. 3.預先鑽好中心孔 Pre-centering.
	鑽頭剛性不良 Insufficient rigidity of drill.	縮短鑽頭長度，提高剛性 Shortening length of drill.
	鑽頭角度不對 Unsuitable angle.	再研磨 Regrinding.
外角磨損 Excessive wear of cutting edge	切削速度(Vc)過高 High cutting speed.	1.降低切削速度(Vc) Reduce cutting speed. 2.加大間隙角 Check lip relief. 3.充分供給切削液 Increase coolant flow. 4.提高鑽頭之材質 Check for proper material.
孔壁粗糙 Poor surface conditions of work piece	刀刃磨損太大 Excessive wear of cutting edge.	再研磨 Regrinding.
	進給速度(F)過高 High feed rate.	降低進給速度(F) Reduce feed rate.
	切削阻塞 Chips clog in hole.	增加退刀次數 Add number of exit.
	其他 the others.	1.腹板削薄 Thin web. 2.使用適合導套 Check for proper guide- bush. 3.採用高剛性主軸 Use the highly rigid spindle.

情況 Trouble	原因 Occurrences	對策 Countermeasures
切削中鑽頭折斷 Breakage	每轉進給量(f)過高 High feed per revolution.	降低每轉進給量(f) Reduce feed per revolution.
	切削阻塞 Chips clog in hole.	1.加大槽寬比 Check for proper chip space. 2.選擇適當之螺旋角度 Check for proper helix angle.
	鑽頭剛性不足 Insufficient rigidity of drill.	1.降低每轉進給量(f) Reduce feed per revolution. 2.縮短鑽頭長度，增加剛性 Shortening length of drill. 3.腹板厚度加大 Increasing web thickness.
	貫穿時安定性不夠 (工件不完全被夾住) Unstable in throughout hole drilling.	1.降低貫穿時的每轉進給量(f) Reduce feed per revolution while throughout drilling. 2.工作保持固定 Check set up rigidity. 3.採用高剛性主軸 Use the highly rigid spindle.
切唇崩刃 Chipping	進給速度(F)過高 High feed rate.	降低每轉進給量(f) Reduce feed per revolution.
	切刃強度不足 (過度的間隙角度) Too high lip relief angle.	1.減少間隙角度 Reduce lip relief angle. 2.降低貫空時的每轉進給量(f) Reduce feed per revolution in drilling. 3.工作保持固定 Check set up rigidity.
	使用在擴孔作業時 During oversize operation.	1.加大鑽尖角度 Properly grind point angle. 2.降低切削速度(Vc) Reduce cutting speed.
孔徑擴大 Hole oversize	尖端角度末對稱或刃大小不一 Point angle is not properly, large chip of one flute; small chip of other flute.	1.再研磨 Regrinding. 2.腹板削薄 Thin web. 3.減少尖端角度 Properly grind point angle. 4.使用鑽套 Guide-bush.

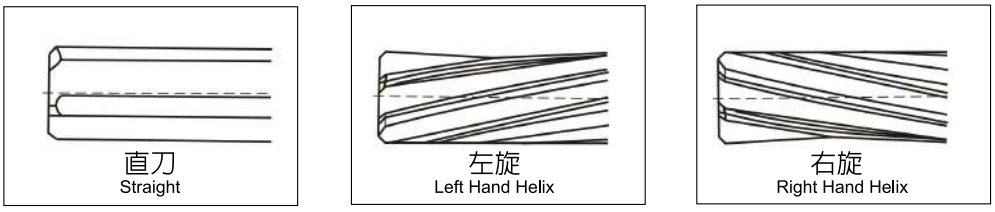
鉸刀篇之技術資料
Technical Data for Reamers

1. 鉸刀名稱介紹
Nomenclature & Size of Reamer





2. 螺旋形式
Helix Type



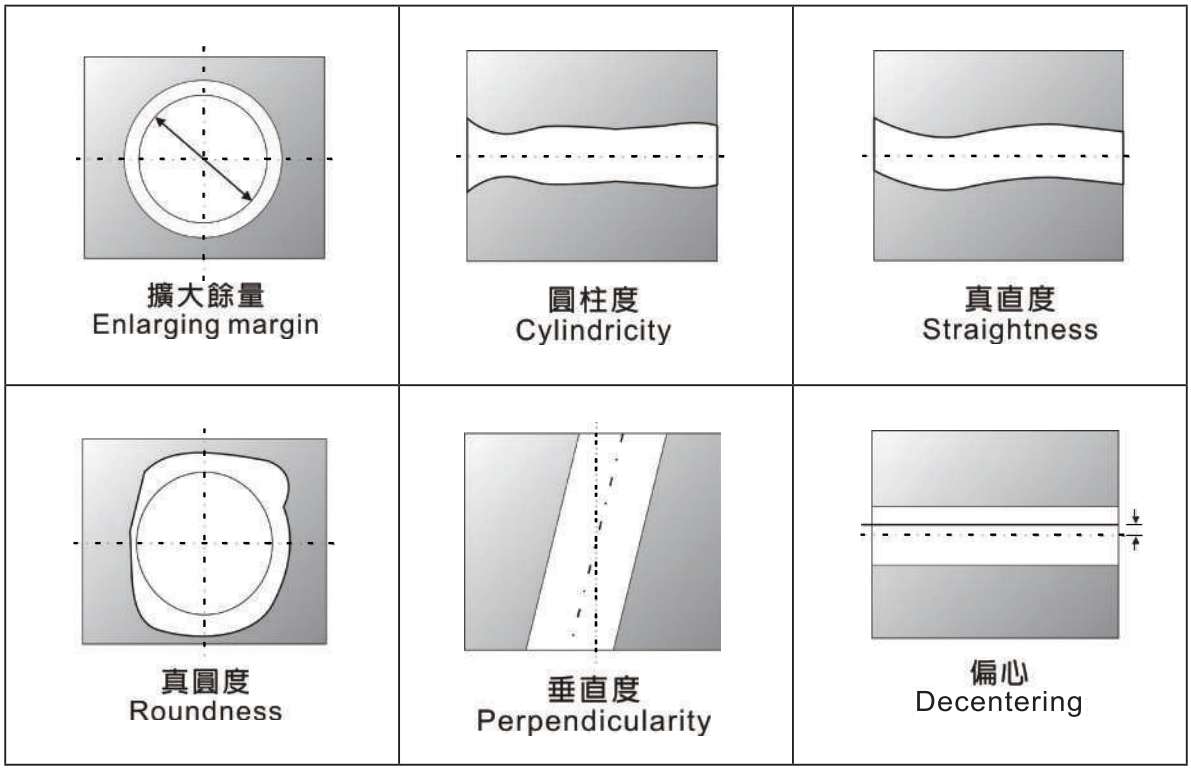
目的：鑽好孔穴後再做鉸孔以得到下列的效果：

1. 正確之孔直徑
2. 平順光滑的加工面
3. 精準的真直度
4. 準確的圓柱度

The reaming work means to enlarge drilled hole to get the following hole finishing：

1. The hole bearing correct diameter.
2. The hole having good finish surface roughness.
3. The hole having correct roundness.
4. The hole free from shape (Cylindricity) deviation.

3. 孔穴的形狀誤差
Hole Shape Deviation



4. 鉸刀加工異常原因及對策
Troubleshooting in Reaming

情況 Trouble	原因 Occurrences	對策 Countermeasures
外徑異常磨耗 Serious wear on outside diameter	1. 倒角過小 Bevel lead angle is insufficient. 2. 切削速度(Vc)過高 High cutting speed. 3. 冷卻不足 Insufficient cooling. 4. 工件過硬 Work piece is too hard.	1. 加大倒角 Increase bevel lead angle. 2. 降低切削速度(Vc) Reduce cutting speed. 3. 供給充分的切削油量 使用適當的切削油 Increase coolant flow and use proper cutting fluid. 4. 增加鉸刀刃部硬度，改變鉸刀材質 Increase hardness of reamer cutting edge and change the material.
孔徑擴大 Hole size gets larger	1. 機械主軸、夾持部或鉸刀偏擺 Check for any run out at machine spindle, sleeve and reamer. 2. 工具夾持部損傷 Damaging on the sleeve.	1. 檢查鉸刀外徑，咬入部是否偏擺。 Check for any run out of reamer diameter and biting section.

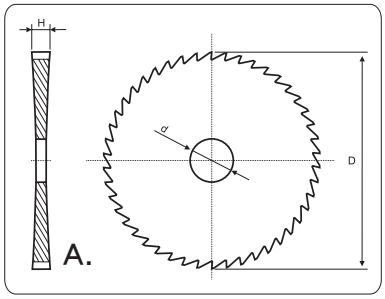
情況 Trouble	原因 Occurrences	對策 Countermeasures
孔徑擴大 Hole size gets larger	3. 預留量過大 Stock amount is too big. 4. 中心未對正 Is the drilled hole eccentric to the reamer. 5. 進給速度(F)過高 High feed rate.	2. 鉸刀柄部、套管、承套有無損傷 Check for any damage on the shank , sleeve and socket. 3. 減少預留量 Reduce stock amount. 4. 確認鉸刀中心與工件中心是否對正 Confirm to see if the reamer and workpiece are concentric. 5. 降低進給速度(F) Reduce feed rate.
孔徑縮小 Hole size gets smaller	1. 使用大尺寸的鉸刀 Use the reamer of larger diameter. 2. 預留量過小 Stock amount is too small. 3. 刀緣面寬度變大 Margin becomes larger. 4. 鉸刀切刃鈍化 Cutting edge is worn.	1. 檢查鉸刀刃徑 Check for diameter of cutting edge. 1.1工件之熱膨脹係數大，加工後會收縮 Check to see if heat expansion ratio of workpiece is too high. 2. 增加預留量 Increase stock amount. 3. 縮小刀緣面寬度 Make the margin narrower. 4. 再次研磨成形面 Regrinding the scooping surface.
切削中折損 Breakage during cutting	1. 進給速度(F)過高 High feed rate. 2. 切削堵塞 Chips clogging. 3. 主軸轉速(S)過高 High spindle speed. 4. 預留量過大 Stock amount is too large. 5. 切削液不足 Lack of cutting fluid. 6. 絞刀切刃純化 Cutting edge of reamer is worn. 7. 刀緣寬度過大 Margin width of cutting edge is too wide. 8. 下孔歪曲或中心未對正 Is the hole reaming drilled through straight or eccentric.	1. 降低進給速度(F) Reduce feed rate. 2. 改變鉸刀溝槽深度或排屑槽底部Adjust the teeth groove depth or teeth bottom due to too shallow or sharp edge. 3. 降低主軸轉速(S) Reduce spindle speed. 4. 減少預留量 Reduce stock amount. 5. 適當增加切削液量 Increase cutting fluid supply. 6. 再研磨 Re-grinding. 7. 減少刀緣寬度 Reduce the width of cutting edge. 8. 確認下孔正直或中心對正 Before reaming, check the drilled hole straightness and concentricity.

情況 Trouble	原因 Occurrences	對策 Countermeasures
	9. 工件過硬 Work piece is too hard.	9. 確認被削材硬度和鉸刀硬度 Confirm hardness of work piece and reamer.
鉸刀壽命短 Poor tool life of reamer	1. 切削條件過快 Cutting condition too high. 2. 切削液不足 Lack of cutting fluid. 3. 刀具材質不對 Choose the wrong material. 4. 刀具選擇錯誤 Use the wrong reamer.	1. 放慢切削條件 Slow down the cutting conditions. 2. 適當增加切削液量 Increase cutting fluid. 3. 改變鉸刀材質或鍍膜處理 Change reamer material or apply coating process. 4. 由直刃改用螺旋刃 Exchange straight flute to helix one.
加工面不良 Surface roughness of a hole is not sufficient	1. 咬入部和刀緣面之熔著 Check biting section and cutting edge. Are they clogged with metal chips. 2. 咬入部之離隙角過小 Is the relieving angel of biting section of the reamer too small. 3. 預留量是否適當 Is the stock amount adequate. 4. 切削堵塞 Chips clog on the cutting edge. 5. 加工件夾持不穩 Is the workpiece tightly clamped. 6. 切刃之傾斜角成為負角 Is the scooping angle in minus range.	1. 供給充分之切削油量 Full of supply cutting oil. 2. 加大咬入部之離隙角 Increase relief angle of biting section. 3. 預留量過多或過少均會造成加工面不良 Either too large or too small size of stock amount lowers the quality of surface roughness. 4. 改變鉸刀刃溝深度和排屑槽深度 Adjust the teeth groove depth and chip pocket depth. 5. 加強固定加工件 Fix the workpiece firmly. 6. 檢查傾斜角與背推拔 Check to see the scooping angel and back taper.
孔之入口徑變大 Diameter at hole inlet becomes larger	1. 鉸刀產生振動 Reamer causes vibration. 2. 加工件夾持不穩 Is the workpiece mounted correctly without any run-out. 3. 孔未對正鉸刀中心 Axis of predrilled hole and reamer are not in line.	1. 改善外徑和咬入部之振動 Improving the outside diameter and biting section vibration. 2. 加強固定加工件 Fix the workpiece firmly. 3. 預先使用中心鑽 Use center drill before reaming.

鋸片與圓刀之技術資料
Technical Data for Saws & Knives

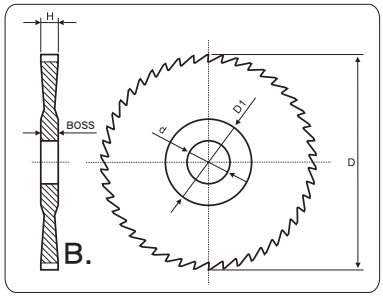
1. 鋸片之選用
Selecting of Slitting Saws

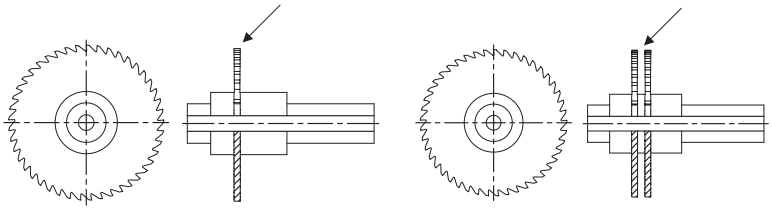
A. 厚度的2種型式
Two Types of Thickness



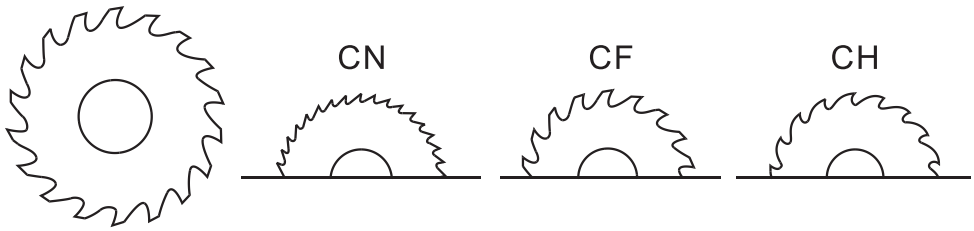
A.無Boss(墊部) Without Boss
(用於切斷或溝槽加工，一般採單片使用)
For cutting off or slot making, single usage is recommended.

B.有Boss(墊部) With Boss
(用於多槽等距加工，一般採多片使用)
For multiple groove & equidistance tooling; multi- usage is recommended.





B. 齒型之選用：
Selection of Tooth Type



CN型（尖齒）：銅、鋁合金之加工適用。
CF型（平齒）：一般鋼材、不銹鋼、鈦合金之加工適用。
CH型（鉤齒）：一般鋼材、不銹鋼、鈦合金之加工適用(高效率)。
CN-Type：To be suitable to work Copper Alloys & Aluminum Alloys.
CF-Type：To be suitable to work Normal Steel or Stainless Steel, Titanium Alloys.
CH-Type：To be suitable to work Normal Steel or Stainless Steel, Titanium Alloys (high efficiency).

C. 加工的選擇：
Selection of Application

1.對於較深或較寬溝槽之加工應選擇較粗刃之鋸片，以利排屑。
2.對於較淺或較窄溝槽之加工應選擇較細刃之鋸片，以提高工件精緻度。
3.對於較難加工材質先降低進給速度，再視狀況逐漸提高進給速度。
4.對於要求表面較光滑之加工，提高鋸片之轉速，亦可改善工件精緻度。

1.Using big teeth for deep or wide slot making, in order to be good at chip removal.
2.Using small teeth for shallow or narrow slot making, in order to get high-level accuracy of finishing,
3.For hardened material, feed may be decreased first, then increases it step by step.
4.Increasing the spindle speed of saws may get high-level surface roughness for finishing.

◎圓鋸片規格總覽（生產範圍）：
外徑：10mm ~ 150mm
厚度：0.1mm ~ 20mm

※齒形依上述為主，其他的規格，請附上圖面(檔案如DWG，PDF)，以利後續作業。
◎Saw range in production
Diameter：10mm ~ 150mm
Thickness：0.1mm ~ 20mm

※The above-mentioned range is mainly composed of our standard tooth type.

※For special tooth form is subject to quotation indicating：clear drawing file (DWG, PDF).

D. 計算公式 Formula

齒距	P = D× π / Z
切削速度	Vc = D×S× π / 1000
進給速度	F = fz×S×Z

P (齒距)	mm
Z (齒數)	(Number of Teeth)
Vc (切削速度)	m/min
D (外徑)	mm
S (轉速)	rpm
π (圓周率)	3.14
F (進給速度)	mm/min
f (每轉進給量)	mm/rev

2. 圓刀之選用 Selecting of Circular Knife

A. 應用：

加工材質：非金屬→斜角小；金屬→斜角大
※ 依加工需求，可另訂特殊規格及切入角設計

Applications：

Applicable Work Material：
Non-material→ small bevel angle; Material→ big bevel angle
※ Due to special working, special design for angle is produced for requirement.

B. 型式 Type

項次 Index	型式 Type	圖式 Drawing	材質 Material	外徑 Diameter	厚度 Thickness
1	單斜單角 Single bevel		鎢鋼 (Carbide)	Φ50 ~ 125mm	0.2 ~ 5.0mm
			高速鋼 (HSS)	Φ50 ~ 250mm	0.2 ~ 5.0mm
2	單斜雙角 Single bevel with top bevel		鎢鋼 (Carbide)	Φ50 ~ 125mm	0.2 ~ 5.0mm
			高速鋼 (HSS)	Φ50 ~ 250mm	0.2 ~ 5.0mm
3	雙斜單角 Double bevel		鎢鋼 (Carbide)	Φ50 ~ 125mm	0.2 ~ 5.0mm
			高速鋼 (HSS)	Φ50 ~ 250mm	0.2 ~ 5.0mm
4	雙斜雙角 Double bevel with top bevel on both sides		鎢鋼 (Carbide)	Φ50 ~ 125mm	0.2 ~ 5.0mm
			高速鋼 (HSS)	Φ50 ~ 250mm	0.2 ~ 5.0mm

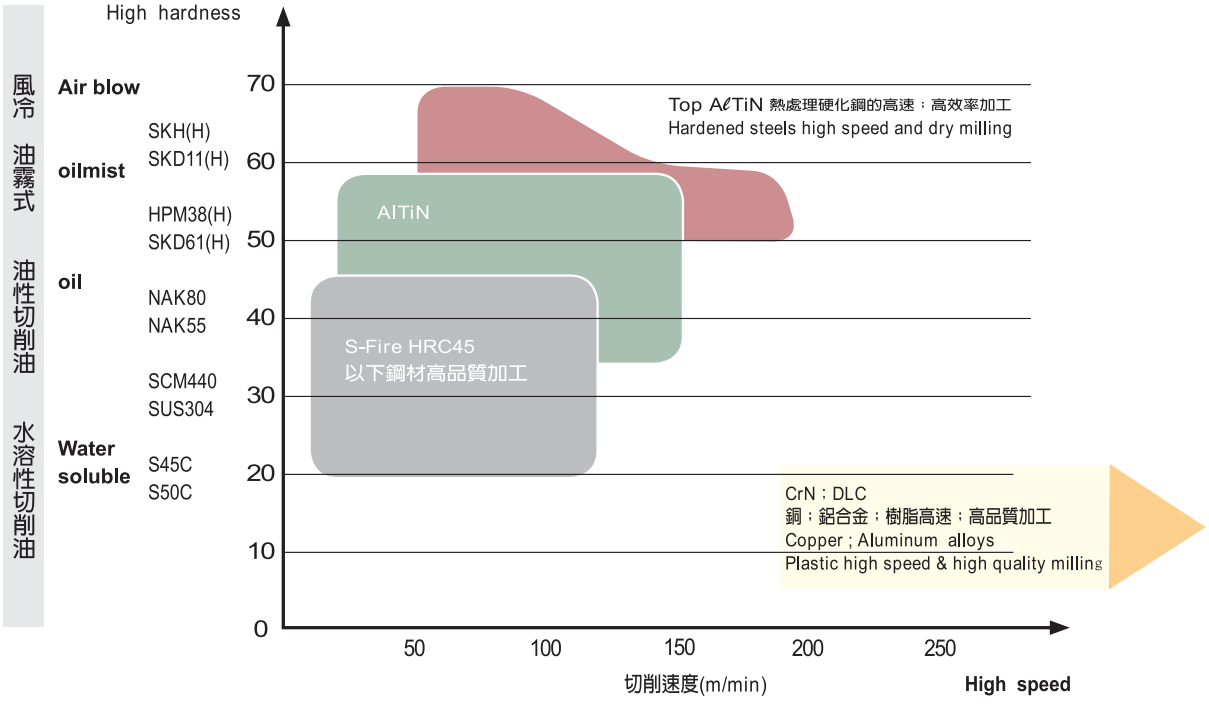
4. 鋸片加工異常原因及對策
Troubleshooting for Sawing

情況 Trouble	原因 Occurrences	對策 Countermeasures
尺寸精度不良 Poor dimensional precision	進給速度(F)過高 High feed speed.	降低進給速度(F) Reduce feed rate.
	外徑過大(超過厚度) Outside diameter is larger than width.	選擇適當的外徑 Use a slitting saw with proper outside diameter.
	切削量過大 Too large depth of cut.	減少切削量 Make small depth of cut.
	機台和軸心剛性不足 Insufficient stiffness of machine and arbor.	更換適當型式的機台和軸心 Replace the machine and arbor with proper types.
	刀刃磨損大 Excessively worn-out cutting edge.	再研磨 Re-grinding.
磨損燒焦 Serious wear and burning	主軸轉速(S)過高 High spindle speed.	降低主軸轉速(S) Reduce spindle speed.
	外部離隙角過小 Excessively small outside relief angle.	修正外部離隙角 Modify the outside relief angle properly.
	被削材硬度過高 Hardness of the workpiece material is too high.	刀具做表面處理 Apply the surface coated slitting saw.
表面不佳 Insufficient roughness of finished surface	側面離隙(內凹)過小 Too small medium to low gradient of side relief.	加大側面離隙(內凹) Make the medium to low gradient greater.
	排屑不良 Chips clog on the workpiece.	降低切削量 Make small cutting depth.
	刀刃磨耗大 Excessively worn-out cutting edge.	再研磨 Re-grinding.
	進給速度(F)過高 High feed rate.	降低進給速度(F) Reduce feed rate.
	主軸轉速(S)過低 Low spindle speed.	提高切削速度(Vc)、主軸轉速(S) Increase cutting speeds and pindle speed.
顫動和振動 Chattering during cutting	工件未固定好 Workpiece is not attached securely.	加強固定 Fix the workpiece firmly.
	主軸轉速(S)、進給速度(F)過高 High spindle speed and feed speed.	降低主軸轉速(S)、進給速度(F) Reduce spindle speed and feed speed.
	機台剛性不足 Insufficient rigidity of machine.	提昇機台剛性 Replace machine rigidity with properly.
	沒有切削角或過小 Too small rake angle, or no rake angle.	採用適當之切削角 Use the slitting saw with proper rake angle.
	由於直刃而咬入不易 Poor bite due to straight tooth.	改用千鳥刃 Use the slitting saw with staggered tooth.
切削阻塞 Chip clogging	切削量過大 Too large amount of cutting.	調整進給速度(F)與切削量 Adjust the feed speed and depth of cut.
	切削油不足 Insufficient application of cutting fluid.	增加切削油 Apply a large amount of cutting fluid to workpiece.
	屑袋過小 Small chip pocket.	採用刃數較少刀具 Use a tool with less number of teeth.

情況 Trouble	原因 Occurrences	對策 Countermeasures
切削阻塞 Chip clogging	屑袋形狀不良 Improper shape of chip pocket.	修改屑袋形狀 Modify the chip pocket to have a proper shape.
切感不良 Poor cutting quality	切刃磨耗較大 Excessively worn-out cutting edge.	再研磨 Re-grinding.
	加工工件與刀具不匹配 A tool to be used is not suited to the workpiece.	建議使用專用刀具 Use a tool specially designed for the work.
	切削角過小或無 Too small rake angle.	採用適當之切削角 Modify the rake angle properly.
於切削中產生之刃部缺損 Breakage during cutting	工件之固定不夠 The workpiece is not fixed properly.	加強固定 Fix the workpiece firmly.
	進給速度(F)過高 High feed speed.	降低進給速度(F) Reduce feed rate.
	切削角磨損 Worn-out cutting edge.	適當研磨切削刃 Perform re-grinding in early stage of wear.
	夾軸振動或彎曲過大 Too large deflection or bend of arbor.	採用精度良好的夾軸 Use the high-precision arbor.
	切削量過大 Too large cutting depth.	減少切削量 Make small cutting depth.
	機台剛性不足 Insufficient rigidity of machine.	提高機台剛性 Replace the machine a proper one.

The Application of Solid Carbide Cutting Tool's Coating
鎢鋼刀具薄膜銑削加工的適用範疇

加工冷卻方式	被加工鋼材 硬度(HRC)



金屬材質料號對照表
Metal Material Code

材質 Material	日本 JIS	美國 AISI / SAE	大陸 GB	英國 BS	德國 DIN	法國 NF	俄羅斯 ГОСТ
機械構造用碳鋼鋼材	S10C	1010	08 10	040A10 045A10 045M10	C10E C10R	XC10	—
	S12C	1012	—	040A12	—	XC12	—
	S15C	1015	15	055M15	C15E C15R	—	—
	S17C	1017	—	—	—	XC18	—
	S20C	1020	20	070M20 C22 C22E C22R	C22 C22E C22R	C22 C22E C22R	—
	S22C	1023	—	—	—	—	—
	S25C	1025	25	C25 C25E C22R	C25 C25E C25R	C25 C25E C25R	—
	S28C	1029	—	—	—	—	25Γ
	S30C	1030	30	080A30 080M30 C30 C30E C30R	C30 C30E C30R	C30 C30E C30R	30Γ
	S33C	—	—	—	—	—	30Γ
	S35C	1035	35	C35 C35E C35R	C35 C35E C35R	C35 C35E C35R	35Γ
	S38C	1038	—	—	—	—	35Γ
	S40C	1039 1040	40	080M40 C40 C40E C40R	C40 C40E C40R	C40 C40E C40R	40Γ
	S43C	1042 1043	—	080A42	—	—	40Γ
	S45C	1045 1046	45	C45 C45E C45R	C45 C45E C45R	C45 C45E C45R	45Γ
	S48C	—	—	080A47	—	—	45Γ
	S50C	1049	50	080M50 C50 C50E C50R	C50 C50E C50R	C50 C50E C50R	50Γ
	S53C	1050 1053	—	—	—	—	50Γ
	S55C	1055	55	070M55 C55 C55E C55R	C55 C55E C55R	C55 C55E C55R	—
	S58C	1059 1060	60	C60 C60E C60R	C60 C60E C60R	C60 C60E C60R	60Γ
	S09CK	—	—	045A10 045M10	C10E	XC10	—
	S15CK	—	15F	—	C15E	XC12	—
	S20CK	—	—	—	—	XC18	—

金屬材質料號對照表
Metal Material Code

材質 Material	日本 JIS	美國 AISI / SAE	大陸 GB	英國 BS	德國 DIN	法國 NF	俄羅斯 ГОСТ
鎳鉻鋼鋼材	SNC236	—	—	—	36NiCr6	—	40XH
	SNC415	—	12CrNi2	—	14NiCr10	—	—
	SNC631	—	30CrNi3	—	36NiCr10	—	30XH3A
	SNC815	—	12Cr2Ni4	655M13	15NiCr13	—	—
	SNC836	—	37CrNi3	—	31NiCr14	—	—
鎳鉻鉬鋼鋼材	SNCM220	8615 8617 8620 8622	20CrNiMo	805A20 805M20 805A22 805M22	20NiCrMo2 20NiCrMoS2	20NCD2	—
	SNCM240	8637 8640	—	—	40NiCrMo2-2	—	—
	SNCM415	—	—	—	—	—	—
	SNCM420	4320	18CrNiMnMoA	—	17NiCrMo6-4	—	20XH2M (20XHM)
	SNCM431	—	—	—	30CrNiMo8	—	—
	SNCM439	4340	40CrNiMoA	—	40NiCrMo6	—	—
	SNCM447	—	—	—	34CrNiMo6	—	—
	SNCM616	—	—	—	—	—	—
	SNCM625	—	—	—	—	—	—
	SNCM630	—	—	—	—	—	—
	SNCM815	—	—	—	—	—	—
鉻鋼鋼材	SCr415	—	15Cr 15CrA	—	17Cr3 17CrS3	—	15X 15XA
	SCr420	5120	20Cr	—	—	—	20X
	SCr430	5130 5132	30Cr	34Cr4 34CrS4	34Cr4 34CrS4	34Cr4 34CrS4	30X
	SCr435	5132	35Cr	37Cr4 37CrS4	37Cr4 37CrS4	37Cr4 37CrS4	35X
	SCr440	5140	40Cr	530M40 41Cr4 41CrS4	41Cr4 41CrS4	41Cr4 41CrS4	40X
	SCr445	—	45Cr 50Cr	—	—	—	45X
鉻鉬鋼鋼材	SCM415	—	15CrMo	—	15CrMo4	—	—
	SCM418	—	20CrMo	—	18CrMo4 18CrMoS4	—	20XM
	SCM420	—	—	708M20	20CrMo5	—	20XM
	SCM421	—	—	—	—	—	—
	SCM430	4130	30CrMo 30CrMoA	—	—	—	30XM 30XMA
	SCM432	—	—	—	—	—	—
	SCM435	4137	35CrMo	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	35XM
	SCM440	4140 4142	42CrMo	708M40 709M40 42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	—
	SCM445	4145 4147	—	—	—	—	—
	SCM822	—	—	—	—	—	—

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錳鉻鋼/錳鋼鋼材	SMn420	1522	20Mn2	150M19	20Mn5	—	—
	SMn433	1536	30Mn2 35Mn2	150M36	34Mn5	—	30Г2 35Г2
	SMn438	1541	40Mn2	150M36	36Mn5	—	35Г2 40Г2
	SMn443	1541	45Mn2	—	—	—	40Г2 45Г2
	SMnC420	5115	15CrMn	—	16MnCr5	—	—
	SMnC443	5140	40CrMn	—	—	—	—
保證硬化能構造用鋼材(H鋼)	SMn420H	1522H	—	—	—	—	—
	SMn433H	—	—	—	—	—	—
	SMn438H	1541H	—	—	—	—	—
	SMn443H	1541H	—	—	—	—	—
	SMnC420H	—	—	—	—	—	—
	SMnC443H	—	—	—	—	—	—
	SCr415H	—	15CrH	—	17Cr3 17CrS3	—	15X
	SCr420H	5120H	20Cr1H	—	17Cr3	—	20X
	SCr430H	5130H 5132H	—	34Cr4 34CrS4	34Cr4 34CrS3	34Cr4 34CrS4	30X
	SCr435H	5135H	—	37Cr4 37CrS4	37Cr4 34CrS4	37Cr4 37CrS4	35X
	SCr440H	5140H	40CrH	41Cr4 41CrS4	41Cr4 41CrS4	41Cr4 41CrS4	40X
	SCM415H	4118H	15CrMoH	—	15CrMo5	—	—
	SCM418H	—	—	—	18CrMo4 18CrMoS4	—	—
	SCM420H	4118H	20CrMoH	708H20	18CrMo4	—	—
	SCM435H	4135H 4137H	—	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	—
	SCM440H	4140H 4142H	42CrMoH	42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	—
	SCM445H	4145H 4147H	—	—	—	—	—
	SCM822H	—	—	—	—	—	—
	SNC415H	—	—	—	—	—	—
	SNC631H	—	—	—	—	—	—
	SNC815H	—	12Cr2Ni4H	655H13	15NiCr13	—	—
	SNCM220H	8617H 8620H 8622H	20CrNiMoH	805H17 805H20 805H22	21NiCrMo2	20N CD 2	—
	SNCM420H	4320H	20CrNi2MoH	—	20NiCrMoS6-4	—	—

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材質 Material	日本 JIS	美國 AISI / ASTM	大陸 GB	英國 BS	德國 DIN	法國 NF	俄羅斯 ГОСТ
碳工具鋼鋼材	SK140 (SK1)	—	T13	—	—	C140E3U	Y13
	SK120 (SK2)	W1-11 1/2	T12	—	—	C120E3U	Y12
	SK105 (SK3)	W1-10	T11	—	C105W1	C105E2U	Y11
	SK95 (SK4)	W1-9	T10	—	—	C90E2U	Y10
	SK85 (SK5)	W1-8	T8Mn T9	—	C80W1	C90E2U C80E2U	Y8Г Y9
	SK75 (SK6)	—	T8	—	C80W1	C80E2U C70E2U	Y8
	SK65 (SK7)	—	T7	—	C70W2	C70E2U	Y7
高速工具鋼鋼材	SKH2	T1	W18Cr4V	BT1	—	HS18-0-1	P18
	SKH3	T4	W18Cr4VCo5	BT4	S18-1-2-5	HS18-1-1-5	P18K5Φ2
	SKH4	T5	W18Cr4V2Co8	BT5	—	HS18-0-2-9	P18K5Φ
	SKH10	T15	W12Cr4V5Co5	BT15	S12-1-4-5	HS12-1-5-5	—
	SKH51	M2	W6Mo5Cr4V2	BM2	S6-5-2	HS6-5-2	P6M5
	SKH52	M3-1	CW6Mo5Cr4V2 W6Mo5Cr4V3	—	—	—	P6M5Φ3
	SKH53	M3-2	CW6Mo5Cr4V3	—	S6-5-3	HS6-5-3	P6M5Φ3
	SKH54	M4	—	BM4	—	HS6-5-4	—
	SKH55	M35 M41	W6Mo5Cr4V2Co5 W7Mo5Cr4V2Co5	BM35	S6-5-2-5	HS6-5-2-5HC	P6M5K5
	SKH56	M36	—	—	—	—	—
	SKH57	—	—	BT42	S10-4-3-10	HS10-4-3-10	—
	SKH58	M7	W2Mo9Cr4V2	—	—	HS2-9-2	—
	SKH59	M42	W2Mo9Cr4VCo8	BM42	S2-10-1-8	HS2-9-1-8	—
合金工具鋼鋼材	SKS11	F2	—	—	—	—	XB4
	SKS2	—	—	—	105WCr6	105WCr5	XBГ
	SKS21	—	W	—	—	—	—
	SKS5	—	—	—	—	—	—
	SKS51	L6	—	—	—	—	—
	SKS7	—	—	—	—	—	—
	SKS8	—	Cr06	—	—	C140E3UCr4	13X
	SKS4	S1	5CrW2Si 6CrW2Si	—	—	—	6XB2C 5XB2CΦ
	SKS41	S1	4CrW2Si	—	—	—	4XB2C
	SKS43	W2-9 1/2	—	BW2	—	100V2	—
	SKS44	W2-8	—	—	—	—	—
	SKS3	—	9CrWMn	—	—	—	9XBГ
	SKS31	—	CrWMn	—	105WCr6	105WCr5	XBГ
	SKS93	—	—	—	—	—	—
	SKS94	—	—	—	—	—	—
	SKS95	—	8MnSi	—	—	—	—
	SKD1	D3	Cr12	BD3	X210Cr12	X200Cr12	X12
	SKD10	D2	Cr12Mo1V1	—	X153CrMoV12	—	X12MΦ
	SKD11	D2	Cr12MoV	BD2	X153CrMoV12	X160CrMoV12	—
	SKD12	A2	Cr5Mo1V	BA2	—	X100CrMoV5	—
	SKD4	—	—	—	—	X32WCrV3	—

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合金工具鋼鋼材	SKD5	H21	3Cr2W8V	BH21	X30WCrV9-3	X30WCrV9	—
	SKD6	H11	4Cr5MoSiV	BH11	X38CrMoV51	X38CrMoV5	4X5MΦC
	SKD61	H13	4Cr5MoSiV1	BH13	X40CrMoV51	X40CrMoV5	4X5MΦ1C
	SKD62	H12	—	BH12	—	X35CrWMoV5	3X3M3Φ
	SKD7	H10	4Cr3Mo3SiV	BH10	X32CrMoV33	32CrMoV12-18	—
	SKD8	H19	—	BH19	—	—	—
	SKT3	—	—	—	—	55CrNiMoV4	—
	SKT4	—	5CrNiMo	BH224 / 5	55NiCrMoV6	55NiCrMoV7	5XHM
彈簧鋼鋼材	SUP3	1075 1078	—	—	—	—	75 80 85
	SUP6	—	55Si2Mn	—	56SiCr7	60Si7	60C2
	SUP7	9260	60Si2Mn 60Si2MnA	—	61SiCr7	60Si7	60C2Г
	SUP9	5155	55CrMnA	—	55Cr3	55Cr3	—
	SUP9A	5160	60CrMnA	—	55Cr3	60Cr3	—
	SUP10	6150	50CrVA	735A51, 735H51	50CrV4	51CrV4	XΦA50XГΦA
	SUP11A	51B60	60CrMnBA	—	51CrV4	—	50XГР
	SUP12	9254	—	685A57, 685H57	54SiCr6	54SiCr6	—
	SUP13	4161	60CrMnMoA	705A60, 705H60	60CrMn3-2	60CrMo4	—
硫磺及硫磺複合快削鋼材	SUM11	1110	—	—	—	—	—
	SUM12	1108	Y12	—	—	—	—
	SUM21	1212	—	—	—	—	—
	SUM22	1213	Y15	(203M07)	9SMn28	S250	—
	SUM22L	12L13	Y12Pb	—	9SMnPb28	S250Pb	—
	SUM23	1215	—	—	—	—	—
	SUM23L	—	—	—	—	—	—
	SUM24L	12L14	Y15Pb	—	9SMnPb28	S250Pb	—
	SUM25	—	—	—	9SMn36	S300	—
	SUM31	1117	—	—	15S10	—	—
	SUM31L	—	—	—	—	—	—
	SUM32	—	Y20	210M15, 210A15	—	(13MF4)	—
	SUM41	1137	Y30 Y35	—	—	(35MF6)	—
	SUM42	1141	Y40Mn	—	—	(45MF6.1)	—
	SUM43	1144	—	(226M44)	—	(45MF6.3)	—
高碳鉻軸承鋼材	SUJ1	51100	GCr4	—	—	—	—
	SUJ2	52100	GCr5	—	100Cr6	100Cr6	Ш X15
	SUJ3	ASTM A 485 Grade 1	GCr15SiMn	—	—	—	—
	SUJ4	—	GCr15SiMo	—	—	—	—
	SUJ5	—	GCr18Mo	—	—	—	—

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耐熱鋼	SUH31	—	—	—	331S42	—	Z35CNWS14-14	45X14H14B2M
	SUH35	—	—	—	349S52	—	Z52CMN21-09Az	—
	SUH36	S63008	—	5Cr21Mn9Ni4N	349S54	X53CrMnNi21 9	Z55CMN21-09Az	55X20Г9AH4
	SUH37	S63017	—	2Cr21Ni12N	381S34	—	—	—
	SUH38	—	—	—	—	—	—	—
	SUH309	S30900	309	2Cr23Ni13	309S24	—	Z15CN24-13	—
	SUH310	S31000	310	2Cr25Ni20	310S24	CrNi2520	Z15CN25-20	20X25H20C2
	SUH330	N08330	N08330	1Cr16Ni35	—	—	Z12NCS35-16	—
	SUH660	S66286	—	0Cr15Ni25Ti2MoAlVB	—	—	Z6NCTV25-20	—
	SUH661	R30155	—	—	—	—	—	—
	SUH21	—	—	—	—	CrAl1205	—	—
	SUH409	S40900	409	—	409S19	X6CrTi12	Z6CT12	—
	SUH409L	—	—	—	—	—	Z3CT12	—
	SUH446	S44600	446	2Cr25N	—	—	Z12C25	15X28
	SUH1	S65007	—	4Cr9Si2	401S45	X45CrSi9 3	Z45CS9	—
	SUH3	—	—	4Cr10Si2Mo	—	—	Z40CSD10	40X10C2M
	SUH4	—	—	8Cr20Si2Ni	443S65	—	Z80CSN20-02	—
	SUH11	—	—	—	—	—	—	40X9C2
	SUH600	—	—	2Cr12MoVNbN	—	—	—	20X12BHMБФР
	SUH616	S42200	—	2Cr12NiMoWV	—	—	—	—

材質 Material	日本 JIS 沃斯田鐵系	日本 JIS 肥粒鐵系	日本 JIS 麻田散鐵系
耐熱鋼 (代表性)	SUH31	SUH21	SUH1
	SUH35	SUH409	SUH3
	SUH36	SUH446	SUH4
	SUH37	—	SUH11
	SUH38	—	SUH600
	SUH309	—	SUH616
	SUH310	—	—
	SUH330	—	—
	SUH660	—	—
	SUH661	—	—

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不銹鋼	SUS201	S20100	201	1Cr17Mn6Ni5N	—	—	Z12CMN17-07Az	—
	SUS202	S20200	202	1Cr18Mn8Ni5N	284S16	—	—	12X17Г9AH4
	SUS301	S30100	301	1Cr18Mn10Ni5 Mo3N1Cr17Ni7	301S21	X12CrNi17 7	Z11CN17-08	07X16H6
	SUS301L	S30153	—	—	—	X2CrNiN18-7	—	—
	SUS301J1	—	—	—	—	X12CrNi17 7	—	—
	SUS302	S30200	302	1Cr18Ni9	302S25	—	Z12CN18-09	12X18H9
	SUS302B	S30215	302B	—	—	—	—	—
	SUS303	S30300	303	Y1Cr18Ni9	303S21	X10CrNiS18 9	Z8CNF18-09	—
	SUS303Se	S30323	303Se	Y1Cr18Ni9Se	303S41	—	—	12X18H10E
	SUS304	S30400	304	0Cr18Ni9	304S31	X5CrNi18 10	Z7CN18-09	08X18H10
	SUS304L	S30403	304L	00Cr18Ni10	304S11	X2CrNi19 11	Z3CN19-11	03X18H11
	SUS304N1	S30451	304N	0Cr18Ni9N	—	—	Z6CN19-09Az	—
	SUS304N2	S30452	—	0Cr19Ni10NbN	—	—	—	—
	SUS304LN	S30453	304LN	00Cr18Ni10N	—	X2CrNiN18 10	Z3CN18-10Az	—
	SUS304J1	—	—	—	—	—	—	—
	SUS304J2	—	—	—	—	—	—	—
	SUS304J3	S30431	S30431	—	—	—	—	—
	SUS305	S30500	305	1Cr18Ni12	305S19	X5CrNi18 12	Z8CN18-12	06X18H11
	SUS305J1	—	—	—	—	—	—	—
	SUS309S	S30908	309S	0Cr23Ni13	—	—	Z10CN24-13	—
	SUS310S	S31008	310S	0Cr25Ni20	310S31	—	Z8CN25-20	10X23H18
	SUS316	S31600	316	0Cr17Ni12Mo2	316S31	X5CrNiMo17 12 2	Z7CND17-12-02	—
	SUS316F	—	—	—	—	X5CrNiMo17 13 3	Z6CND18-12-03	—
	SUS316L	S31603	316L	00Cr17Ni14Mo2	316S11	X2CrNiMo17 13 2	Z3CND17-12-02	—
	—	—	—	—	—	X2CrNiMo17 14 3	Z3CND17-13-03	03X17H14M3
	SUS316N	S31651	316N	0Cr17Ni12Mo2N	—	—	—	—
	SUS316LN	S31653	316LN	00Cr17Ni13Mo2N	—	X2CrNiMoN17122	Z3CND17-11Az	—
	—	—	—	—	—	X2CrNiMoN17133	Z3CND17-12Az	—
	SUS316Ti	S31635	—	—	—	X6CrNiMoTi17 12 2	Z6CNDT17-12	08X17H13M2T
	SUS316J1	—	—	0Cr18Ni12Mo2 Cu2	—	—	—	—
	SUS316J1L	—	—	00Cr18Ni14Mo2 Cu2	—	—	—	—
	SUS317	S31700	317	0Cr19Ni13Mo3	317S16	—	—	—
	SUS317L	S31703	317L	00Cr19Ni13Mo3	317S12	X2CrNiMo18 16 4	Z3CND19-15-04	—
	SUS317LN	S31753	—	—	—	—	Z3CND19-14Az	—
	SUS317J1	—	—	0Cr18Ni16Mo5	—	—	—	—
	SUS317J2	—	—	—	—	—	—	—
	SUS317J3L	—	—	—	—	—	—	—
	SUS836L	N08367	—	—	—	—	—	—
	SUS890L	N08904	N08904	—	904S14	—	Z2NCDU25-20	—
	SUS321	S32100	321	1Cr18Ni9Ti 0Cr18Ni10Ti	321S31	X6CrNiTi18 10	Z6CNT18-10	08X18H10T
	SUS347	S34700	347	0Cr18Ni11Nb	347S31	X6CrNiNb18 10	Z6CNNb18-10	08X18H12Б
	SUS384	S38400	384	—	—	—	Z6CN18-16	—

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不銹鋼	SUSXM7	S30430	304Cu	0Cr18Ni9Cu3	394S17	—	Z2CNU18-10	—
	SUSXM15J1	S38100	—	0Cr18Ni13Si4	—	—	Z15CNS20-12	—
	SUS329J1	S32900	329	0Cr26Ni5Mo2	—	—	—	—
	SUS329J3L	S39240	S31803	—	—	—	Z3CNDU22-05Az	08X21H6M2T
	SUS329J4L	S39275	S31260	—	—	—	Z3CNDU25-07Az	—
	SUS405	S40500	405	0Cr13Al 0Cr13	405S17	X6CrAl13	Z8CA12	—
	SUS410L	—	—	00Cr12	—	—	Z3C14	—
	SUS429	S42900	429	—	—	—	—	—
	SUS430	S43000	430	1Cr17	430S17	X6Cr17	Z8C17	12X17
	SUS430F	S43020	430F	Y1Cr17	—	X7CrMoS18	Z8CF17	—
	SUS430LX	S43035	—	—	—	X6CrTi17	Z4CT17	—
	SUS430J1L	—	—	—	—	X6CrNb17	Z4CNb17	—
	SUS434	S43400	434	1Cr17Mo	434S17	X6CrMo17 1	Z8CD17-01	—
	SUS436L	S43600	436	—	—	—	—	—
	SUS436J1L	—	—	—	—	—	—	—
	SUS444	S44400	444	—	—	—	Z3CDT18-02	—
	SUS447J1	S44700	—	00Cr30Mo2	—	—	—	—
	SUS XM27	S44627	—	00Cr27Mo	—	—	Z1CD26-01	—
	SUS403	S40300	403	1Cr12	—	—	—	—
	SUS410	S41000	410	1Cr13	410S21	X10Cr13	Z13C13	—
	SUS410S	S41008	410S	—	403S17	X6Cr13	Z8C12	08X13
	SUS410F2	—	—	—	—	—	—	—
	SUS410J1	S41025	—	1Cr13Mo 1Cr12Mo	—	X12CrS13	—	—
	SUS416	S41600	416	Y1Cr13	416S21	—	Z11CF13	—
	SUS420J1	S42000	420	2Cr13	420S29	X20Cr13	Z20C13	20X13
	SUS420J2	S42000	420	3Cr13	420S37	X30Cr13	Z33C13	30X13
	SUS420F	S42020	420F	Y3Cr13	—	—	Z30CF13	—
	SUS420F2	—	—	—	—	—	—	—
	SUS429J1	—	—	—	—	—	—	—
	SUS431	S43100	431	1Cr17Ni2	431S29	X20CrNi17 2	Z15CN16-02	20X17H2
	SUS440A	S44002	440A	7Cr17	—	—	Z70C15	—
	SUS440B	S44003	440B	8Cr17	—	—	—	—
	SUS440C	S44004	440C	9Cr18 11Cr17 9Cr18Mo	—	—	Z100CD17	95X18
	SUS440F	S44020	S44020	Y11Cr17	—	—	—	—
	SUS630	S17400	S17400	0Cr17Ni4CuNb	—	X5CrNiCuNb16-4	Z6CNU17-04	—
	SUS631	S17700	S17700	0Cr17Ni7Al	—	X7CrNiAl17 7	Z9CNA17-07	09X17H7Ю
	SUS632J1	—	—	—	—	—	—	—

材質 Material	日本 JIS 奧氏體 (沃斯田鐵)				日本 JIS 肥粒鐵	日本 JIS 麻田散鐵		日本 JIS 析出硬化系
不銹鋼 (代表性)	SUS201	SUS304	SUS310S	SUS347	SUS405	SUS403	SUS440A	SUS630
	SUS202	SUS304L	SUS316	SUS384	SUS429	SUS410	SUS440B	SUS631
	SUS301	SUS304N1	SUS316L	SUSXM7	SUS430	SUS410S	SUS440C	—
	SUS302	SUS304N2	SUS316N	SUSXM15J1	SUS430F	SUS416	SUS440F	—
	SUS302B	SUS305	SUS317	—	SUS434	SUS420J1	—	—
	SUS303	SUS308	SUS317L	—	SUSXM27	SUS420F	—	—
	SUS303Se	SUS309S	SUS321	—	—	SUS431	—	—

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灰口鑄鐵	FC100	NO.20	HT100	100	GG10	—	Cy10
	FC150	NO.30	HT150	150	GG15	FGL150	Cy15
	FC200	NO.35	HT200	200	GG20	FGL200	Cy20
	FC250	NO.45	HT250	250	GG25	FGL250	Cy25
	FC300	NO.50	HT300	300	GG30	FGL300	Cy30
	FC350	NO.60	HT350	350	GG35	FGL350	Cy35
	—	—	—	—	GG40	FGL400	Cy40
球墨鑄鐵	FCD400	60-40-18	QT400-18	400 / 17	GGG40	FGS370-17	By40
	FCD450	65-45-12	QT450-10	420 /12	—	FGS400-12	By45
	FCD500	70-50-05	QT500-7	500 / 7	GGG50	FGS500-7	By50
	FCD600	80-60-03	QT600-3	600 / 7	GGG60	FGS600-2	By60
	FCD700	100-70-03	QT700-2	700 / 2	GGG70	FGS700-2	By70
	FCD800	120-90-02	QT800-2	800 / 2	GGG80	FGS800-2	By80
	—	—	QT900-2	900 / 2	—	—	By100

材質 Material	日本 JIS	美國 ASTM	大陸 GB	英國 BS	德國 DIN	法國 NF	俄羅斯 ГОСТ
鋁合金	—	1199	1A99	—	A199.99R	—	A99
	—	—	1A97	—	A199.98R	—	A97
	—	—	1A95	—	—	—	A95
	A1080	—	1A80	1080 (1A)	A199.90	1080A	A8
	A1050	1050	1A50	1050 (1B)	A199.50	1050A	A5
	A5052	5052	5A02	NS4	AlMg2.5	5052	Amg
	—	—	5A03	NS5	—	—	AMg3
	A5056	5056	5A05	NB6	AlMg5	—	AMg5V
	A5556	5456	5A30	NG61	—	5957	—
	A2117	2036	2A01	—	AlCu2.5Mg0.5	2117	D18
	A2017	—	2A11	HF15	AlCuMg1	2017S	D1
	A2024	2124	2A12	—	AlCuMg2	2024	D16AVTV
	—	2319	2B16	—	—	—	—
	A2N01	—	2A80	—	—	—	AK4
	A2018	2218	2A90	—	—	—	AK2
	A2014	2014	2A14	—	AlCuSiMn	2014	AK8
	A7075	7175	7A09	—	AlZnMgCu1.5	7075	V95P
鋁合金鑄件	AC4C	356.2	ZAlSi7Mn	LM25	G-AlSi7Mg	—	—
	AC3A	413.2	ZAlSi12	LM6	G-Al12	A-S12-Y4	AL2
	—	355.2	ZAlSi5Cu1Mg	—	—	—	AL5
	AC8A	413.0	ZAlSi2Cu2Mg1	—	G-Al12 (Cu)	—	—
	—	—	ZAlCu5Mn	—	—	—	AL19
	—	201.0	ZAlCu5MnCdVA	—	—	—	—
	—	520.2	ZAlMg10	LM10	G-AlMg10	AG11	AL8
	—	—	ZAlMg5Si	—	G-AlMg5Si	—	AL13

螺紋下孔徑建議表- ISO螺紋
Recommended Drill Hole Size- ISO Thread

ISO螺紋 Thread Size- ISO	建議下孔徑 Standard Drill hole dia.	最小下孔徑 Drill hole dia.- Min 各精度共用	最大下孔徑 Drill hole dia.- Max			
			舊JIS-2級用	4H用	5H用	6H用
M1.0×0.25	0.75	0.73	0.78	0.77	0.78	0.80
M1.0×0.20	0.80	0.79	—	0.82	0.83	0.84
M1.1×0.25	0.85	0.83	0.88	0.87	0.88	0.90
M1.1×0.20	0.90	0.89	—	0.92	0.93	0.94
M1.2×0.25	0.95	0.93	0.98	0.97	0.98	1.00
M1.2×0.20	1.00	0.99	—	1.02	1.03	1.04
M1.4×0.30	1.10	1.08	1.14	1.12	1.14	1.16
M1.4×0.20	1.20	1.19	—	1.22	1.23	1.24
M1.6×0.35	1.25	1.23	1.32	1.28	1.30	1.32
M1.6×0.20	1.40	1.39	—	1.42	1.43	1.44
M1.7×0.35	1.35	—	—	1.38	1.40	1.42
M1.7×0.30	1.40	—	—	1.42	1.44	1.46
M1.7×0.25	1.45	—	—	1.47	1.48	1.50
M1.7×0.20	1.50	—	—	1.52	1.53	1.54
M1.8×0.35	1.45	1.43	1.52	1.48	1.50	1.52
M1.8×0.20	1.60	1.59	—	1.62	1.63	1.64
M2.0×0.40	1.60	1.57	1.67	1.63	1.65	1.67
M2.0×0.25	1.75	1.73	—	1.77	1.78	1.80
M2.2×0.45	1.75	1.72	1.83	1.79	1.81	1.83
M2.2×0.25	1.95	1.93	—	1.97	1.98	2.00
M2.3×0.40	1.90	—	—	1.93	1.95	1.97
M2.3×0.35	1.95	—	—	1.98	2.00	2.02
M2.3×0.25	2.05	—	—	2.07	2.08	2.10
M2.5×0.45	2.05	2.02	2.13	2.09	2.11	2.13
M2.5×0.35	2.15	2.13	2.22	2.18	2.20	2.22
M2.6×0.45	2.15	—	—	2.19	2.22	2.23
M2.6×0.35	2.25	—	—	2.28	2.30	2.32
M3.0×0.60	2.40	2.35	2.42	2.45	2.47	2.51
M3.0×0.50	2.50	2.46	2.59	2.54	2.57	2.59
M3.0×0.35	2.65	2.63	2.72	2.68	2.70	2.72
M3.5×0.60	2.90	2.85	3.01	2.95	2.97	3.01
M3.5×0.50	3.00	2.96	—	3.04	3.07	3.09
M3.5×0.35	3.15	3.13	3.22	3.18	3.20	3.22
M4.0×0.75	3.25	3.19	3.32	3.30	3.33	3.37
M4.0×0.70	3.30	3.25	3.42	3.35	3.38	3.42
M4.0×0.50	3.50	3.46	3.59	3.54	3.57	3.59
M4.5×0.75	3.75	3.69	3.87	3.80	3.83	3.87
M4.5×0.50	4.00	3.96	4.09	4.04	4.07	4.09
M5.0×0.90	4.10	—	—	4.15	4.19	4.23
M5.0×0.80	4.20	4.14	4.33	4.25	4.29	4.33
M5.0×0.75	4.25	4.19	—	4.30	4.33	4.37
M5.0×0.50	4.50	4.46	4.59	4.54	4.57	4.59
M5.5×0.90	4.60	—	—	4.65	4.69	4.73
M5.5×0.75	4.75	—	—	4.80	4.83	4.87
M5.5×0.50	5.00	4.96	5.09	5.04	5.07	5.09
M6.0×1.00	5.00	4.92	5.15	5.06	5.10	5.15
M6.0×0.75	5.25	5.19	5.37	5.30	5.33	5.37
M6.0×0.50	5.50	—	—	5.54	5.57	5.59
M7.0×1.00	6.00	5.92	6.15	6.06	6.10	6.15
M7.0×0.75	6.25	6.19	6.37	6.30	6.33	6.37
M7.0×0.50	6.50	—	—	6.54	6.57	6.59
M8.0×1.25	6.75	6.65	6.91	6.81	6.85	6.91
M8.0×1.00	7.00	6.92	7.15	7.06	7.10	7.15
M8.0×0.75	7.25	7.19	7.37	7.30	7.33	7.37
M8.0×0.50	7.50	—	—	7.54	7.57	7.59
M9.0×1.25	7.75	7.65	7.91	7.81	7.85	7.91
M9.0×1.00	8.00	7.92	8.15	8.06	8.10	8.15
M9.0×0.75	8.25	8.19	8.37	8.30	8.33	8.37
M9.0×0.50	8.50	—	—	8.54	8.57	8.59
M10×1.50	8.50	8.38	8.67	8.52	8.61	8.67

※ 下孔徑 = 鑽頭刃徑　Drill hole dia. = Drill diameter

螺紋下孔徑建議表- ISO螺紋
Recommended Drill Hole Size- ISO Thread

ISO螺紋 Thread Size- ISO	建議下孔徑 Standard Drill hole dia.	最小下孔徑 Drill hole dia.- Min 各精度共用	最大下孔徑 Drill hole dia.- Max			
			舊JIS-2級用	4H用	5H用	6H用
M10×1.25	8.75	8.65	8.91	8.81	8.85	8.91
M10×1.00	9.00	8.92	9.15	9.06	9.10	9.15
M10×0.75	9.25	9.19	9.37	9.30	9.33	9.37
M10×0.50	9.50	—	—	9.54	9.57	9.59
M11×1.50	9.50	9.38	9.67	9.52	9.61	9.67
M11×1.25	9.75	9.65	9.80	9.81	9.85	9.91
M11×1.00	10.00	9.92	10.15	10.06	10.10	10.15
M11×0.75	10.25	10.19	10.37	10.30	10.33	10.37
M11×0.50	10.50	—	—	10.54	10.57	10.59
M12×1.75	10.25	10.11	10.44	10.31	10.37	10.44
M12×1.50	10.50	10.38	10.67	10.56	10.61	10.67
M12×1.25	10.75	10.65	10.91	10.81	10.85	10.91
M12×1.00	11.00	10.92	11.15	11.06	11.10	11.15
M12×0.75	11.25	—	—	11.30	11.33	11.37
M12×0.50	11.50	—	—	11.54	11.57	11.59
M13×1.75	11.25	—	—	11.31	11.37	11.44
M13×1.50	11.50	—	—	11.56	11.61	11.67
M13×1.25	11.75	—	—	11.81	11.85	11.91
M13×1.00	12.00	—	—	12.06	12.10	12.15
M13×0.75	12.30	—	—	12.30	12.33	12.37
M13×0.50	12.50	—	—	12.54	12.57	12.59
M14×2.00	12.00	11.84	12.21	12.07	12.13	12.21
M14×1.50	12.50	12.38	12.67	12.56	12.61	12.67
M14×1.25	12.75	12.65	—	—	—	12.91
M14×1.00	13.00	12.92	13.15	13.06	13.10	13.15
M14×0.75	13.30	—	—	13.30	13.33	13.37
M14×0.50	13.50	—	—	13.54	13.57	13.59
M15×2.00	13.00	—	—	13.07	13.13	13.21
M15×1.50	13.50	13.40	13.60	13.56	13.61	13.67
M15×1.25	13.80	13.70	13.90	13.81	13.85	13.91
M15×1.00	14.00	13.95	14.15	14.06	14.10	14.15
M15×0.75	14.30	—	—	14.30	14.33	14.37
M15×0.50	14.50	—	—	14.54	14.57	14.59
M16×2.00	14.00	13.90	14.20	14.07	14.13	14.21
M16×1.50	14.50	14.40	14.60	14.56	14.61	14.67
M16×1.25	14.75	14.65	—	14.81	14.85	14.91
M16×1.00	15.00	14.95	15.15	15.06	15.10	15.15
M16×0.75	15.25	15.19	—	15.30	15.33	15.37
M16×0.50	15.50	15.46	15.52	15.54	15.57	15.59
M17×2.00	15.00	—	—	15.07	15.13	15.21
M17×1.50	15.50	15.40	15.68	15.56	15.61	15.67
M17×1.25	15.80	—	—	15.81	15.85	15.91
M17×1.00	16.00	15.95	16.15	16.06	16.10	16.15
M17×0.75	16.30	—	—	16.30	16.33	16.37
M17×0.50	16.50	—	—	16.54	16.57	16.59
M18×2.50	15.50	15.30	15.70	15.57	15.64	15.74
M18×2.00	16.00	15.90	16.20	16.07	16.13	16.21
M18×1.50	16.50	16.40	16.60	16.56	16.61	16.67
M18×1.25	16.75	16.65	—	16.81	16.85	16.91
M18×1.00	17.00	16.95	17.15	17.06	17.10	17.15
M18×0.75	17.25	17.19	—	17.30	17.33	17.37
M18×0.50	17.50	17.46	17.52	17.54	17.57	17.59
M19×2.50	16.50	—	—	16.57	16.64	16.74
M19×2.00	17.00	—	—	17.07	17.13	17.21
M19×1.50	17.50	—	—	17.56	17.61	17.67
M19×1.25	17.80	—	—	17.81	17.85	17.91
M19×1.00	18.00	—	—	18.06	18.10	18.15
M19×0.75	18.30	—	—	18.30	18.33	18.37
M19×0.50	18.50	—	—	18.54	18.57	18.59
M20×2.50	17.50	17.30	17.70	17.57	17.64	17.74

※ 下孔徑 = 鑽頭刃徑　Drill hole dia. = Drill diameter

螺紋下孔徑建議表- ISO螺紋
Recommended Drill Hole Size- ISO Thread

ISO螺紋 Thread Size- ISO	建議下孔徑 Standard Drill hole dia.	最小下孔徑 Drill hole dia.- Min 各精度共用	最大下孔徑 Drill hole dia.- Max			
			舊JIS-2級用	4H用	5H用	6H用
M20×2.00	18.00	17.90	18.20	18.07	18.13	18.21
M20×1.50	18.50	18.40	18.60	18.56	18.61	18.67
M20×1.25	18.75	18.65	—	18.81	18.85	18.91
M20×1.00	19.00	18.95	19.15	19.06	19.10	19.15
M20×0.50	19.50	19.46	19.52	19.54	19.57	19.59
M21×2.50	18.50	—	—	18.57	18.64	18.74
M21×1.50	19.50	—	—	19.56	19.61	19.67
M21×1.00	20.00	—	—	20.06	20.10	20.15
M22×2.50	19.50	19.30	19.70	19.57	19.64	19.74
M22×2.00	20.00	19.90	20.20	20.07	20.13	20.21
M22×1.50	20.50	20.40	20.60	20.56	20.61	20.67
M22×1.00	21.00	20.95	21.15	21.06	21.10	21.15
M22×0.50	21.50	21.46	21.52	21.54	21.57	21.59
M23×2.50	20.50	—	—	20.57	20.64	20.74
M23×2.00	21.00	—	—	21.07	21.13	21.21
M23×1.50	21.50	—	—	21.56	21.61	21.67
M23×1.00	22.00	—	—	22.06	22.10	22.15
M24×3.00	21.00	20.80	21.20	21.06	21.15	21.25
M24×2.50	21.50	21.29	—	21.57	21.64	21.74
M24×2.00	22.00	21.90	22.20	22.07	22.13	22.21
M24×1.50	22.50	22.40	22.60	22.56	22.61	22.67
M24×1.25	22.75	22.65	—	22.81	22.85	22.91
M24×1.00	23.00	22.95	23.15	23.06	23.10	23.15
M25×3.00	22.00	—	—	22.06	22.15	22.25
M25×2.00	23.00	22.90	23.20	23.07	23.13	23.21
M25×1.50	23.50	23.40	23.60	23.56	23.61	23.67
M25×1.00	24.00	23.95	24.15	24.06	24.10	24.15
M26×3.00	23.00	—	—	23.06	23.15	23.25
M26×2.00	24.00	—	—	24.07	24.13	24.21
M26×1.50	24.50	24.40	24.60	24.56	24.61	24.67
M26×1.00	25.00	24.95	25.15	25.06	25.10	25.15
M27×3.00	24.00	23.80	24.20	24.06	24.15	24.25
M27×2.50	24.50	—	—	24.57	24.64	24.74
M27×2.00	25.00	24.90	25.20	25.07	25.13	25.21
M27×1.50	25.50	25.40	25.60	25.56	25.61	25.67
M27×1.00	26.00	25.95	26.15	26.06	26.10	26.15
M28×3.00	25.00	—	—	25.06	25.15	25.25
M28×2.00	26.00	25.90	26.20	26.07	26.13	26.21
M28×1.50	26.50	26.40	26.60	26.56	26.61	26.67
M28×1.00	27.00	26.95	27.15	27.06	27.10	27.15
M30×3.50	26.50	26.30	26.70	26.56	26.66	26.77
M30×3.00	27.00	26.80	27.20	27.06	27.15	27.25
M30×2.00	28.00	27.90	28.20	28.07	28.13	28.21
M30×1.50	28.50	28.40	28.60	28.56	28.61	28.67
M30×1.00	29.00	28.95	29.15	29.06	29.10	29.15
M32×3.00	29.00	—	—	29.06	29.15	29.25
M32×2.00	30.00	29.90	30.20	30.07	30.13	30.21
M32×1.50	30.50	30.40	30.60	30.56	30.61	30.67
M32×1.00	31.00	30.95	31.15	31.06	31.10	—
M33×3.50	29.50	29.30	29.70	29.56	29.66	29.77
M33×3.00	30.00	29.80	30.20	30.06	30.15	30.25
M33×2.00	31.00	30.90	31.20	31.07	31.13	31.21
M33×1.50	31.50	31.40	31.60	31.56	31.61	31.67
M33×1.00	32.00	—	—	32.06	32.10	32.15
M34×3.00	31.00	—	—	31.06	31.15	31.25
M34×2.00	32.00	—	—	32.07	32.13	32.21
M34×1.50	32.50	—	—	32.56	32.61	32.67
M34×1.00	33.00	—	—	33.06	33.10	33.15
M35×3.00	32.00	—	—	32.06	32.15	32.25
M35×2.00	33.00	—	—	33.07	33.13	33.20

※ 下孔徑 = 鑽頭刃徑　Drill hole dia. = Drill diameter

螺紋下孔徑建議表- ISO螺紋
Recommended Drill Hole Size- ISO Thread

ISO螺紋 Thread Size- ISO	建議下孔徑 Standard Drill hole dia.	最小下孔徑 Drill hole dia.- Min 各精度共用	最大下孔徑 Drill hole dia.- Max			
			舊JIS-2級用	4H用	5H用	6H用
M35×1.50	33.50	33.40	33.60	33.56	33.61	33.67
M35×1.00	34.00	—	—	34.06	34.10	34.15
M36×4.00	32.00	31.70	32.20	32.04	32.14	32.27
M36×3.00	33.00	32.80	33.20	33.06	33.15	33.25
M36×2.00	34.00	33.90	34.20	34.07	34.13	34.21
M36×1.50	34.50	34.40	34.60	34.56	34.61	34.67
M36×1.00	35.00	—	—	35.06	35.10	35.15
M37×1.50	35.50	—	—	35.56	35.61	35.67
M37×1.00	36.00	—	—	36.06	36.10	36.15
M38×4.00	34.00	—	—	34.04	34.14	34.27
M38×3.00	35.00	—	—	35.06	35.15	35.25
M38×2.00	36.00	—	—	36.07	36.13	36.21
M38×1.50	36.50	36.40	36.60	36.56	36.61	36.67
M38×1.00	37.00	36.95	37.15	37.06	37.10	37.15
M39×4.00	35.00	34.70	35.20	35.04	35.14	35.27
M39×3.00	36.00	35.80	36.20	36.06	36.15	36.25
M39×2.00	37.00	36.90	37.20	37.07	37.13	37.21
M39×1.50	37.50	37.40	37.60	37.56	37.61	37.67
M39×1.00	38.00	—	—	38.06	38.10	38.15
M40×4.00	36.00	—	—	36.04	36.14	36.27
M40×3.00	37.00	36.80	37.20	37.06	37.15	37.25
M40×2.00	38.00	37.90	38.20	38.07	38.13	38.21
M40×1.50	38.50	38.40	38.60	38.56	38.61	38.67
M40×1.00	39.00	—	—	39.06	39.10	39.15
M42×4.50	37.50	37.20	37.70	37.55	37.65	37.79
M42×4.00	38.00	37.70	38.20	38.04	38.14	38.27
M42×3.00	39.00	38.80	39.20	39.06	39.15	39.25
M42×2.00	40.00	39.90	40.20	40.07	40.13	40.21
M42×1.50	40.50	40.40	40.60	40.56	40.61	40.67
M42×1.00	41.00	40.95	41.03	41.06	41.10	41.15
M45×4.50	40.50	40.20	40.70	40.55	40.65	40.79
M45×4.00	41.00	40.70	41.20	41.04	41.14	41.27
M45×3.00	42.00	41.80	42.20	42.06	42.15	42.25
M45×2.00	43.00	42.90	43.20	43.07	43.13	43.21
M45×1.50	43.50	43.40	43.60	43.56	43.61	43.67
M45×1.00	44.00	—	—	44.06	44.10	44.15
M46×1.50	44.50	—	—	44.56	44.61	44.67
M48×5.00	43.00	42.60	43.20	43.03	43.14	43.29
M48×4.00	44.00	43.70	44.20	44.04	44.14	44.27
M48×3.00	45.00	44.80	45.20	45.06	45.15	45.25
M48×2.00	46.00	45.90	46.20	46.07	46.13	46.21
M48×1.50	46.50	46.40	46.60	46.56	46.61	46.67
M48×1.00	47.00	—	—	47.06	47.10	47.15
M50×5.00	45.00	—	—	45.03	45.14	45.29
M50×4.00	46.00	45.70	—	46.00	46.10	46.20
M50×3.00	47.00	46.80	47.20	47.06	47.15	47.25
M50×2.00	48.00	47.90	48.20	48.07	48.13	48.21
M50×1.50	48.50	48.40	48.60	48.56	48.61	48.67
M50×1.00	49.00	—	—	49.10	49.10	49.15
M52×5.00	47.00	46.60	47.20	47.00	47.10	47.20
M52×4.00	48.00	47.70	48.20	48.00	48.10	48.20
M52×3.00	49.00	48.80	49.20	49.00	49.10	49.20
M52×2.00	50.00	49.90	50.20	50.00	50.10	50.20
M52×1.50	50.50	50.40	50.60	50.50	50.60	50.60
M55×4.00	51.00	50.70	51.20	51.00	51.10	51.20
M55×3.00	52.00	51.80	52.20	52.00	52.10	52.20
M55×2.00	53.00	52.90	53.20	53.00	53.10	53.20
M55×1.50	53.50	53.40	53.60	53.50	53.60	53.60
M56×5.50	50.50	50.10	50.70	50.50	50.60	50.70
M56×4.00	52.00	51.70	52.20	52.00	52.10	52.20

※ 下孔徑 = 鑽頭刃徑　Drill hole dia. = Drill diameter

螺紋下孔徑建議表- ISO螺紋
Recommended Drill Hole Size- ISO Thread

ISO螺紋 Thread Size- ISO	建議下孔徑 Standard Drill hole dia.	最小下孔徑 Drill hole dia.- Min 各精度共用	最大下孔徑 Drill hole dia.- Max			
			舊JIS-2級用	4H用	5H用	6H用
M56×3.00	53.00	52.80	53.20	53.00	53.10	53.20
M56×2.00	54.00	53.90	54.20	54.00	54.10	54.20
M56×1.50	54.50	54.40	54.60	54.50	54.60	54.60
M58×4.00	54.00	53.70	54.20	54.00	54.10	54.20
M58×3.00	55.00	54.80	55.20	55.00	55.10	55.20
M58×2.00	56.00	55.90	56.20	56.00	56.10	56.20
M58×1.50	56.50	56.40	56.60	56.50	56.60	56.60
M60×5.50	54.50	54.10	54.70	54.50	54.60	54.70
M60×4.00	56.00	55.70	56.20	56.00	56.10	56.20
M60×3.00	57.00	56.80	57.20	57.00	57.10	57.20
M60×2.00	58.00	57.90	58.20	58.00	58.10	58.20
M60×1.50	58.50	58.40	58.60	58.50	58.60	58.60
M62×4.00	58.00	57.70	58.20	58.00	58.10	58.20
M62×3.00	59.00	58.80	59.20	59.00	59.10	59.20
M62×2.00	60.00	59.90	60.20	60.00	60.10	60.20
M62×1.50	60.50	60.40	60.60	60.50	60.60	60.60
M64×6.00	58.00	57.60	58.30	58.00	58.10	58.20
M64×4.00	60.00	59.70	60.20	60.00	60.10	60.20
M64×3.00	61.00	60.80	61.20	61.00	61.10	61.20
M64×2.00	62.00	61.90	62.20	62.00	62.10	62.20
M64×1.50	62.50	62.40	62.60	62.50	62.60	62.60
M65×4.00	61.00	60.70	61.20	61.00	61.10	61.20
M65×3.00	62.00	61.80	62.20	62.00	62.10	62.20
M65×2.00	63.00	62.90	63.20	63.00	63.10	63.20
M65×1.50	63.50	63.40	63.60	63.50	63.60	63.60
M68×6.00	62.00	61.60	62.30	62.00	62.10	62.20
M68×4.00	64.00	63.70	64.20	64.00	64.10	64.20
M68×3.00	65.00	64.80	65.20	65.00	65.10	65.20
M68×2.00	66.00	65.90	66.20	66.00	66.10	66.20
M68×1.50	66.50	66.40	66.60	66.50	66.60	66.60
M70×6.00	64.00	63.60	64.30	64.00	64.10	64.30
M70×4.00	66.00	65.70	66.20	66.00	66.10	66.20
M70×3.00	67.00	66.80	67.20	67.00	67.10	67.20
M70×2.00	68.00	67.90	68.20	68.00	68.10	68.20
M72×6.00	66.00	65.60	66.30	66.00	66.10	66.30
M72×4.00	68.00	67.70	68.20	68.00	68.10	68.20
M72×3.00	69.00	68.80	69.20	69.00	69.10	69.20
M72×2.00	70.00	69.90	70.20	70.00	70.10	70.20
M75×4.00	71.00	70.70	71.20	71.00	71.10	71.20
M75×3.00	72.00	71.80	72.20	72.00	72.10	72.20
M75×2.00	73.00	72.90	73.20	73.00	73.10	73.20
M76×2.00	74.00	73.90	74.20	74.00	74.10	74.20
M80×6.00	74.00	73.60	74.30	74.00	74.10	74.30
M80×4.00	76.00	75.70	76.20	76.00	76.10	76.20
M80×3.00	77.00	76.80	77.20	77.00	77.10	77.20
M80×2.00	78.00	77.90	78.20	78.00	78.10	78.20
M85×6.00	79.00	78.60	79.30	79.00	79.10	79.30
M85×4.00	81.00	80.70	81.20	81.00	81.10	81.20
M85×3.00	82.00	81.80	82.20	82.00	82.10	82.20
M85×2.00	83.00	82.90	83.20	83.00	83.10	83.20
M90×6.00	84.00	83.60	84.30	84.00	84.10	84.30
M90×4.00	86.00	85.70	86.20	86.00	86.10	86.20
M90×2.00	88.00	87.90	88.20	88.00	88.10	88.20
M95×6.00	89.00	88.60	89.30	89.00	89.10	89.30
M95×4.00	91.00	90.70	91.20	91.00	91.10	91.20
M95×2.00	93.00	92.90	93.20	93.00	93.10	93.20
M100×6.00	94.00	93.60	94.30	94.00	94.10	94.30
M100×4.00	96.00	95.70	96.20	96.00	96.10	96.20
M100×2.00	98.00	97.90	98.20	98.00	98.10	98.20

※ 下孔徑 = 鑽頭刃徑　Drill hole dia. = Drill diameter

螺紋下孔徑建議表- UN美製螺紋
Recommended Drill Hole Size- UN Thread

UN螺紋 Thread Size- UN	建議下孔徑 Standard Drill hole dia.	JIS-2級用	
		最小下孔徑 Drill hole- Min	最大下孔徑 Drill hole- Max
No. 0- 80UNF	1.25	1.19	1.30
No. 1- 64UNC	1.50	1.43	1.57
No. 1- 72UNF	1.55	1.48	1.61
No. 2- 56UNC	1.79	1.70	1.87
No. 2- 64UNF	1.84	1.76	1.91
No. 3- 48UNC	2.05	1.95	2.14
No. 3- 56UNF	2.11	2.03	2.19
No. 4- 40UNC	2.27	2.16	2.38
No. 4- 48UNF	2.37	2.28	2.45
No. 5- 40UNC	2.59	2.49	2.69
No. 5- 44UNF	2.65	2.56	2.74
No. 6- 32UNC	2.77	2.65	2.89
No. 6- 40UNF	2.92	2.82	3.02
No. 8- 32UNC	3.42	3.31	3.53
No. 8- 36UNF	3.51	3.41	3.60
No.10- 24UNC	3.81	3.69	3.93
No.10- 32UNF	4.07	3.97	4.16
No.12- 24UNC	4.47	4.35	4.59
No.12- 28UNF	4.61	4.50	4.72
1/4- 20UNC	5.12	4.98	5.25
1/4- 28UNF	5.47	5.36	5.58
1/4- 32UNEF	5.59	5.49	5.68
5/16- 18UNC	6.57	6.41	6.73
5/16- 24UNF	6.91	6.79	7.03
5/16- 32UNEF	7.18	7.09	7.26
3/8- 16UNC	7.98	7.80	8.15
3/8- 20UN	8.30	8.16	8.43
3/8- 24UNF	8.51	8.39	8.63
3/8- 32UNEF	8.77	8.67	8.86
7/16- 14UNC	9.35	9.15	9.55
7/16- 20UNF	9.88	9.73	10.03
1/2- 13UNC	10.81	10.60	11.02
1/2- 20UNF	11.47	11.33	11.60
9/16- 12UNC	12.20	12.00	12.40
9/16- 18UNF	12.90	12.80	13.00
5/8- 11UNC	13.60	13.40	13.80
5/8- 18UNF	14.50	14.40	14.60
5/8- 24UNEF	14.90	14.80	14.90
3/4- 10UNC	16.60	16.40	16.80
3/4- 16UNF	17.50	17.40	17.60
3/4- 20UNEF	17.80	17.70	17.90
7/8- 9UNC	19.50	19.20	19.70
7/8- 14UNF	20.50	20.30	20.60
7/8- 20UNEF	21.00	20.90	21.10
1- 8UNC	22.30	22.00	22.60
1- 12UNF	23.40	23.20	23.50
1- 14UNS	23.70	23.50	23.80
1 1/16- 12UN	24.90	24.70	25.10
1 1/8- 7UNC	25.00	24.70	25.30
1 1/8- UN	25.50	25.20	25.70
1 1/8- 12UNF	26.50	26.30	26.70
1 1/4- 7UNC	28.20	27.90	28.50
1 1/4- 8UN	28.70	28.40	28.90
1 1/4- 12UNF	29.70	29.50	29.90

UN螺紋 Thread Size- UN	建議下孔徑 Standard Drill hole dia.	JIS-2級用	
		最小下孔徑 Drill hole- Min	最大下孔徑 Drill hole- Max
1 5/16- 12UN	31.30	31.10	31.40
1 3/8- 6UNC	30.80	30.40	31.10
1 3/8- 8UN	31.80	31.50	32.10
1 3/8- 12UNF	32.90	32.70	33.00
1 1/2- 6UNC	33.90	33.60	34.20
1 1/2- 8UN	35.00	34.70	35.30
1 1/2- 12UNF	36.10	35.90	36.20
1 5/8- 5UNS	36.20	35.80	36.60
1 5/8- 8UN	38.20	37.90	38.40
1 5/8- 12UN	39.20	39.00	39.40
1 3/4- 5UNC	39.40	39.00	39.80
1 3/4- 8UN	41.40	41.10	41.60
1 3/4- 12UN	42.40	42.20	42.60
1 7/8- 8UN	44.50	44.20	44.80
2- 4.5UNC	45.10	44.70	45.50
2- 8UN	47.70	47.40	48.00
2- 12UN	48.80	48.60	48.90
2 1/4- 4.5UNC	51.50	51.10	51.90
2 1/2- 4UNC	57.10	56.70	57.50
2 1/2- 8UN	60.40	60.10	60.70
2 3/4- 4UNC	63.50	63.00	63.90
2 3/4- 8UN	66.80	66.50	67.00
3- 4UNC	69.80	69.40	70.20
3- 8UN	73.10	72.80	73.40
3 1/4- 4UNC	76.20	75.70	76.60
3 1/2- 4UNC	82.50	82.10	82.90
3 1/2- 8UN	85.80	85.50	86.10
3 3/4- 4UNC	88.90	88.40	89.30
4- 4UNC	95.20	94.80	95.60
4- 8UN	98.50	98.20	98.80
4 1/4- 4UN	101.60	101.10	102.00
4 1/4- 6UN	103.80	103.40	104.10
4 1/4- 8UN	104.90	104.60	105.10
4 1/2- 4UN	107.90	107.50	108.30
4 1/2- 6UN	110.10	109.80	110.40
4 1/2- 8UN	111.20	110.90	111.50
4 3/4- 4UN	126.30	137.80	114.70
4 3/4- 6UN	116.50	116.10	116.80
4 3/4- 8UN	117.60	117.30	117.80
5- 4UN	120.60	120.20	121.00
5- 6UN	122.80	122.50	123.10
5- 8UN	123.90	123.60	124.20
5 1/4- 4UN	127.00	126.50	127.40
5 1/4- 6UN	129.20	128.80	129.50
5 1/4- 8UN	130.30	130.00	130.50
5 1/2- 4UN	133.30	132.90	133.70
5 1/2- 6UN	134.50	135.20	133.80
5 1/2- 8UN	136.60	136.30	136.90
5 3/4- 4UN	139.70	139.20	140.10
5 3/4- 6UN	141.90	141.50	142.20
5 3/4- 8UN	143.00	142.70	143.20
6- 4UN	146.00	145.60	146.40
6- 6UN	148.20	147.90	148.50
6- 8UN	149.30	149.00	149.60

※ 下孔徑 = 鑽頭刃徑 Drill hole dia. = Drill diameter

螺紋下孔徑建議表- NPT美製錐度管螺紋
Recommended Drill Hole Size- NPT Thread

NPT螺紋 Thread Size- NPT	下孔徑 Drill hole dia.	
	使用鉸刀 Where Reamer is used	不使用鉸刀 Where Reamer is not used
1/16"	5.94	6.15
1/8"	8.33	8.43
1/4"	10.72	11.13
3/8"	14.27	14.27
1/2"	17.48	17.86
3/4"	22.63	23.01
1"	28.58	28.98
1 1/4"	37.31	37.69
1 1/2"	43.26	43.66
2"	55.17	55.58
2 1/2"	65.48	66.27

螺紋下孔徑建議表- NPTF美製精密錐度管螺紋
Recommended Drill Hole Size- NPTF Thread

NPTF螺紋 Thread Size- NPTF	下孔徑 Drill hole dia.	
	使用鉸刀 Where Reamer is used	不使用鉸刀 Where Reamer is not used
1/16"	5.94	6.15
1/8"	8.33	8.43
1/4"	10.72	11.13
3/8"	14.30	14.27
1/2"	17.48	17.86
3/4"	22.63	23.01
1"	28.58	28.98
1 1/4"	37.31	37.69
1 1/2"	43.26	43.66
2"	55.17	55.58
2 1/2"	65.48	66.27

※ 下孔徑 = 鑽頭刃徑 Drill hole dia. = Drill diameter

螺紋下孔徑建議表- BSP(G)英製圓柱管螺紋
Recommended Drill Hole Size- BSP(G) Thread

BSP(G)螺紋 Thread Size- BSP(G)	螺紋外徑 Major dia.	最小下孔徑 Drill hole dia.- Min	最大下孔徑 Drill hole dia.- Max
G 1/16"	7.723	6.561	6.843
G 1/8"	9.728	8.566	8.848
G 1/4"	13.157	11.445	11.890
G 3/8"	16.662	14.950	15.395
G 1/2"	20.955	18.631	19.172
G 5/8"	22.911	20.587	21.128
G 3/4"	26.441	24.117	24.658
G 7/8"	30.201	27.877	28.418
G 1"	33.249	30.291	30.931
G 1 1/8"	37.897	34.939	35.579
G 1 1/4"	41.910	38.952	39.592
G 1 3/8"	44.323	41.365	42.005
G 1 1/2"	47.803	44.845	45.485
G 1 3/4"	53.746	50.788	51.428
G 2"	59.614	56.656	57.296
G 2 1/2"	75.184	72.226	72.866
G 3"	87.884	84.926	85.566
G 3 1/2"	100.330	97.300	98.000
G 4"	113.030	110.072	110.712

螺紋下孔徑建議表- BSPT(Rc/PT)英製圓錐管螺紋
Recommended Drill Hole Size- BSPT(Rc/PT) Thread

BSPT(Rc/PT)螺紋 Thread Size- BSPT(Rc/PT)	螺紋外徑 Major dia. (JIS B 0203)	下孔徑 Drill hole dia. (JIS B 0203)
1/16"	7.723	6.2
1/8"	9.728	8.2
1/4"	13.157	10.9
3/8"	16.662	14.4
1/2"	20.955	18.0
3/4"	26.441	23.0
1"	33.249	29.0
1 1/4"	41.910	38.0
1 1/2"	47.803	44.0
2"	59.614	55.0
2 1/2"	75.184	71.0
3"	87.884	83.0
3 1/2"	100.330	96.0
4"	113.030	108.0
5"	138.430	133.0
6"	163.830	159.0
7"	189.230	183.0
8"	214.630	209.0
9"	240.030	234.0
10"	265.430	259.0
12"	316.230	310.0

※ 下孔徑 = 鑽頭刃徑 Drill hole dia. = Drill diameter

硬度對照表
Comparison Table of Hardness
(HARDNESS CONVERSION TABLE)
(Approximate relationship between various hardness scales)

布氏硬度 Brinell hardness			維克氏硬度 Diamond Pyramid hardness number Vickers	洛氏硬度 Rockwell hardness				蕭氏硬度 Shore scleroscope hardness number	抗拒強度 (近似值) Approx. tensile strength
標準球 Standard 10mm ball	Halt- gren 10mm ball	鎢鋼球 Tungsten 10mm ball		鑽石圓錐 A Scale 60Kgf	球 1/16in B Scale 100Kgf	鑽石圓錐 C Scale 150Kgf	鑽石圓錐 D Scale 100Kgf		
	HB		HV	HRA	HRB	HRC	HRD	HS	N/mm^2
			940	85.6		68.0	76.9	97	
			920	85.3		67.5	76.5	96	
			900	85.0		67.0	76.1	95	
		767	880	84.7		66.4	75.7	93	
		757	860	84.4		65.9	75.3	92	
		745	840	84.1		65.3	74.8	91	
		733	820	83.8		64.7	74.3	90	
		722	800	83.4		64.0	73.8	88	
		712							
		710	780	83.0		63.3	73.3	87	
		698	760	82.6		62.5	72.6	86	
		684	740	82.2		61.8	72.1	84	
		682	737	82.2		61.7	72.0	83	
		670	720	81.8		61.0	71.5		
		656	700	81.3		60.1	70.8	81	
		653	697	81.2		60.0	70.7		
		647	690	81.1		59.7	70.5		
		638	680	80.8		59.2	70.1	80	
		630	670	80.6		58.8	69.8		
		627	667	80.5		58.7	69.7	79	
	601		677	80.7		59.1	70.0		
		601	640	79.8		57.3	68.7	77	
	578		640	79.8		57.3	68.7		
		578	615	79.1		56.0	67.7	75	
	555		607	78.8		55.6	67.4		
		555	591	78.4		54.7	66.7	73	2055
	534		579	78.0		54.0	66.1		2015
		534	569	77.8		53.5	65.8	71	1985
	514		533	77.1		52.5	65.0		1915
		514	547	76.9		52.1	64.7	70	1890
495			539	76.7		51.6	64.3		1855
	495		530	76.4		51.1	63.9		1825
		496	528	76.3		51.0	63.8	68	1820
477			516	75.9		50.3	63.2		1780
	477		508	75.6		49.6	62.7		1740
		477	508	75.6		49.6	62.7	66	1740
461			495	75.1		48.8	61.9		1680
	461		491	74.9		48.5	61.7		1670
		461	491	74.9		48.5	61.7	65	1670
444			474	74.3		47.2	61.0		1595
	444		472	74.2		47.1	60.8		1585
		444	472	74.2		47.1	60.8	63	1585

硬度對照表
Comparison Table of Hardness
(HARDNESS CONVERSION TABLE)
(Approximate relationship between various hardness scales)

布氏硬度 Brinell hardness			維克氏硬度 Diamond Pyramid hardness number Vickers	洛氏硬度 Rockwell hardness				蕭氏硬度 Shore scleroscope hardness number	抗拒強度 (近似值) Approx. tensile strength
標準球 Standard 10mm ball	Halt- gren 10mm ball	鎢鋼球 Tungsten 10mm ball		鑽石圓錐 A Scale 60Kgf	球 1/16in B Scale 100Kgf	鑽石圓錐 C Scale 150Kgf	鑽石圓錐 D Scale 100Kgf		
	HB		HV	HRA	HRB	HRC	HRD	HS	N/mm^2
429	429	429	455	73.4		45.7	59.7	61	1510
415	415	415	440	72.8		44.5	58.8	59	1460
401	401	401	425	72.0		43.1	57.8	58	1390
388	388	388	410	71.4		41.8	56.8	56	1330
375	375	375	396	70.6		40.4	55.7	54	1270
363	363	363	383	70.0		39.1	54.6	52	1220
352	352	352	372	69.3	110.0	37.9	53.8	51	1180
341	341	341	360	68.7	109.0	36.6	52.8	50	1130
331	331	331	350	68.1	108.5	35.5	51.9	48	1095
321	321	321	339	67.5	108.0	34.3	51.0	47	1060
311	311	311	328	66.9	107.5	33.1	50.0	46	1025
302	302	302	319	66.3	107.0	32.1	49.3	45	1005
293	293	293	309	65.7	106.0	30.9	48.3	43	970
285	285	285	301	65.3	105.5	29.9	47.6		950
277	277	277	292	64.6	104.5	28.8	46.7	41	925
269	269	269	284	64.1	104.0	27.8	45.9	40	895
262	262	262	276	63.6	103.0	26.6	45.0	39	875
255	255	255	269	63.0	102.0	25.4	44.2	38	850
248	248	248	261	62.5	101.0	24.2	43.2	37	825
241	241	241	253	61.8	100.0	22.8	42.0	36	800
235	235	235	247	61.4	99.0	21.7	41.4	35	785
229	229	229	241	60.8	98.2	20.5	40.5	34	765
223	223	223	234		97.3	18.8			
217	217	217	228		96.4	17.5		33	725
212	212	212	222		95.5	16.0			705
207	207	207	218		94.6	15.2		32	690
201	201	201	212		93.8	13.8		31	675
197	197	197	207		92.8	12.7		30	655
192	192	192	202		91.9	11.5		29	640
187	187	187	196		90.7	10.0			620
183	183	183	192		90.9	9.0		28	615
179	179	179	188		89.0	8.0		27	600
174	174	174	182		87.8	6.4			585
170	170	170	178		86.8	5.4		26	570
167	167	167	175		86.0	4.4			560
163	163	163	171		85.0	3.3		25	545
156	156	156	163		82.9	0.9			525
149	149	149	156		80.8			23	505
143	143	143	150		78.8			22	490
137	137	137	143		76.4			21	460
131	131	131	137		74.0				450
126	126	126	132		72.0			20	435
121	121	121	127		69.8			19	415
116	116	116	122		67.6			18	400
111	111	111	117		65.7			15	385

ISO常用公差表
Tolerance Table- ISO

公差 Tolerance Micrometers (μm)	Millimeters (mm)							
	Φ≦3	3<Φ≦6	6<Φ≦10	10<Φ≦18	18<Φ≦30	30<Φ≦50	50<Φ≦80	80<Φ≦120
h5	0 -4	0 -5	0 -6	0 -8	0 -9	0 -11	0 -13	0 -15
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16	0 -19	0 -22
h7	0 -10	0 -12	0 -15	0 -18	0 -21	0 -25	0 -30	0 -35
h8	0 -14	0 -18	0 -22	0 -27	0 -33	0 -39	0 -46	0 -54
h9	0 -25	0 -30	0 -36	0 -43	0 -52	0 -62	0 -74	0 -87
h10	0 -40	0 -48	0 -58	0 -70	0 -84	0 -100	0 -120	0 -140
h11	0 -60	0 -75	0 -90	0 -110	0 -130	0 -160	0 -190	0 -220
h12	0 -100	0 -120	0 -150	0 -180	0 -210	0 -250	0 -300	0 -350
h13	0 -140	0 -180	0 -220	0 -270	0 -330	0 -390	0 -460	0 -540
H13	+140 0	+180 0	+220 0	+270 0	+330 0	+390 0	+460 0	+540 0
H12	+100 0	+120 0	+150 0	+180 0	+210 0	+250 0	+300 0	+350 0
H11	+60 0	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0
H10	+40 0	+48 0	+58 0	+70 0	+84 0	+100 0	+120 0	+140 0
H9	+25 0	+30 0	+36 0	+43 0	+52 0	+62 0	+74 0	+87 0
H8	+14 0	+18 0	+22 0	+27 0	+33 0	+39 0	+46 0	+54 0
H7	+10 0	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0
H6	+6 0	+8 0	+9 0	+11 0	+13 0	+16 0	+19 0	+22 0
H5	+4 0	+5 0	+6 0	+8 0	+9 0	+11 0	+13 0	+15 0

ISO常用公差表
Tolerance Table- ISO

公差 Tolerance Micrometers (μm)	Millimeters (mm)							
	Φ≦3	3<Φ≦6	6<Φ≦10	10<Φ≦18	18<Φ≦30	30<Φ≦50	50<Φ≦80	80<Φ≦120
d8	-20 -34	-30 -48	-40 -62	-50 -77	-65 -98	-80 -119	-100 -146	-120 -174
d9	-20 -45	-30 -60	-40 -76	-50 -93	-65 -117	-80 -142	-100 -175	-120 -207
e7	-14 -24	-20 -32	-25 -40	-32 -50	-40 -61	-50 -75	-60 -90	-72 -107
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89	-60 -106	-72 -126
e9	-14 -39	-20 -50	-25 -61	-32 -75	-40 -92	-50 -112	-60 -134	-72 -159
f6	-6 -12	-10 -18	-13 -22	-16 -27	-20 -33	-25 -41	-30 -49	-36 -58
f7	-6 -16	-10 -22	-13 -28	-16 -34	-20 -41	-25 -50	-30 -60	-36 -71
f8	-6 -20	-10 -28	-13 -35	-16 -43	-20 -53	-25 -64	-30 -76	-36 -90
g6	-2 -8	-4 -12	-5 -14	-6 -17	-7 -20	-9 -25	-10 -29	-12 -34
G6	+8 +2	+12 +4	+14 +5	+17 +6	+20 +7	+25 +9	+29 +10	+34 +12
F8	+20 +6	+28 +10	+35 +13	+43 +16	+53 +20	+64 +25	+76 +30	+90 +36
F7	+16 +6	+22 +10	+28 +13	+34 +16	+41 +20	+50 +25	+60 +30	+71 +36
F6	+12 +6	+18 +10	+22 +13	+27 +16	+33 +20	+41 +25	+49 +30	+58 +36
E9	+39 +14	+50 +20	+61 +25	+75 +32	+92 +40	+112 +50	+134 +60	+159 +72
E8	+28 +14	+38 +20	+47 +25	+59 +32	+73 +40	+89 +50	+106 +60	+126 +72
E7	+24 +14	+32 +20	+40 +25	+50 +32	+61 +40	+75 +50	+90 +60	+107 +72
D9	+45 +20	+60 +30	+76 +40	+93 +50	+117 +65	+142 +80	+174 +100	+207 +120
D8	+34 +20	+48 +30	+62 +40	+77 +50	+98 +65	+119 +80	+146 +100	+174 +120

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琵鷺渡重洋，摩沙過寒冬；景媚擁寶器，明耀寰宇中。

Spoonbills fly from the northeastern Asia to Taiwan for wintering.
Chin Ming will be famous worldwide because it making wonderful tools.

封底故事

本公司位於台灣台南市，每年黑面琵鷺幾乎都會來此過冬。黑面琵鷺因外型有著類似琵琶的嘴，連同眼睛周圍都是黑色，全身白色的羽毛，因此被稱作黑面琵鷺。每年九月底開始，黑面琵鷺就會分批從北方陸續來到曾文溪口的海埔新生地，準備渡過一個漫長的冬天，隔年三月開始，黑面琵鷺會陸續分批飛離曾文溪口返回北方，年而復始。
有鑑於此，以牠為一個代表形象，襯托出本公司的地理位置。

Back Cover Story

We are located in Tainan City, Taiwan. The black-faced spoonbill (Platalea minor) which is one of the rarest birds in the world will migrate to Taiwan. The name came from its appearance with a spoon-like beak and even the areas around its eyes are black but white feather cover the rest of its body. Beginning in October of each year, they begin flying to the estuary of Tsen-Wen River in Tainan for wintering. Until March of the following year, they return to the breeding raea in the northeastern Asia. It means that Tainan is an important place in the life cycle of this species. Therefore, we borrow its image on the back cover.

景明精密工具有限公司
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ISO 9001

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總　公　司：725台灣台南市將軍區忠嘉里北嘉23-6號　TEL/ 06-7940726　FAX/ 06-7941217
台 北 公 司：242台灣新北市新莊區中正路514巷33弄32號　TEL/ 02-29043033　FAX/ 02-29030963
桃園分公司：TEL/ 03-3922559　新竹分公司：TEL/ 03-6576333　西屯分公司：TEL/ 04-23551166
台中分公司：TEL/ 04-22138822　彰化分公司：TEL/ 04-7515566　台南分公司：TEL/ 06-2834860
高雄分公司：TEL/ 07-3758822
廈門景力公司：TEL/ 002-86-5926-155335~7　FAX/ 002-86-5926-155338
台灣信箱 E-mail：business@cmtools.com.tw　國貿信箱 Overseas Sales：telesales@cmtools.com.tw

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