



GFT

Solid Carbide Tools

鎢鋼刀具系列



End Mills 銑刀

Drills 鑽頭

Reamers 鉸刀

Good 優良。 **F**ast 迅速。 **T**echnology 科技



About CHU WEIR 關於我們

GFT established in 1991, possessing the professional manufacturing experience on the Solid Carbide Tools. In order to ensure the product quality, all products manufactured apply the highest grade tungsten steel material from Europe.

The whole process applies CNC grinding machine from Switzerland **ROLLOMATIC** and Germany **WALTER**, the coating system from Balzers. Including the tool measuring system **ZOLLER** and **WALTER HELICHECK** from Germany for the control of accuracy on finished product. Its product includes various kinds of end mills, reamers, drills and formed tool, etc.

Due to our strict self-requirement on process, its tungsten steel tool produced could be applied to various kinds of material processing. It could ensure the service life of tool as well as the significant improvement on production efficiency.

In 2017, GFT was awarded ISO9001 Quality Assurance System Certification, strictly follow the international standard in its management and control, realizing promise of Quality First.

GFT於1991年成立，擁有鎢鋼刀具專業製造經驗。為確保產品品質，所製造的產品均採歐洲頂級鎢鋼材料。全程以瑞士**ROLLOMATIC**及德國**WALTER**的CNC刀具磨床，加上瑞士Balzers塗層系統生產，並採用德國**ZOLLER**及**WALTER HELICHECK**刀具測量系統為成品進行精度把關。其產品包括各式**銑刀**、**鉸刀**、**鑽頭**及**成型刀具**等，且同時擁有多樣化庫存，可迅速滿足客戶即時且多樣性的需求。

由於對製程的自我嚴格要求，讓生產的鎢鋼刀具可以應用於各式材料的加工，保證刀具壽命及生產效率均能達到顯著提升。

2017年，GFT獲得ISO9001品質保證體系認證，嚴格按照國際標準進行管理和控制，實踐對品質第一的承諾。

Equipment 設備

ROLLOMATIC Switzerland 瑞士



WALTER VISION Germany 德國



Quality 檢測
WALTER HELICHECK 德國











ZOLLER Germany 德國


















Tool Material 刀具原料		Relief 傾斜角度		Machining Direction 加工方向	
 MG carbide	超微粒 Micro Grain	 H	傾斜 Slant Relief		側銑 Side Milling
 UMG carbide	極超微粒 Ultra Micro Grain	 N	偏心傾斜 Eccentric Relief		側銑 輪廓銑 Side Milling Profile Milling
 NMG carbide	奈米超微粒 Nano Micro Grain	 W	大偏心傾斜 Big Eccentric Relief		側銑 輪廓銑 插削銑 Side Milling Profile Milling Slotting
Number of Flute 刀數		Corner Shape 角形		Coating Types 塗層種類	
 2	二刃平頭銑刀 2Flute-Square	 90°	直角 Sharp Edge	 TiAlN CX	鈦鋁系塗層 < 56° HRC 鋼鐵 TiAlN ⁺ type < 56° HRC Steel
 4	四刃平頭銑刀 4Flute-Square	 R	角度半徑 Corner Radius	 Naco-B NX	氮化鈦鋁矽 < 60° HRC 鋼鐵 Naco-Blue < 60° HRC Steel
 2	二刃圓頭立銑刀 2Flute-Ball Nose	 -0.05-0.1 45°	45° 角 Corner Edge 45°	 TiAlN F	鈦鋁系塗層 < 48° HRC 鋼鐵 TiAlN type < 48° HRC Steel
 4	四刃圓頭立銑刀 4Flute-Ball Nose	 U	圓頭角 Ball Nose	 AlTiN X	鋁鈦系塗層 48° ~ 56° HRC 鋼鐵 AlTiN type 48° ~ 56° HRC Steel
 3	三刃平頭銑刀 3Flute-Square			 AlTiN DX	鋁鈦系塗層 < 68° HRC 鋼鐵 AlTiN ⁺ type < 68° HRC Steel
 6	六刃平頭銑刀 6Flute-Square			 Uncoated Blank	無塗層 Uncoated
 2	內冷卻油孔 Coolant Hole				

Helix Angle 螺旋角

Machining Applications 銑床加工方式



P	Steels 鋼鐵
M	Stainless Steels 不鏽鋼
K	Cast Iron 鑄鐵
N	Non-Ferrous Materials 非鐵金屬
S	Nickel Alloys and Titanium 鎳基合金、鈦合金
H	Hardened Steels 淬火鋼 / 硬化鋼

	Explanation 說明
P1	Low-Carbon Steels ... Short Chipping 低碳鋼 ... 短切屑
P2	Medium and High-Carbon Steels <25°HRC 中碳鋼、高碳鋼 <25°HRC
P3	Alloy Steels and Tool Steels <35°HRC 合金鋼、工具鋼 <35°HRC
P4	Alloy Steels and Tool Steels 35°~48°HRC 合金鋼、工具鋼 35°~48°HRC
P5	Ferritic, Martensitic, and PH Stainless Steels <35°HRC 鐵素體、馬氏體、沉澱硬化型不銹鋼 <35°HRC
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels 35°~48°HRC 高強度鐵素體、馬氏體、沉澱硬化型不銹鋼 35°~48°HRC
M1	Austenitic Stainless Steels 奧氏體不銹鋼
M2	High Strength Austenitic Stainless Steels and Cast Stainless Steels <25°HRC 高強度奧氏體不銹鋼和鑄造不銹鋼 <25°HRC
M3	Duplex Stainless Steels <30°HRC 雙相不銹鋼 <30°HRC
K1	Grey Cast Iron <32°HRC 灰鑄鐵 <32°HRC
K2	Low and Medium-Strength Ductile Irons (Nodular Irons) and CGI <28°HRC 中-低強度延性鐵 (球墨鑄鐵)、蠕墨鑄鐵 (CGI) <28°HRC
K3	High-Strength Ductile Irons and ADI <43°HRC 高強度延性鑄鐵、奧氏體回火處理延性鐵 (ADI) <43°HRC
N1	Wrought Aluminum 鍛造鋁
N2	Low-Silicon Aluminum Alloys, Si < 13% 鑄造鋁合金, Si含量 小於 13%
N3	High-Silicon Aluminum Alloys, Si > 13% 鑄造鋁合金, Si含量 大於 13%
N4	Copper and Copper Alloys 銅、銅合金
N5	Plastics 塑膠
S1	Iron-Based, Heat-Resistant Alloys 25°~48°HRC 鐵基耐熱合金 25°~48°HRC
S2	Cobalt-Based, Heat-Resistant Alloys 25°~48°HRC 鈷基耐熱合金 25°~48°HRC
S3	Nickel-Based, Heat-Resistant Alloys <48°HRC 鎳基耐熱合金 <48°HRC
S4	Titanium and Titanium Alloys 33°~48°HRC 鈦、鈦合金 33°~48°HRC
H1	Hardened Materials <48°HRC 淬火鋼、硬化鋼 <48°HRC
H2	Hardened Materials 48°~56°HRC 淬火鋼、硬化鋼 48°~56°HRC
H3	Hardened Materials >56°HRC 淬火鋼、硬化鋼 >56°HRC

Product 產品介紹

Code No. 產品編號	Dc mm 刀徑	Standard	Long Shank	Long Flute	Ultra Long Shank	Tool Material	Tip Shape	Helix Angle	Flutes	Coating Type	Materials Group 被加工材質												Page 頁數					
											P 鋼鐵						M	K	N	S	H 硬化鋼							
											P1	P2	P3	P4	P5	P6	不鏽鋼	鑄鐵	非鐵金屬	鎳基合金	<48° HRC	48°-56° HRC		>56° HRC				
Mitigate Vibration End Mills 抑振型 鎢鋼銑刀																												
G503CX	3~20	●				UMG	□	Variable Helix	3	CX	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	2	
G503NX	3~20					UMG	□	Variable Helix	3	NX							◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	2	
G504CX	3~20	●				UMG	□	Variable Helix	4	CX	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	3	
G504NX	3~20					UMG	□	Variable Helix	4	NX							◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	3	
G530	3~20	●				MG	□	Variable Helix	3	—							◎	◎	◎	◎	◎	◎	◎	◎	◎	4		
General Purpose End Mills 通用型 鎢鋼銑刀																												
G101F	1~20	●				MG	□	35°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							6	
G121F	1~20			●		MG	□	35°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							7	
G125F	2~20		●			MG	□	35°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							7	
G181F	3~20				●	MG	□	35°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							7	
G103F	1~20	●				MG	□	35°	4	F	◎	◎	◎	◎			◎	◎	◎	◎							8	
G123F	1~20			●		MG	□	35°	4	F	◎	◎	◎	◎			◎	◎	◎	◎							9	
G127F	4~20		●			MG	□	35°	4	F	◎	◎	◎	◎			◎	◎	◎	◎							9	
G183F	3~20				●	MG	□	35°	4	F	◎	◎	◎	◎			◎	◎	◎	◎							9	
G140F	1~20	●				MG	□	45°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							10	
G141F	2~20	●				MG	□	45°	3	F	◎	◎	◎	◎			◎	◎	◎	◎							11	
G146F	1~20	●				MG	□	45°	4	F	◎	◎	◎	◎			◎	◎	◎	◎							12	
G203F	1~20	●				MG	□	30°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							13	
G211F	1~20		●			MG	□	30°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							14	
G281F	2~12				●	MG	□	30°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							14	
G305F	2~12	●				MG	□	35°	2	F	◎	◎	◎	◎			◎	◎	◎	◎							15	
G307F	2~12	●				MG	□	35°	4	F	◎	◎	◎	◎			◎	◎	◎	◎							16	
High Performance End Mills 高效能 鎢鋼銑刀																												
G162X	0.3~3	●				UMG	□	30°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	18	
G105X	1.1~11.9	●				UMG	□	35°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	19	
G102X	1~20	●				UMG	□	35°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	20	
G122X	1~20			●		UMG	□	35°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	21	
G126X	2~20		●			UMG	□	35°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	21	
G182X	3~20				●	UMG	□	35°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	21	
G104X	1~20	●				UMG	□	35°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	22	
G124X	1~20			●		UMG	□	35°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	23	
G128X	4~20		●			UMG	□	35°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	23	
G184X	3~20				●	UMG	□	35°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	23	
G142X	1~20	●				UMG	□	45°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	24	
G143X	2~20	●				UMG	□	45°	3	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	25	
G144X	1~20	●				UMG	□	45°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	26	
G262X	0.3~3	●				UMG	□	30°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	27	
G202X	1~20	●				UMG	□	30°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	28	
G212X	1~20		●			UMG	□	30°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	29	
G282X	2~20				●	UMG	□	30°	2	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	30	
G204X	1~20	●				UMG	□	30°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	31	
G214X	4~20		●			UMG	□	30°	4	X	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	31	

◎ : Suitable 適合 ; ○ : Can use for 可以使用

V Type



Tool Material : Ultra Micro Grain Solid Carbide

刀 具 材 料 : 極超微粒鎢鋼

Coating Type : G503CX / G504CX TiAlN⁺
G503NX / G504NX

Coating Type : G530 Uncoated (Blank) 無塗層

Due to the tool resonance by itself, the tool breakage and damage often occur during processing. In order to offset tool resonance, the Uneven flutes distribution and Variable Helix are the new designs for solving this issue.

As the resonance is reduced, the Feed speed could be improved at least 30%. Therefore, the surface for work-piece is more meticulous and tool life could be extended longer.

切削刀具在加工時，常因本身產生的共振，導致刀具崩刃、斷裂等情況發生。不等分底刃、可變螺旋角 正是爲了抵消刀具本身產生的共振所做的新型設計！因爲共振情況減少了，所以進給速度F至少可以提升30%以上，並且讓加工物表面更加細緻，刀具壽命更加延長！

G503CX / G504CX:

- Carbon Steels, Alloy Steels 碳鋼、合金鋼
- Stainless Steels 不鏽鋼
- Cast Iron 鑄鐵
- Nickel Alloys and Titanium 鎳基合金 / 鈦合金
- Hardened Materials < 56°HRC 淬火鋼 < 56°HRC

G503NX / G504NX:

- Carbon Steels, Alloy Steels 碳鋼、合金鋼
- Stainless Steels 不鏽鋼
- Cast Iron 鑄鐵
- Nickel Alloys and Titanium 鎳基合金 / 鈦合金
- Hardened Materials < 60°HRC 淬火鋼 < 60°HRC

G530:

- Aluminum and Aluminum Alloys 鋁、鋁合金
- Copper and Copper Alloys 銅、銅合金

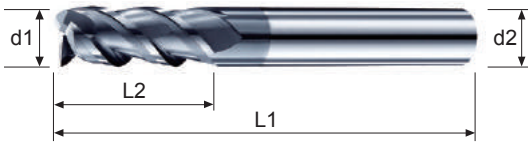


Mitigate Vibration End Mills



鎢鋼立銑刀 抑振型-3刃

Solid Carbide Square End Mills-3T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G503CX

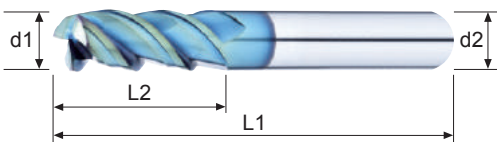
Product Number : G503CX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G503 - 030	3.0	8	50	6
G503 - 040	4.0	11	50	6
G503 - 050	5.0	14	50	6
G503 - 060	6.0	16	50	6
G503 - 080	8.0	20	60	8
G503 - 100	10.0	25	75	10
G503 - 120	12.0	30	75	12
G503 - 160	16.0	40	100	16
G503 - 200	20.0	40	100	20



鎢鋼立銑刀 抑振型-3刃

Solid Carbide Square End Mills-3T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G503NX

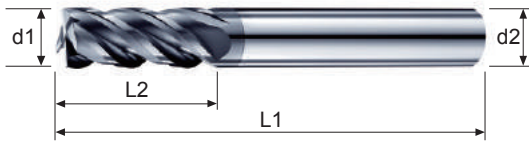
Product Number : G503NX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G503 - 030	3.0	8	50	6
G503 - 040	4.0	11	50	6
G503 - 050	5.0	14	50	6
G503 - 060	6.0	16	50	6
G503 - 080	8.0	20	60	8
G503 - 100	10.0	25	75	10
G503 - 120	12.0	30	75	12
G503 - 160	16.0	40	100	16
G503 - 200	20.0	40	100	20



鎢鋼立銑刀 抑振型-4刃

Solid Carbide Square End Mills-4T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號：G504CX

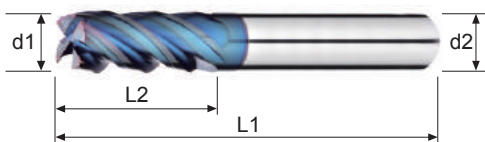
Product Number：G504CX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G504 - 030	3.0	8	50	6
G504 - 040	4.0	11	50	6
G504 - 050	5.0	14	50	6
G504 - 060	6.0	16	50	6
G504 - 080	8.0	20	60	8
G504 - 100	10.0	25	75	10
G504 - 120	12.0	30	75	12
G504 - 160	16.0	40	100	16
G504 - 200	20.0	40	100	20



鎢鋼立銑刀 抑振型-4刃

Solid Carbide Square End Mills-4T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號：G504NX

Product Number：G504NX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G504 - 030	3.0	8	50	6
G504 - 040	4.0	11	50	6
G504 - 050	5.0	14	50	6
G504 - 060	6.0	16	50	6
G504 - 080	8.0	20	60	8
G504 - 100	10.0	25	75	10
G504 - 120	12.0	30	75	12
G504 - 160	16.0	40	100	16
G504 - 200	20.0	40	100	20



Mitigate Vibration End Mills for Aluminium

MG
carbide

0.6µm

N

3

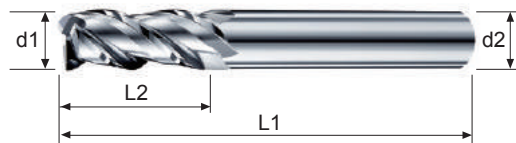


Uncoated
Blank



鎢鋼立銑刀 抑振型-3刃

Solid Carbide Square End Mills-3T



材料分類 / Work Materials

N

產品型號 : G530

Product Number : G530

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G530 - 030	3.0	9	50	6
G530 - 040	4.0	12	50	6
G530 - 050	5.0	14	50	6
G530 - 060	6.0	16	50	6
G530 - 080	8.0	20	60	8
G530 - 100	10.0	25	75	10
G530 - 120	12.0	30	75	12
G530 - 160	16.0	40	100	16
G530 - 200	20.0	40	100	20

F Type

Tool Material : Micro Grain Solid Carbide

刀 具 材 料 : 超微粒鎢鋼

Coating Type : TiAlN

All of the high quality cutting tools are made by Europe solid carbide, and with TiAlN coating.

We provide the most reasonable economic price and widespread use solid carbide cutting tools for our customers, to use on the normal metalworking pieces.

採用來自歐洲，適用多數加工材質的鎢鋼材料，搭配使用性廣的TiAlN塗層。我們提供廣大用戶經濟且通用性佳的鎢鋼銑刀，可以使用在一般金屬材料加工上。

Suitable for 適用於：

- Carbon Steels < 25°HRC 碳鋼 < 25°HRC
- Alloy Steels / Tool Steels < 48°HRC 合金鋼 / 工具鋼 < 48°HRC
- Stainless Steels 不鏽鋼
- Cast Iron 鑄鐵

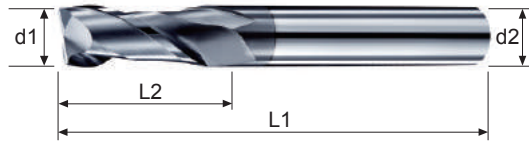


General Purpose End Mills



鎢鋼立銑刀-2刃

Solid Carbide Square End Mills-2T



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

產品型號 : G101F

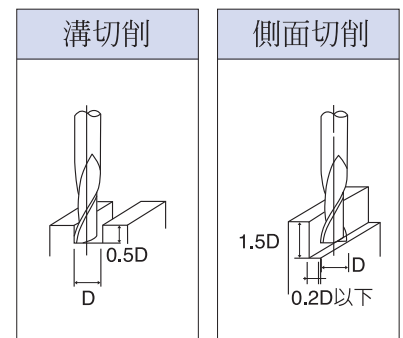
Product Number : G101F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G101 - 010A	1.0	3	50	4	G101 - 065	6.5	18	60	8
G101 - 015A	1.5	4	50	4	G101 - 070	7.0	18	60	8
G101 - 020A	2.0	6	50	4	G101 - 075	7.5	20	60	8
G101 - 025A	2.5	7	50	4	G101 - 080	8.0	20	60	8
G101 - 030A	3.0	8	50	4	G101 - 085	8.5	22	75	10
G101 - 035A	3.5	10	50	4	G101 - 090	9.0	22	75	10
G101 - 040A	4.0	11	50	4	G101 - 095	9.5	25	75	10
G101 - 010	1.0	3	50	6	G101 - 100	10.0	25	75	10
G101 - 015	1.5	4	50	6	G101 - 105	10.5	28	75	12
G101 - 020	2.0	6	50	6	G101 - 110	11.0	28	75	12
G101 - 025	2.5	7	50	6	G101 - 115	11.5	30	75	12
G101 - 030	3.0	8	50	6	G101 - 120	12.0	30	75	12
G101 - 035	3.5	10	50	6	G101 - 130	13.0	40	100	16
G101 - 040	4.0	11	50	6	G101 - 140	14.0	40	100	16
G101 - 045	4.5	12	50	6	G101 - 150	15.0	40	100	16
G101 - 050	5.0	14	50	6	G101 - 160	16.0	40	100	16
G101 - 055	5.5	16	50	6	G101 - 200	20.0	40	100	20
G101 - 060	6.0	16	50	6					

※ "A" 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)	鑄鐵 Cast Iron			
	(<30HRC)		(<40HRC)		(<48HRC)			回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)				
1	22400	160	20800	90	9600	35	12600	100	22000	200	
2	11200	170	10400	90	4800	35	8000	110	12800	215	
4	5600	195	5200	115	2400	40	4000	130	6400	250	
6	3750	220	3450	130	1600	40	2650	140	4250	285	
8	2800	235	2600	145	1200	50	2000	165	3200	310	
10	2240	260	2080	155	960	60	1600	170	2560	335	
12	1860	280	1750	155	800	70	1350	175	2100	350	
16	1400	280	1300	155	600	70	1000	195	1600	370	
20	1120	260	1040	155	480	70	800	185	1280	365	

※以上數據僅供參考

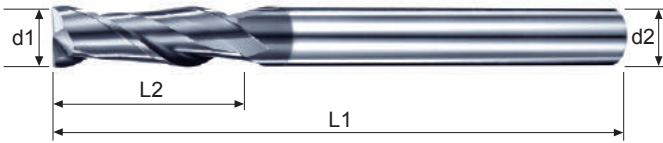


進刀深度超越上述時，請將進給降低 20%~30%。



鎢鋼立銑刀 長刃長柄-2刃

Solid Carbide Square End Mills-2T (Long Flute & Long Shank)



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

產品型號：G121F

Product Number：G121F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G121 - 010	1.0	5	75	4
G121 - 015	1.5	8	75	4
G121 - 020	2.0	10	75	4
G121 - 030	3.0	15	75	4
G121 - 040	4.0	20	75	4
G121 - 040L	4.0	20	100	4
G121 - 050	5.0	25	75	6
G121 - 060	6.0	30	75	6
G121 - 080	8.0	25	75	8
G121 - 080L	8.0	40	100	8
G121 - 100	10.0	40	100	10
G121 - 120	12.0	50	100	12
G121 - 140	14.0	60	125	14
G121 - 160	16.0	65	125	16
G121 - 200	20.0	65	125	20

※ “L” Long Flute and Long Shank / 長刃長柄

鎢鋼立銑刀 長柄-2刃

Solid Carbide Square End Mills-2T (Long Shank)

產品型號：G125F

Product Number：G125F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G125 - 020	2.0	6	75	4
G125 - 030	3.0	9	75	4
G125 - 040	4.0	12	75	4
G125 - 050	5.0	15	100	6
G125 - 060	6.0	20	100	6
G125 - 080	8.0	25	100	8
G125 - 100	10.0	30	100	10
G125 - 120	12.0	35	100	12
G125 - 160	16.0	40	150	16
G125 - 200	20.0	50	150	20

鎢鋼立銑刀 長刃-2刃

Solid Carbide Square End Mills-2T (Long Flute)

產品型號：G181F

Product Number：G181F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G181 - 030	3.0	15	75	6
G181 - 040	4.0	20	75	6
G181 - 050	5.0	25	100	6
G181 - 060	6.0	30	100	6
G181 - 060L	6.0	30	150	6
G181 - 080	8.0	40	150	8
G181 - 100	10.0	40	150	10
G181 - 120	12.0	50	150	12
G181 - 160	16.0	70	150	16
G181 - 200	20.0	80	150	20

※ “L” Long Shank / 長柄 7

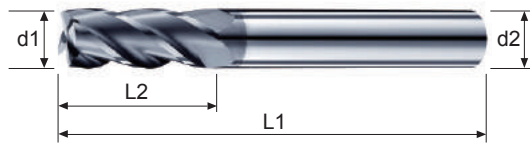


General Purpose End Mills



鎢鋼立銑刀-4刃

Solid Carbide Square End Mills-4T



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

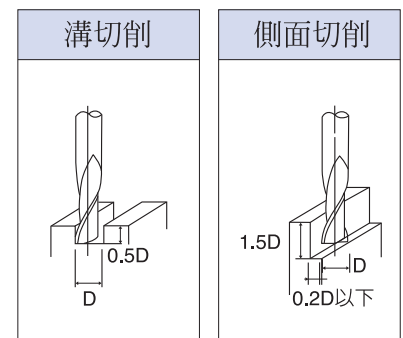
產品型號：G103F

Product Number：G103F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G103 - 010A	1.0	3	50	4
G103 - 015A	1.5	4	50	4
G103 - 020A	2.0	6	50	4
G103 - 025A	2.5	7	50	4
G103 - 030A	3.0	8	50	4
G103 - 035A	3.5	10	50	4
G103 - 040A	4.0	11	50	4
G103 - 020	2.0	6	50	6
G103 - 025	2.5	7	50	6
G103 - 030	3.0	8	50	6
G103 - 035	3.5	10	50	6
G103 - 040	4.0	11	50	6
G103 - 045	4.5	12	50	6
G103 - 050	5.0	14	50	6
G103 - 055	5.5	16	50	6
G103 - 060	6.0	16	50	6
G103 - 065	6.5	18	60	8
G103 - 070	7.0	18	60	8
G103 - 075	7.5	20	60	8
G103 - 080	8.0	20	60	8
G103 - 085	8.5	22	75	10
G103 - 090	9.0	22	75	10
G103 - 095	9.5	25	75	10
G103 - 100	10.0	30	75	10
G103 - 105	10.5	28	75	12
G103 - 110	11.0	28	75	12
G103 - 115	11.5	30	75	12
G103 - 120	12.0	30	75	12
G103 - 130	13.0	40	100	16
G103 - 140	14.0	40	100	16
G103 - 150	15.0	40	100	16
G103 - 160	16.0	40	100	16
G103 - 200	20.0	40	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron	
	<30HRC		<40HRC		<48HRC		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
1	22400	240	20800	140	9600	50	12600	160	22000	300
2	11200	250	10400	145	4800	50	8000	185	12800	305
4	5600	295	5200	170	2400	65	4000	200	6400	350
6	3700	320	3450	190	1600	70	2650	235	4250	385
8	2800	360	2600	220	1200	75	2000	260	3200	448
10	2240	390	2080	225	960	90	1600	280	2560	455
12	1860	410	1750	230	800	90	1350	280	2100	455
16	1400	435	1300	235	600	90	1000	300	1600	505
20	1120	430	1040	230	480	90	800	280	1280	505



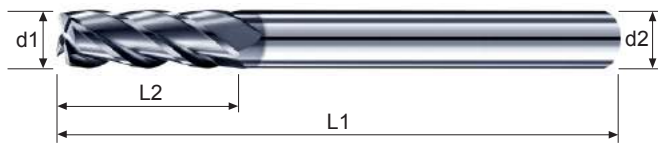
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 長刃長柄-4刃

Solid Carbide Square End Mills-4T (Long Shank & Long Flute)



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

產品型號：G123F

Product Number：G123F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G123 - 010	1.0	5	75	4
G123 - 015	1.5	8	75	4
G123 - 020	2.0	10	75	4
G123 - 030	3.0	15	75	4
G123 - 040	4.0	20	75	4
G123 - 040L	4.0	20	100	4
G123 - 050	5.0	25	75	6
G123 - 060	6.0	30	75	6
G123 - 080	8.0	40	100	8
G123 - 100	10.0	40	100	10
G123 - 120	12.0	50	100	12
G123 - 140	14.0	60	125	14
G123 - 160	16.0	65	125	16
G123 - 200	20.0	65	125	20

※ “L” Long Shank / 長柄

鎢鋼立銑刀 長柄-4刃

Solid Carbide Square End Mills-4T (Long Shank)

產品型號：G127F

Product Number：G127F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G127 - 040	4.0	12	75	4
G127 - 050	5.0	15	100	6
G127 - 060	6.0	20	100	6
G127 - 080	8.0	25	100	8
G127 - 100	10.0	30	100	10
G127 - 120	12.0	35	100	12
G127 - 160	16.0	40	150	16
G127 - 200	20.0	50	150	20

鎢鋼立銑刀 特長柄-4刃

Solid Carbide Square End Mills-4T (Super Long Shank)

產品型號：G183F

Product Number：G183F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G183 - 030	3.0	15	75	6
G183 - 040	4.0	20	75	6
G183 - 050	5.0	25	100	6
G183 - 060	6.0	30	100	6
G183 - 060L	6.0	30	150	6
G183 - 080	8.0	40	150	8
G183 - 100	10.0	40	150	10
G183 - 120	12.0	50	150	12
G183 - 140	14.0	50	150	16
G183 - 160	16.0	70	150	16
G183 - 200	20.0	80	150	20

※ “L” Long Shank / 長柄

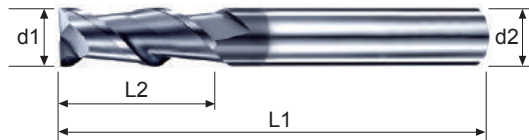


General Purpose End Mills



鎢鋼立銑刀 高螺旋-2刃

Solid Carbide Square End Mills-2T (High Helix)



材料分類 / Work Materials

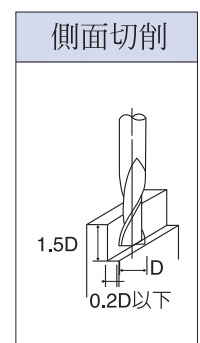
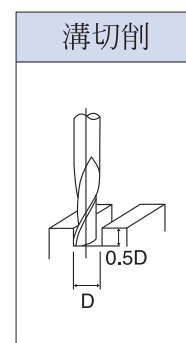
P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

產品型號：G140F

Product Number：G140F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G140 - 010	1.0	3	50	4
G140 - 015	1.5	4	50	4
G140 - 020	2.0	6	50	4
G140 - 025	2.5	7	50	4
G140 - 030	3.0	8	50	4
G140 - 035	3.5	10	50	4
G140 - 040	4.0	11	50	4
G140 - 045	4.5	12	50	6
G140 - 050	5.0	13	50	6
G140 - 060	6.0	16	50	6
G140 - 080	8.0	20	60	8
G140 - 100	10.0	25	75	10
G140 - 120	12.0	30	75	12
G140 - 140	14.0	40	100	16
G140 - 160	16.0	40	100	16
G140 - 200	20.0	42	100	20

被削材 Material	溝切削 Slotting									
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(HRC30)		(HRC30~45)		(HRC45~55)		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)				
2	10500	270	8800	190	2400	40	9600	190	14300	420
4	5200	270	4400	190	1200	40	4800	190	7200	420
6	3700	270	2900	210	1100	50	3200	165	5300	390
8	2800	270	2200	210	800	50	2400	165	4000	390
10	2400	260	1800	190	800	50	1900	160	3400	375
12	2000	260	1500	190	700	50	1600	160	2800	375
16	1600	260	1100	190	500	50	1200	160	2100	360
20	1500	370	880	180	470	50	1000	140	1700	335
	側面切削 Side milling									
2	18000	1150	11900	335	4000	130	14000	450	19000	780
4	9200	1000	6000	325	2000	115	7200	350	9600	650
6	6400	800	4300	340	1600	130	5300	360	6900	620
8	4800	800	3200	340	1200	130	4000	360	5200	620
10	3800	650	2600	340	1000	120	3500	335	4300	570
12	3200	650	2100	340	800	120	2900	335	3600	570
16	2400	580	1600	335	700	105	2200	310	2700	570
20	1900	500	1300	310	600	90	1800	290	2100	520



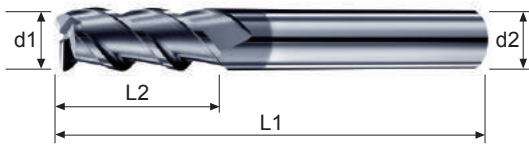
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 高螺旋-3刃

Solid Carbide Square End Mills-3T (High Helix)



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

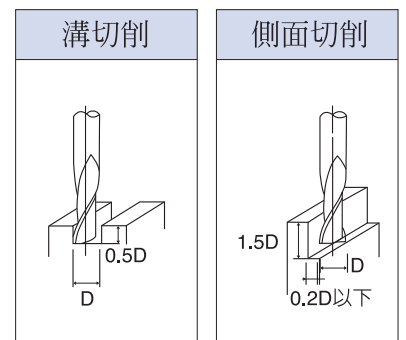
產品型號：G141F

Product Number：G141F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G141 - 020A	2.0	6	50	4
G141 - 030A	3.0	8	50	4
G141 - 040A	4.0	11	50	4
G141 - 020	2.0	6	50	6
G141 - 030	3.0	8	50	6
G141 - 040	4.0	11	50	6
G141 - 050	5.0	13	50	6
G141 - 060	6.0	16	50	6
G141 - 080	8.0	20	60	8
G141 - 100	10.0	25	75	10
G141 - 120	12.0	30	75	12
G141 - 140	14.0	40	100	16
G141 - 160	16.0	40	100	16
G141 - 200	20.0	42	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	溝切削 Slotting									
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(HRC30)		(HRC30~45)		(HRC45~55)					
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
2	10500	420	8800	300	2400	60	9600	300	14300	650
4	5200	420	4400	300	1200	60	4800	300	7200	650
6	3700	420	2900	330	1100	80	3200	260	5300	600
8	2800	420	2200	330	800	80	2400	260	4000	600
10	2400	400	1800	300	800	80	1900	250	3400	580
12	2000	400	1500	300	700	80	1600	250	2800	580
16	1600	400	1100	300	500	80	1200	250	2100	560
20	1500	600	880	280	470	80	1000	220	1700	520
	側面切削 Side milling									
2	18300	1800	11900	520	4000	210	14300	700	19000	1200
4	9200	1600	6000	500	2000	180	7200	540	9600	1000
6	6400	1300	4300	530	1600	210	5300	560	6900	960
8	4800	1300	3200	530	1200	210	4000	560	5200	960
10	3800	1000	2600	530	1000	190	3500	520	4300	880
12	3200	1000	2100	530	800	190	2900	520	3600	880
16	2400	900	1600	520	700	170	2200	480	2700	880
20	1900	800	1300	480	600	140	1800	450	2100	800



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

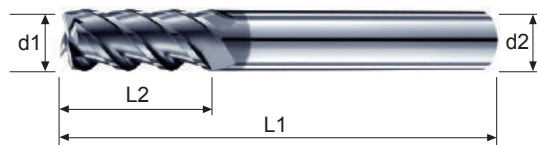


General Purpose End Mills



鎢鋼立銑刀 高螺旋-4刃

Solid Carbide Square End Mills-4T (High Helix)



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1、N2、N5
●	●	●	●

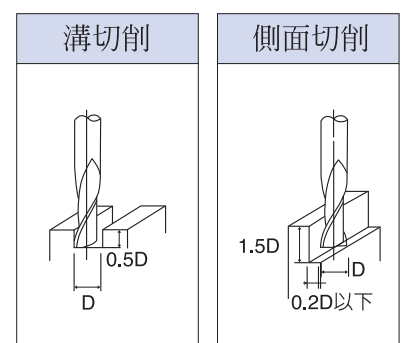
產品型號 : G146F

Product Number : G146F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G146 - 010	1.0	3	50	4
G146 - 015	1.5	4	50	4
G146 - 020	2.0	6	50	4
G146 - 025	2.5	7	50	4
G146 - 030A	3.0	8	50	4
G146 - 035	3.5	10	50	4
G146 - 040A	4.0	11	50	4
G146 - 030	3.0	8	50	6
G146 - 040	4.0	11	50	6
G146 - 050	5.0	13	50	6
G146 - 060	6.0	16	50	6
G146 - 080	8.0	20	60	8
G146 - 100	10.0	25	75	10
G146 - 120	12.0	30	75	12
G146 - 140	14.0	40	100	16
G146 - 160	16.0	40	100	16
G146 - 200	20.0	42	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	溝切削 Slotting									
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(HRC30)		(HRC30~45)		(HRC45~55)		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)				
2	10500	420	8800	300	2400	60	9600	300	14300	650
4	5200	420	4400	300	1200	60	4800	300	7200	650
6	3700	420	2900	330	1100	80	3200	260	5300	600
8	2800	420	2200	330	800	80	2400	260	4000	600
10	2400	400	1800	300	800	80	1900	250	3400	580
12	2000	400	1500	300	700	80	1600	250	2800	580
16	1600	400	1100	300	500	80	1200	250	2100	560
20	1500	600	880	280	470	80	1000	220	1700	520
側面切削 Side milling										
2	18300	1800	11900	520	4000	210	14300	700	19000	1200
4	9200	1600	6000	500	2000	180	7200	540	9600	1000
6	6400	1300	4300	530	1600	210	5300	560	6900	960
8	4800	1300	3200	530	1200	210	4000	560	5200	960
10	3800	1000	2600	530	1000	190	3500	520	4300	880
12	3200	1000	2100	530	800	190	2900	520	3600	880
16	2400	900	1600	520	700	170	2200	480	2700	880
20	1900	800	1300	480	600	140	1800	450	2100	800



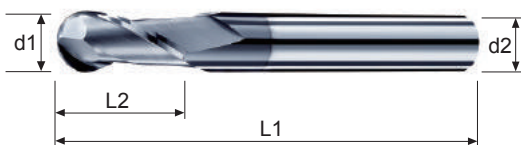
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼球頭銼刀-2刃

Solid Carbide Ball Nose End Mills-2T



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1~N3
●	●	●	●

產品型號：G203F

Product Number：G203F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G203 - 010A	1.0×0.50R	2	50	4
G203 - 015A	1.5×0.75R	3	50	4
G203 - 020A	2.0×1.00R	4	50	4
G203 - 025A	2.5×1.25R	5	50	4
G203 - 030A	3.0×1.50R	6	50	4
G203 - 035A	3.5×1.75R	7	50	4
G203 - 040A	4.0×2.00R	8	50	4
G203 - 010	1.0×0.50R	2	50	6
G203 - 015	1.5×0.75R	3	50	6
G203 - 020	2.0×1.00R	4	50	6
G203 - 025	2.5×1.25R	5	50	6
G203 - 030	3.0×1.50R	6	50	6
G203 - 035	3.5×1.75R	7	50	6
G203 - 040	4.0×2.00R	8	50	6
G203 - 045	4.5×2.25R	9	50	6
G203 - 050	5.0×2.50R	10	50	6
G203 - 055	5.5×2.75R	11	50	6
G203 - 060	6.0×3.00R	12	50	6
G203 - 065	6.5×3.25R	13	60	8
G203 - 070	7.0×3.50R	14	60	8
G203 - 080	8.0×4.00R	16	60	8
G203 - 090	9.0×4.50R	18	75	10
G203 - 100	10.0×5.00R	20	75	10
G203 - 110	11.0×5.50R	22	75	12
G203 - 120	12.0×6.00R	24	75	12
G203 - 140	14.0×7.00R	28	100	16
G203 - 150	15.0×7.50R	30	100	16
G203 - 160	16.0×8.00R	32	100	16
G203 - 200	20.0×10.0R	40	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(<30HRC)		(<40HRC)		(<48HRC)		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
圓角半徑 R	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
1 R	10800	230	9600	130	6400	70	8600	130	14000	200
1.5R	7200	270	6400	150	4300	85	5700	150	9600	260
2 R	5400	280	4800	160	3200	90	4300	150	7200	280
3 R	3600	320	3200	180	2100	100	2900	170	4800	320
4 R	2700	360	2400	200	1600	110	2200	200	3600	350
5 R	2200	380	1900	220	1300	110	1700	200	2900	380
6 R	1800	400	1600	230	1100	115	1450	210	2400	380
8 R	1400	430	1200	240	800	130	1100	220	1800	400
10 R	1100	420	1000	230	640	125	900	220	1400	400

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D

進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

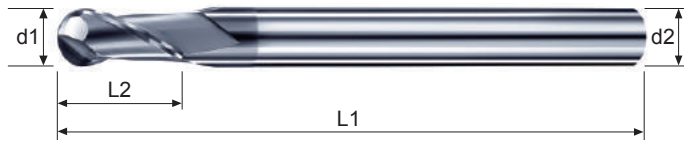


General Purpose Ball Nose End Mills



鎢鋼球頭銑刀 長柄-2刃

Solid Carbide Ball Nose End Mills-2T (Long Shank)



材料分類 / Work Materials

P1~P4	M1、M2	K1、K2	N1~N3
●	●	●	●

產品型號：G211F

Product Number：G211F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G211 - 010A	1.0×0.50R	2	75	4
G211 - 015A	1.5×0.75R	3	75	4
G211 - 020A	2.0×1.00R	4	75	4
G211 - 030A	3.0×1.50R	6	75	4
G211 - 040A	4.0×2.00R	8	75	4
G211 - 010	1.0×0.50R	2	75	6
G211 - 015	1.5×0.75R	3	75	6
G211 - 020	2.0×1.00R	4	75	6
G211 - 030	3.0×1.50R	6	75	6
G211 - 040	4.0×2.00R	8	75	6
G211 - 050	5.0×2.50R	10	75	6
G211 - 060	6.0×3.00R	12	75	6
G211 - 080	8.0×4.00R	16	75	8
G211 - 080L	8.0×4.00R	16	100	8
G211 - 100	10.0×5.00R	20	100	10
G211 - 120	12.0×6.00R	24	100	12
G211 - 140	14.0×7.00R	28	150	16
G211 - 160	16.0×8.00R	32	150	16
G211 - 200	20.0×10.0R	40	150	20

鎢鋼球頭銑刀 特長柄-2刃

※“A” 4mm Shank / 4mm 柄徑 ※“L” Long Shank / 長柄

Solid Carbide Ball Nose End Mills-2T (Super Long Shank)

產品型號：G281F

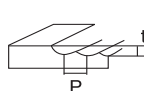
Product Number：G281F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G281 - 020	2.0×1.00R	4	100	6
G281 - 030	3.0×1.50R	6	100	6
G281 - 040A	4.0×2.00R	8	100	4
G281 - 040	4.0×2.00R	8	100	6
G281 - 050	5.0×2.50R	10	100	6
G281 - 060	6.0×3.00R	12	100	6
G281 - 080	8.0×4.00R	16	150	8
G281 - 100	10.0×5.00R	20	150	10
G281 - 120	12.0×6.00R	24	150	12

※“A” 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel		鑄鐵 Cast Iron	
	(<30HRC)		(<40HRC)		(<48HRC)		(SUS304,316)		(FCD60)	
圓角半徑 R	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
1 R	10800	230	9600	130	6400	70	8600	130	14000	200
1.5R	7200	270	6400	150	4300	85	5700	150	9600	260
2 R	5400	280	4800	160	3200	90	4300	150	7200	280
3 R	3600	320	3200	180	2100	100	2900	170	4800	320
4 R	2700	360	2400	200	1600	110	2200	200	3600	350
5 R	2200	380	1900	220	1300	110	1700	200	2900	380
6 R	1800	400	1600	230	1100	115	1450	210	2400	380
8 R	1400	430	1200	240	800	130	1100	220	1800	400
10 R	1100	420	1000	230	640	125	900	220	1400	400

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D



進刀深度超越上述時，請將進給降低 20%~30%。

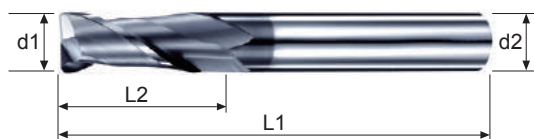
※以上數據僅供參考

General Purpose End Mills with Corner Radius



鎢鋼R角銑刀-2刃

Solid Carbide Corner Radius End Mills-2T



材料分類 / Work Materials

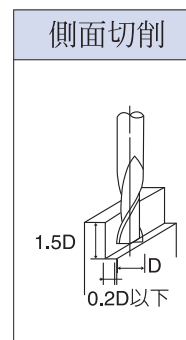
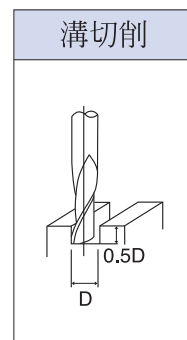
P1~P4	M1、M2	K1、K2	N1~N3
●	●	●	●

產品型號：G305F

Product Number：G305F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G305 - 02002	2.0×R0.2	6	50	4	G305 - 06015	6.0×R1.5	15	50	6
G305 - 02003	2.0×R0.3	6	50	4	G305 - 06020	6.0×R2.0	15	50	6
G305 - 02005	2.0×R0.5	6	50	4	G305 - 08003	8.0×R0.3	20	60	8
G305 - 02502	2.5×R0.2	7	50	4	G305 - 08005	8.0×R0.5	20	60	8
G305 - 02503	2.5×R0.3	7	50	4	G305 - 08010	8.0×R1.0	20	60	8
G305 - 02505	2.5×R0.5	7	50	4	G305 - 08015	8.0×R1.5	20	60	8
G305 - 03002	3.0×R0.2	8	50	4	G305 - 08020	8.0×R2.0	20	60	8
G305 - 03003	3.0×R0.3	8	50	4	G305 - 08030	8.0×R3.0	20	60	8
G305 - 03005	3.0×R0.5	8	50	4	G305 - 10003	10.0×R0.3	25	75	10
G305 - 03010	3.0×R1.0	8	50	4	G305 - 10005	10.0×R0.5	25	75	10
G305 - 04002	4.0×R0.2	10	50	4	G305 - 10010	10.0×R1.0	25	75	10
G305 - 04003	4.0×R0.3	10	50	4	G305 - 10015	10.0×R1.5	25	75	10
G305 - 04005	4.0×R0.5	10	50	4	G305 - 10020	10.0×R2.0	25	75	10
G305 - 04010	4.0×R1.0	10	50	4	G305 - 10030	10.0×R3.0	25	75	10
G305 - 05002	5.0×R0.2	13	50	6	G305 - 12003	12.0×R0.3	30	75	12
G305 - 05003	5.0×R0.3	13	50	6	G305 - 12005	12.0×R0.5	30	75	12
G305 - 05005	5.0×R0.5	13	50	6	G305 - 12010	12.0×R1.0	30	75	12
G305 - 05010	5.0×R1.0	13	50	6	G305 - 12015	12.0×R1.5	30	75	12
G305 - 06002	6.0×R0.2	15	50	6	G305 - 12020	12.0×R2.0	30	75	12
G305 - 06003	6.0×R0.3	15	50	6	G305 - 12030	12.0×R3.0	30	75	12
G305 - 06005	6.0×R0.5	15	50	6					
G305 - 06010	6.0×R1.0	15	50	6					

被削材 Material	溝切削 Slotting							
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)	
	(HRC30<20)		(HRC40<30)		(<56HRC)		回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)		
4	4000	150	3200	90	2400	55	3200	115
6	2700	170	2100	100	1600	61	2100	130
8	2000	190	1600	110	1200	65	1600	145
10	1600	195	1300	120	960	70	1300	150
12	1400	220	1050	125	800	75	1050	160
	側面切削 Side milling							
4	7200	720	4000	360	2400	120	4000	180
6	5000	800	2700	400	1600	145	2700	200
8	3700	800	2000	400	1200	155	2000	200
10	3000	720	1600	360	960	145	1600	180
12	2500	720	1300	360	800	145	1300	180



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

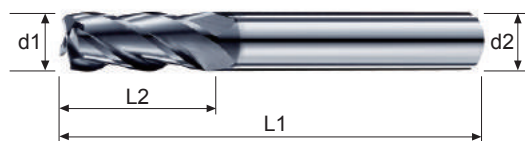


General Purpose End Mills with Corner Radius



鎢鋼R角銑刀-4刃

Solid Carbide Corner Radius End Mills-4T



材料分類 / Work Materials

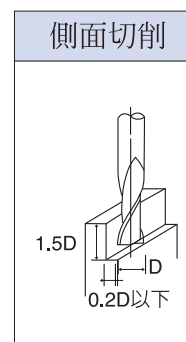
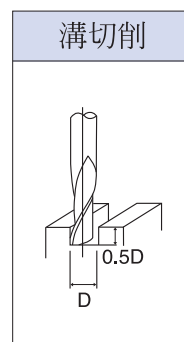
P1~P4	M1、M2	K1、K2	N1~N3
●	●	●	●

產品型號：G307F

Product Number：G307F

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	Order No. 訂購代號	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G307 - 02002	2.0×R0.2	6	50	4	G307 - 06015	6.0×R1.5	15	50	6
G307 - 02003	2.0×R0.3	6	50	4	G307 - 06020	6.0×R2.0	15	50	6
G307 - 02005	2.0×R0.5	6	50	4	G307 - 08003	8.0×R0.3	20	60	8
G307 - 02502	2.5×R0.2	7	50	4	G307 - 08005	8.0×R0.5	20	60	8
G307 - 02503	2.5×R0.3	7	50	4	G307 - 08010	8.0×R1.0	20	60	8
G307 - 02505	2.5×R0.5	7	50	4	G307 - 08015	8.0×R1.5	20	60	8
G307 - 03002	3.0×R0.2	8	50	4	G307 - 08020	8.0×R2.0	20	60	8
G307 - 03003	3.0×R0.3	8	50	4	G307 - 08030	8.0×R3.0	20	60	8
G307 - 03005	3.0×R0.5	8	50	4	G307 - 10003	10.0×R0.3	25	75	10
G307 - 03010	3.0×R1.0	8	50	4	G307 - 10005	10.0×R0.5	25	75	10
G307 - 04002	4.0×R0.2	10	50	4	G307 - 10010	10.0×R1.0	25	75	10
G307 - 04003	4.0×R0.3	10	50	4	G307 - 10015	10.0×R1.5	25	75	10
G307 - 04005	4.0×R0.5	10	50	4	G307 - 10020	10.0×R2.0	25	75	10
G307 - 04010	4.0×R1.0	10	50	4	G307 - 10030	10.0×R3.0	25	75	10
G307 - 05002	5.0×R0.2	13	50	6	G307 - 12003	12.0×R0.3	30	75	12
G307 - 05003	5.0×R0.3	13	50	6	G307 - 12005	12.0×R0.5	30	75	12
G307 - 05005	5.0×R0.5	13	50	6	G307 - 12010	12.0×R1.0	30	75	12
G307 - 05010	5.0×R1.0	13	50	6	G307 - 12015	12.0×R1.5	30	75	12
G307 - 06002	6.0×R0.2	15	50	6	G307 - 12020	12.0×R2.0	30	75	12
G307 - 06003	6.0×R0.3	15	50	6	G307 - 12030	12.0×R3.0	30	75	12
G307 - 06005	6.0×R0.5	15	50	6					
G307 - 06010	6.0×R1.0	15	50	6					

被削材 Material	側面切削 Side milling							
	合金鋼 Steel						不鏽鋼 Stainless Steel	
	(<30HRC)		(HRC30~45)		(HRC45~55)		回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)		
4	8000	960	5600	540	3600	250	5600	520
6	5900	1100	3700	640	2400	290	3700	600
8	4400	1100	2800	660	1800	310	2800	600
10	3500	1000	2300	640	1400	300	2300	560
12	3000	1000	2000	640	1200	300	1900	530
	溝切削 Slotting							
4	7200	720	4000	360	2400	120	4000	180
6	5000	800	2700	400	1600	145	2700	200
8	3700	800	2000	400	1200	155	2000	200
10	3000	720	1600	360	960	145	1600	180
12	2500	720	1300	360	800	145	1300	180



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

XType

Tool Material : Ultra Micro Grain Solid Carbide

刀 具 材 料 : 極超微粒鎢鋼

Coating Type : AlTiN

Using higher levels of tungsten materials match with high heat-resistance, high abrasion-resistance of AlTiN coating to enhance the scope of this series of tools and extend its life.

使用等級更高的鎢鋼材料，搭配高耐熱性、高抗磨損性的AlTiN塗層，提升這個系列刀具的適用範圍，及延長刀具使用壽命。

Suitable for 適用於：

- Carbon Steels 碳鋼
- Alloy Steels 合金鋼
- Stainless Steels 不鏽鋼
- Cast Iron 鑄鐵
- Nickel Alloys and Titanium 鎳基合金 / 鈦合金
- Hardened Materials 48°~56°HRC 淬火鋼 48°~56°HRC

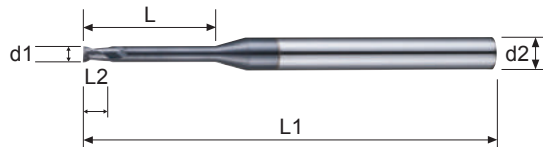


High Performance End Mills (Long Neck)



鎢鋼立銑刀 深溝細頸-2刃

Solid Carbide Long neck End Mills-2T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G162X

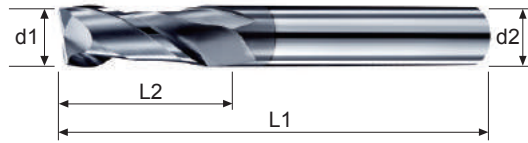
Product Number : G162X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	有效長L Effective Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	有效長L Effective Length	柄徑 d2 Shank Dia
G162 - 0301	0.3	0.5	50	1	4	G162 - 1510	1.5	2.3	50	10	4
G162 - 0302	0.3	0.5	50	2	4	G162 - 1512	1.5	2.3	50	12	4
G162 - 0401	0.4	0.5	50	1	4	G162 - 1514	1.5	2.3	50	14	4
G162 - 0402	0.4	0.5	50	2	4	G162 - 1516	1.5	2.3	50	16	4
G162 - 0403	0.4	0.5	50	3	4	G162 - 1518	1.5	2.3	60	18	4
G162 - 0404	0.4	0.5	50	4	4	G162 - 1520	1.5	2.3	60	20	4
G162 - 0405	0.4	0.5	50	5	4	G162 - 1606	1.6	2.4	50	6	4
G162 - 0502	0.5	0.7	50	2	4	G162 - 1608	1.6	2.4	50	8	4
G162 - 0503	0.5	0.7	50	3	4	G162 - 1610	1.6	2.4	50	10	4
G162 - 0504	0.5	0.7	50	4	4	G162 - 1612	1.6	2.4	50	12	4
G162 - 0506	0.5	0.7	50	6	4	G162 - 1614	1.6	2.4	50	14	4
G162 - 0602	0.6	0.9	50	2	4	G162 - 1616	1.6	2.4	50	16	4
G162 - 0604	0.6	0.9	50	4	4	G162 - 1618	1.6	2.4	60	18	4
G162 - 0606	0.6	0.9	50	6	4	G162 - 1620	1.6	2.4	60	20	4
G162 - 0702	0.7	1.0	50	2	4	G162 - 1806	1.8	2.7	50	6	4
G162 - 0704	0.7	1.0	50	4	4	G162 - 1808	1.8	2.7	50	8	4
G162 - 0706	0.7	1.0	50	6	4	G162 - 1810	1.8	2.7	50	10	4
G162 - 0802	0.8	1.2	50	2	4	G162 - 1812	1.8	2.7	50	12	4
G162 - 0804	0.8	1.2	50	4	4	G162 - 1814	1.8	2.7	50	14	4
G162 - 0806	0.8	1.2	50	6	4	G162 - 1816	1.8	2.7	50	16	4
G162 - 0808	0.8	1.2	50	8	4	G162 - 1818	1.8	2.7	60	18	4
G162 - 0904	0.9	1.4	50	4	4	G162 - 1820	1.8	2.7	60	20	4
G162 - 0906	0.9	1.4	50	6	4	G162 - 2006	2.0	3.0	50	6	4
G162 - 0908	0.9	1.4	50	8	4	G162 - 2008	2.0	3.0	50	8	4
G162 - 0910	0.9	1.4	50	10	4	G162 - 2010	2.0	3.0	50	10	4
G162 - 1004	1.0	1.5	50	4	4	G162 - 2012	2.0	3.0	50	12	4
G162 - 1006	1.0	1.5	50	6	4	G162 - 2014	2.0	3.0	50	14	4
G162 - 1008	1.0	1.5	50	8	4	G162 - 2016	2.0	3.0	50	16	4
G162 - 1010	1.0	1.5	50	10	4	G162 - 2018	2.0	3.0	60	18	4
G162 - 1012	1.0	1.5	50	12	4	G162 - 2020	2.0	3.0	60	20	4
G162 - 1014	1.0	1.5	50	14	4	G162 - 2508	2.5	3.7	50	8	4
G162 - 1016	1.0	1.5	50	16	4	G162 - 2510	2.5	3.7	50	10	4
G162 - 1206	1.2	1.8	50	6	4	G162 - 2512	2.5	3.7	50	12	4
G162 - 1208	1.2	1.8	50	8	4	G162 - 2514	2.5	3.7	50	14	4
G162 - 1210	1.2	1.8	50	10	4	G162 - 2516	2.5	3.7	50	16	4
G162 - 1212	1.2	1.8	50	12	4	G162 - 2518	2.5	3.7	60	18	4
G162 - 1406	1.4	2.1	50	6	4	G162 - 2520	2.5	3.7	60	20	4
G162 - 1408	1.4	2.1	50	8	4	G162 - 3008	3.0	4.5	50	8	4
G162 - 1410	1.4	2.1	50	10	4	G162 - 3010	3.0	4.5	50	10	4
G162 - 1412	1.4	2.1	50	12	4	G162 - 3012	3.0	4.5	50	12	4
G162 - 1414	1.4	2.1	50	14	4	G162 - 3014	3.0	4.5	50	14	4
G162 - 1416	1.4	2.1	50	16	4	G162 - 3016	3.0	4.5	50	16	4
G162 - 1506	1.5	2.3	50	6	4	G162 - 3018	3.0	4.5	60	18	4
G162 - 1508	1.5	2.3	50	8	4	G162 - 3020	3.0	4.5	60	20	4



鎢鋼立銑刀-2刃

Solid Carbide Square End Mills-2T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G105X

Product Number : G105X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G105 - 011	1.1	3	50	4	G105 - 066	6.6	18	60	8
G105 - 012	1.2	3	50	4	G105 - 067	6.7	18	60	8
G105 - 013	1.3	3	50	4	G105 - 068	6.8	18	60	8
G105 - 014	1.4	4	50	4	G105 - 069	6.9	18	60	8
G105 - 016	1.6	4	50	4	G105 - 071	7.1	20	60	8
G105 - 017	1.7	5	50	4	G105 - 072	7.2	20	60	8
G105 - 018	1.8	5	50	4	G105 - 073	7.3	20	60	8
G105 - 019	1.9	5	50	4	G105 - 074	7.4	20	60	8
G105 - 021	2.1	6	50	4	G105 - 076	7.6	20	60	8
G105 - 022	2.2	6	50	4	G105 - 077	7.7	20	60	8
G105 - 023	2.3	7	50	4	G105 - 078	7.8	20	60	8
G105 - 024	2.4	7	50	4	G105 - 079	7.9	20	60	8
G105 - 026	2.6	7	50	4	G105 - 081	8.1	22	75	10
G105 - 027	2.7	7	50	4	G105 - 082	8.2	22	75	10
G105 - 028	2.8	7	50	4	G105 - 083	8.3	22	75	10
G105 - 029	2.9	8	50	4	G105 - 084	8.4	22	75	10
G105 - 031	3.1	8	50	6	G105 - 086	8.6	22	75	10
G105 - 032	3.2	8	50	6	G105 - 087	8.7	22	75	10
G105 - 033	3.3	8	50	6	G105 - 088	8.8	22	75	10
G105 - 034	3.4	8	50	6	G105 - 089	8.9	22	75	10
G105 - 036	3.6	10	50	6	G105 - 091	9.1	22	75	10
G105 - 037	3.7	10	50	6	G105 - 092	9.2	22	75	10
G105 - 038	3.8	10	50	6	G105 - 093	9.3	22	75	10
G105 - 039	3.9	10	50	6	G105 - 094	9.4	22	75	10
G105 - 041	4.1	11	50	6	G105 - 096	9.6	25	75	10
G105 - 042	4.2	11	50	6	G105 - 097	9.7	25	75	10
G105 - 043	4.3	11	50	6	G105 - 098	9.8	25	75	10
G105 - 044	4.4	11	50	6	G105 - 099	9.9	25	75	10
G105 - 046	4.6	12	50	6	G105 - 101	10.1	26	75	12
G105 - 047	4.7	12	50	6	G105 - 102	10.2	26	75	12
G105 - 048	4.8	12	50	6	G105 - 103	10.3	26	75	12
G105 - 049	4.9	12	50	6	G105 - 104	10.4	26	75	12
G105 - 051	5.1	13	50	6	G105 - 106	10.6	26	75	12
G105 - 052	5.2	13	50	6	G105 - 107	10.7	26	75	12
G105 - 053	5.3	13	50	6	G105 - 108	10.8	26	75	12
G105 - 054	5.4	13	50	6	G105 - 109	10.9	26	75	12
G105 - 056	5.6	16	50	6	G105 - 111	11.1	28	75	12
G105 - 057	5.7	16	50	6	G105 - 112	11.2	28	75	12
G105 - 058	5.8	16	50	6	G105 - 113	11.3	28	75	12
G105 - 059	5.9	16	50	6	G105 - 114	11.4	28	75	12
G105 - 061	6.1	18	60	8	G105 - 116	11.6	30	75	12
G105 - 062	6.2	18	60	8	G105 - 117	11.7	30	75	12
G105 - 063	6.3	18	60	8	G105 - 118	11.8	30	75	12
G105 - 064	6.4	18	60	8	G105 - 119	11.9	30	75	12

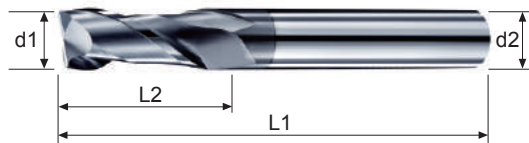


High Performance End Mills



鎢鋼立銑刀-2刃

Solid Carbide Square End Mills-2T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G102X

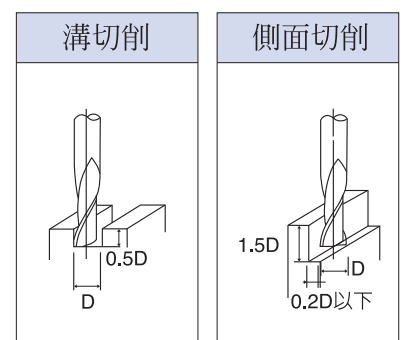
Product Number : G102X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G102 - 010A	1.0	3	50	4	G102 - 065	6.5	18	60	8
G102 - 015A	1.5	4	50	4	G102 - 070	7.0	18	60	8
G102 - 020A	2.0	6	50	4	G102 - 075	7.5	20	60	8
G102 - 025A	2.5	7	50	4	G102 - 080	8.0	20	60	8
G102 - 030A	3.0	8	50	4	G102 - 085	8.5	22	75	10
G102 - 035A	3.5	10	50	4	G102 - 090	9.0	22	75	10
G102 - 040A	4.0	11	50	4	G102 - 095	9.5	25	75	10
G102 - 010	1.0	3	50	6	G102 - 100	10.0	25	75	10
G102 - 015	1.5	4	50	6	G102 - 105	10.5	28	75	12
G102 - 020	2.0	6	50	6	G102 - 110	11.0	28	75	12
G102 - 025	2.5	7	50	6	G102 - 115	11.5	30	75	12
G102 - 030	3.0	8	50	6	G102 - 120	12.0	30	75	12
G102 - 035	3.5	10	50	6	G102 - 130	13.0	40	100	16
G102 - 040	4.0	11	50	6	G102 - 140	14.0	40	100	16
G102 - 045	4.5	12	50	6	G102 - 150	15.0	40	100	16
G102 - 050	5.0	14	50	6	G102 - 160	16.0	40	100	16
G102 - 055	5.5	16	50	6	G102 - 200	20.0	40	100	20
G102 - 060	6.0	16	50	6					

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)	鑄鐵 Cast Iron		
	<30HRC		<40HRC		<48HRC					
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
1	22400	160	20800	90	9600	35	12600	100	22000	200
2	11200	170	10400	90	4800	35	8000	110	12800	215
4	5600	195	5200	115	2400	40	4000	130	6400	250
6	3750	220	3450	130	1600	40	2650	140	4250	285
8	2800	235	2600	145	1200	50	2000	165	3200	310
10	2240	260	2080	155	960	60	1600	170	2560	335
12	1860	280	1750	155	800	70	1350	175	2100	350
16	1400	280	1300	155	600	70	1000	195	1600	370
20	1120	260	1040	155	480	70	800	185	1280	365

※以上數據僅供參考

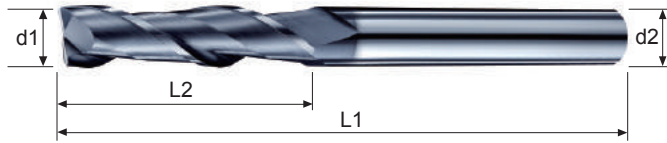


進刀深度超越上述時，請將進給降低 20%~30%。



鎢鋼立銑刀 長刃長柄-2刃

Solid Carbide Square End Mills-2T (Long Flute & Long Shank)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G122X

Product Number : G122X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G122 - 010	1.0	5	75	4
G122 - 015	1.5	8	75	4
G122 - 020	2.0	10	75	4
G122 - 030	3.0	15	75	4
G122 - 040	4.0	20	75	4
G122 - 040L	4.0	20	100	4
G122 - 050	5.0	25	75	6
G122 - 060	6.0	30	75	6
G122 - 080	8.0	25	75	8
G122 - 080L	8.0	40	100	8
G122 - 100	10.0	40	100	10
G122 - 120	12.0	50	100	12
G122 - 140	14.0	60	125	14
G122 - 160	16.0	65	125	16
G122 - 200	20.0	65	125	20

鎢鋼立銑刀 長柄-2刃

※ “L” Long Flute and Long Shank / 長刃長柄

Solid Carbide Square End Mills -2T (Long Shank)

產品型號 : G126X

Product Number : G126X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G126 - 020	2.0	6	75	4
G126 - 030	3.0	9	75	4
G126 - 040	4.0	12	75	4
G126 - 050	5.0	15	100	6
G126 - 060	6.0	20	100	6
G126 - 080	8.0	25	100	8
G126 - 100	10.0	30	100	10
G126 - 120	12.0	35	100	12
G126 - 160	16.0	40	150	16
G126 - 200	20.0	50	150	20

鎢鋼立銑刀 長刃-2刃

Solid Carbide Square End Mills -2T (Long Flute)

產品型號 : G182X

Product Number : G182X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G182 - 030	3.0	15	75	6
G182 - 040	4.0	20	75	6
G182 - 050	5.0	25	100	6
G182 - 060	6.0	30	100	6
G182 - 060L	6.0	30	150	6
G182 - 080	8.0	40	150	8
G182 - 100	10.0	40	150	10
G182 - 120	12.0	50	150	12
G182 - 160	16.0	70	150	16
G182 - 200	20.0	80	150	20

※ “L” Long Shank / 長柄

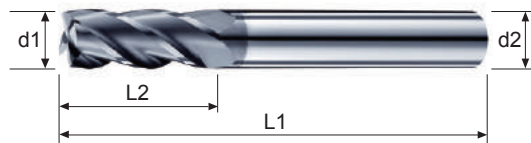


High Performance End Mills



鎢鋼立銑刀-4刃

Solid Carbide Square End Mills-4T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

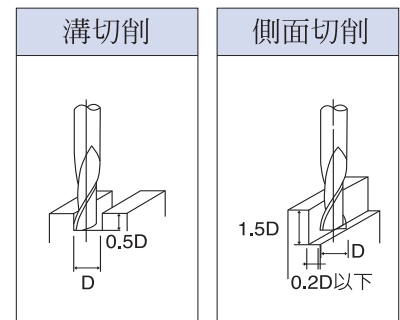
產品型號 : G104X

Product Number : G104X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G104 - 010A	1.0	3	50	4
G104 - 015A	1.5	4	50	4
G104 - 020A	2.0	6	50	4
G104 - 025A	2.5	7	50	4
G104 - 030A	3.0	8	50	4
G104 - 035A	3.5	10	50	4
G104 - 040A	4.0	11	50	4
G104 - 020	2.0	6	50	6
G104 - 025	2.5	7	50	6
G104 - 030	3.0	8	50	6
G104 - 035	3.5	10	50	6
G104 - 040	4.0	11	50	6
G104 - 045	4.5	12	50	6
G104 - 050	5.0	14	50	6
G104 - 055	5.5	16	50	6
G104 - 060	6.0	16	50	6
G104 - 065	6.5	18	60	8
G104 - 070	7.0	18	60	8
G104 - 075	7.5	20	60	8
G104 - 080	8.0	20	60	8
G104 - 085	8.5	22	75	10
G104 - 090	9.0	22	75	10
G104 - 095	9.5	25	75	10
G104 - 100	10.0	25	75	10
G104 - 105	10.5	28	75	12
G104 - 110	11.0	28	75	12
G104 - 115	11.5	30	75	12
G104 - 120	12.0	30	75	12
G104 - 130	13.0	40	100	16
G104 - 140	14.0	40	100	16
G104 - 150	15.0	40	100	16
G104 - 160	16.0	40	100	16
G104 - 200	20.0	40	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)	鑄鐵 Cast Iron		
	<30HRC		<40HRC		<48HRC			回轉數	進給	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數	進給
1	22400	240	20800	140	9600	50	12600	160	22000	300
2	11200	250	10400	145	4800	50	8000	185	12800	305
4	5600	295	5200	170	2400	65	4000	200	6400	350
6	3700	320	3450	190	1600	70	2650	235	4250	385
8	2800	360	2600	220	1200	75	2000	260	3200	448
10	2240	390	2080	225	960	90	1600	280	2560	455
12	1860	410	1750	230	800	90	1350	280	2100	455
16	1400	435	1300	235	600	90	1000	300	1600	505
20	1120	430	1040	230	480	90	800	280	1280	505



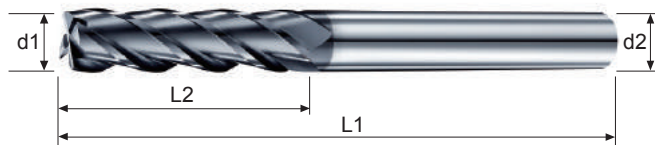
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 長刃長柄-4刃

Solid Carbide Square End Mills-4T (Long Flute & Long Shank)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G124X

Product Number : G124X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G124 - 010	1.0	5	75	4
G124 - 015	1.5	8	75	4
G124 - 020	2.0	10	75	4
G124 - 030	3.0	15	75	4
G124 - 040	4.0	20	75	4
G124 - 040L	4.0	20	100	4
G124 - 050	5.0	25	75	6
G124 - 060	6.0	30	75	6
G124 - 080	8.0	40	100	8
G124 - 100	10.0	40	100	10
G124 - 120	12.0	50	100	12
G124 - 140	14.0	60	125	14
G124 - 160	16.0	65	125	16
G124 - 200	20.0	65	125	20

鎢鋼立銑刀 長柄-4刃

Solid Carbide Square End Mills-4T (Long Shank)

產品型號 : G128X

Product Number : G128X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G128 - 040	4.0	12	75	4
G128 - 050	5.0	15	100	6
G128 - 060	6.0	20	100	6
G128 - 080	8.0	25	100	8
G128 - 100	10.0	30	100	10
G128 - 120	12.0	35	100	12
G128 - 160	16.0	40	150	16
G128 - 200	20.0	50	150	20

※ “L” Long Shank / 長柄

鎢鋼立銑刀 長刃-4刃

Solid Carbide Square End Mills-4T (Long Flute)

產品型號 : G184X

Product Number : G184X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G184 - 030	3.0	15	75	6
G184 - 040	4.0	20	75	6
G184 - 050	5.0	25	100	6
G184 - 060	6.0	30	100	6
G184 - 060L	6.0	30	150	6
G184 - 080	8.0	40	150	8
G184 - 100	10.0	40	150	10
G184 - 120	12.0	50	150	12
G184 - 140	14.0	50	150	16
G184 - 160	16.0	70	150	16
G184 - 200	20.0	80	150	20

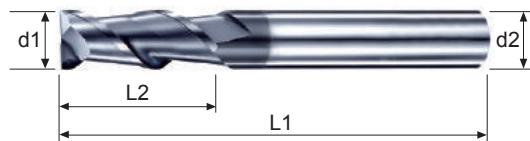


High Performance End Mills



鎢鋼立銑刀 高螺旋-2刃

Solid Carbide Square End Mills-2T (High Helix)



材料分類 / Work Materials

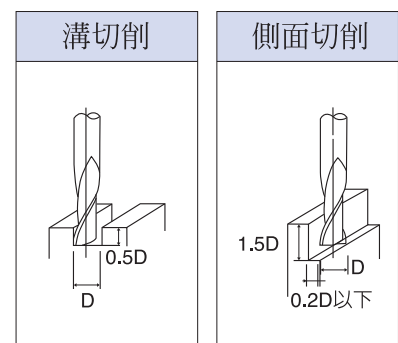
P	M	K	S	H1
●	●	●	●	●

產品型號 : G142X

Product Number : G142X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G142 - 010	1.0	3	50	4
G142 - 015	1.5	4	50	4
G142 - 020	2.0	6	50	4
G142 - 025	2.5	7	50	4
G142 - 030	3.0	8	50	4
G142 - 035	3.5	10	50	4
G142 - 040	4.0	11	50	4
G142 - 045	4.5	12	50	6
G142 - 050	5.0	13	50	6
G142 - 060	6.0	16	50	6
G142 - 080	8.0	20	60	8
G142 - 100	10.0	25	75	10
G142 - 120	12.0	30	75	12
G142 - 140	14.0	40	100	16
G142 - 160	16.0	40	100	16
G142 - 200	20.0	42	100	20

被削材 Material	溝切削 Slotting									
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(HRC30)		(HRC30~45)		(HRC45~55)		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)					
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
2	10500	270	8800	190	2400	40	9600	190	14300	420
4	5200	270	4400	190	1200	40	4800	190	7200	420
6	3700	270	2900	210	1100	50	3200	165	5300	390
8	2800	270	2200	210	800	50	2400	165	4000	390
10	2400	260	1800	190	800	50	1900	160	3400	375
12	2000	260	1500	190	700	50	1600	160	2800	375
16	1600	260	1100	190	500	50	1200	160	2100	360
20	1500	370	880	180	470	50	1000	140	1700	335
	側面切削 Side milling									
2	18000	1150	11900	335	4000	130	14000	450	19000	780
4	9200	1000	6000	325	2000	115	7200	350	9600	650
6	6400	800	4300	340	1600	130	5300	360	6900	620
8	4800	800	3200	340	1200	130	4000	360	5200	620
10	3800	650	2600	340	1000	120	3500	335	4300	570
12	3200	650	2100	340	800	120	2900	335	3600	570
16	2400	580	1600	335	700	105	2200	310	2700	570
20	1900	500	1300	310	600	90	1800	290	2100	520



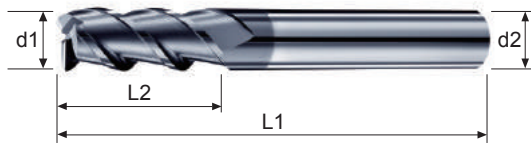
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 高螺旋-3刃

Solid Carbide Square End Mills-3T (High Helix)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

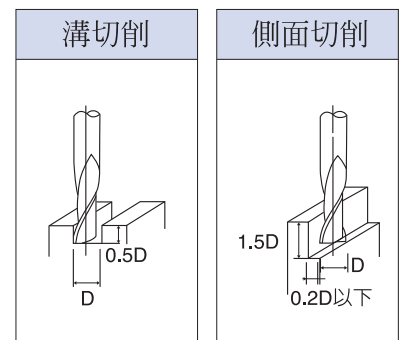
產品型號 : G143X

Product Number : G143X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G143 - 020A	2.0	6	50	4
G143 - 030A	3.0	8	50	4
G143 - 040A	4.0	11	50	4
G143 - 020	2.0	6	50	6
G143 - 030	3.0	8	50	6
G143 - 040	4.0	11	50	6
G143 - 050	5.0	13	50	6
G143 - 060	6.0	16	50	6
G143 - 080	8.0	20	60	8
G143 - 100	10.0	25	75	10
G143 - 120	12.0	30	75	12
G143 - 140	14.0	40	100	16
G143 - 160	16.0	40	100	16
G143 - 200	20.0	42	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	溝切削 Slotting									
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(HRC30)		(HRC30~45)		(HRC45~55)					
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
2	10500	420	8800	300	2400	60	9600	300	14300	650
4	5200	420	4400	300	1200	60	4800	300	7200	650
6	3700	420	2900	330	1100	80	3200	260	5300	600
8	2800	420	2200	330	800	80	2400	260	4000	600
10	2400	400	1800	300	800	80	1900	250	3400	580
12	2000	400	1500	300	700	80	1600	250	2800	580
16	1600	400	1100	300	500	80	1200	250	2100	560
20	1500	600	880	280	470	80	1000	220	1700	520
側面切削 Side milling										
2	18300	1800	11900	520	4000	210	14300	700	19000	1200
4	9200	1600	6000	500	2000	180	7200	540	9600	1000
6	6400	1300	4300	530	1600	210	5300	560	6900	960
8	4800	1300	3200	530	1200	210	4000	560	5200	960
10	3800	1000	2600	530	1000	190	3500	520	4300	880
12	3200	1000	2100	530	800	190	2900	520	3600	880
16	2400	900	1600	520	700	170	2200	480	2700	880
20	1900	800	1300	480	600	140	1800	450	2100	800



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

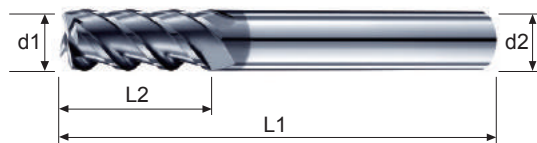


High Performance End Mills



鎢鋼立銑刀 高螺旋-4刃

Solid Carbide Square End Mills-4T (High Helix)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

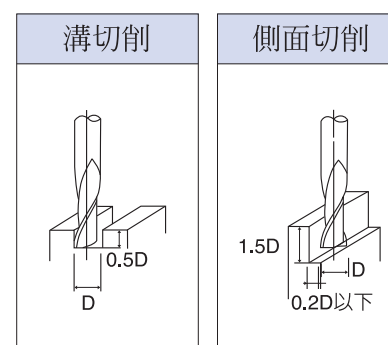
產品型號 : G144X

Product Number : G144X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G144 - 010	1.0	3	50	4
G144 - 015	1.5	4	50	4
G144 - 020	2.0	6	50	4
G144 - 025	2.5	7	50	4
G144 - 030A	3.0	8	50	4
G144 - 035	3.5	10	50	4
G144 - 040A	4.0	11	50	4
G144 - 030	3.0	8	50	6
G144 - 040	4.0	11	50	6
G144 - 050	5.0	13	50	6
G144 - 060	6.0	16	50	6
G144 - 080	8.0	20	60	8
G144 - 100	10.0	25	75	10
G144 - 120	12.0	30	75	12
G144 - 140	14.0	40	100	16
G144 - 160	16.0	40	100	16
G144 - 200	20.0	42	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	溝切削 Slotting									
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	(HRC30)		(HRC30~45)		(HRC45~55)		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)				
2	10500	420	8800	300	2400	60	9600	300	14300	650
4	5200	420	4400	300	1200	60	4800	300	7200	650
6	3700	420	2900	330	1100	80	3200	260	5300	600
8	2800	420	2200	330	800	80	2400	260	4000	600
10	2400	400	1800	300	800	80	1900	250	3400	580
12	2000	400	1500	300	700	80	1600	250	2800	580
16	1600	400	1100	300	500	80	1200	250	2100	560
20	1500	600	880	280	470	80	1000	220	1700	520
側面切削 Side milling										
2	18300	1800	11900	520	4000	210	14300	700	19000	1200
4	9200	1600	6000	500	2000	180	7200	540	9600	1000
6	6400	1300	4300	530	1600	210	5300	560	6900	960
8	4800	1300	3200	530	1200	210	4000	560	5200	960
10	3800	1000	2600	530	1000	190	3500	520	4300	880
12	3200	1000	2100	530	800	190	2900	520	3600	880
16	2400	900	1600	520	700	170	2200	480	2700	880
20	1900	800	1300	480	600	140	1800	450	2100	800



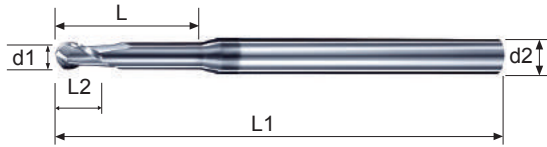
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼球頭銑刀 深溝細頸-2刃

Solid Carbide Ball Nose End Mills-2T (Long Neck)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G262X

Product Number : G262X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	有效長L Effective Length	柄徑 d2 Shank Dia	訂購代號 Order No.	Dia 刃徑 d1	刃長 L2 Flute Length	全長 L1 Overall Length	有效長L Effective Length	柄徑 d2 Shank Dia
G262 - 0301	0.3×0.15R	0.4	50	1	4	G262 - 1504	1.5×0.75R	2.3	50	4	4
G262 - 0302	0.3×0.15R	0.4	50	2	4	G262 - 1506	1.5×0.75R	2.3	50	6	4
G262 - 0401	0.4×0.20R	0.6	50	1	4	G262 - 1508	1.5×0.75R	2.3	50	8	4
G262 - 0402	0.4×0.20R	0.6	50	2	4	G262 - 1510	1.5×0.75R	2.3	50	10	4
G262 - 0403	0.4×0.20R	0.6	50	3	4	G262 - 1512	1.5×0.75R	2.3	50	12	4
G262 - 0404	0.4×0.20R	0.6	50	4	4	G262 - 1514	1.5×0.75R	2.3	50	14	4
G262 - 0405	0.4×0.20R	0.6	50	5	4	G262 - 1516	1.5×0.75R	2.3	50	16	4
G262 - 0502	0.5×0.25R	0.7	50	2	4	G262 - 1520	1.5×0.75R	2.3	60	20	4
G262 - 0504	0.5×0.25R	0.7	50	4	4	G262 - 1608	1.6×0.80R	2.4	50	8	4
G262 - 0506	0.5×0.25R	0.7	50	6	4	G262 - 1610	1.6×0.80R	2.4	50	10	4
G262 - 0508	0.5×0.25R	0.7	50	8	4	G262 - 1612	1.6×0.80R	2.4	50	12	4
G262 - 0602	0.6×0.30R	0.9	50	2	4	G262 - 1616	1.6×0.80R	2.4	50	16	4
G262 - 0604	0.6×0.30R	0.9	50	4	4	G262 - 1620	1.6×0.80R	2.4	60	20	4
G262 - 0606	0.6×0.30R	0.9	50	6	4	G262 - 1808	1.8×0.90R	2.7	50	8	4
G262 - 0608	0.6×0.30R	0.9	50	8	4	G262 - 1812	1.8×0.90R	2.7	50	12	4
G262 - 0804	0.8×0.40R	1.2	50	4	4	G262 - 1816	1.8×0.90R	2.7	50	16	4
G262 - 0806	0.8×0.40R	1.2	50	6	4	G262 - 1820	1.8×0.90R	2.7	60	20	4
G262 - 0808	0.8×0.40R	1.2	50	8	4	G262 - 2006	2.0×1.00R	3.0	50	6	4
G262 - 1004	1.0×0.50R	1.5	50	4	4	G262 - 2008	2.0×1.00R	3.0	50	8	4
G262 - 1006	1.0×0.50R	1.5	50	6	4	G262 - 2010	2.0×1.00R	3.0	50	10	4
G262 - 1008	1.0×0.50R	1.5	50	8	4	G262 - 2012	2.0×1.00R	3.0	50	12	4
G262 - 1010	1.0×0.50R	1.5	50	10	4	G262 - 2014	2.0×1.00R	3.0	50	14	4
G262 - 1012	1.0×0.50R	1.5	50	12	4	G262 - 2016	2.0×1.00R	3.0	50	16	4
G262 - 1016	1.0×0.50R	1.5	50	16	4	G262 - 2020	2.0×1.00R	3.0	60	20	4
G262 - 1206	1.2×0.60R	1.8	50	6	4	G262 - 2508	2.5×1.25R	4.5	50	8	4
G262 - 1208	1.2×0.60R	1.8	50	8	4	G262 - 2510	2.5×1.25R	4.5	50	10	4
G262 - 1210	1.2×0.60R	1.8	50	10	4	G262 - 2512	2.5×1.25R	4.5	50	12	4
G262 - 1212	1.2×0.60R	1.8	50	12	4	G262 - 2516	2.5×1.25R	4.5	50	16	4
G262 - 1406	1.4×0.70R	2.1	50	6	4	G262 - 3008	3.0×1.50R	4.5	50	8	4
G262 - 1408	1.4×0.70R	2.1	50	8	4	G262 - 3010	3.0×1.50R	4.5	50	10	4
G262 - 1410	1.4×0.70R	2.1	50	10	4	G262 - 3012	3.0×1.50R	4.5	50	12	4
G262 - 1412	1.4×0.70R	2.1	50	12	4	G262 - 3016	3.0×1.50R	4.5	50	16	4
G262 - 1416	1.4×0.70R	2.1	50	16	4	G262 - 3020	3.0×1.50R	4.5	60	20	4

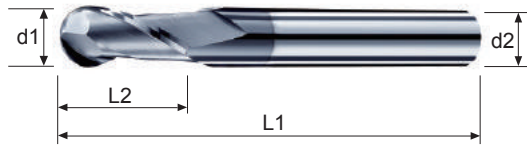


High Performance Ball Nose End Mills



鎢鋼球頭銑刀-2刃

Solid Carbide Ball Nose End Mills-2T



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G202X

Product Number : G202X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G202 - 010A	1.0×0.50R	2	50	4
G202 - 015A	1.5×0.75R	3	50	4
G202 - 020A	2.0×1.00R	4	50	4
G202 - 025A	2.5×1.25R	5	50	4
G202 - 030A	3.0×1.50R	6	50	4
G202 - 035A	3.5×1.75R	7	50	4
G202 - 040A	4.0×2.00R	8	50	4
G202 - 010	1.0×0.50R	2	50	6
G202 - 015	1.5×0.75R	3	50	6
G202 - 020	2.0×1.00R	4	50	6
G202 - 025	2.5×1.25R	5	50	6
G202 - 030	3.0×1.50R	6	50	6
G202 - 035	3.5×1.75R	7	50	6
G202 - 040	4.0×2.00R	8	50	6
G202 - 045	4.5×2.25R	9	50	6
G202 - 050	5.0×2.50R	10	50	6
G202 - 055	5.5×2.75R	11	50	6
G202 - 060	6.0×3.00R	12	50	6
G202 - 065	6.5×3.25R	13	60	8
G202 - 070	7.0×3.50R	14	60	8
G202 - 080	8.0×4.00R	16	60	8
G202 - 090	9.0×4.50R	18	75	10
G202 - 100	10.0×5.00R	20	75	10
G202 - 110	11.0×5.50R	22	75	12
G202 - 120	12.0×6.00R	24	75	12
G202 - 140	14.0×7.00R	28	100	16
G202 - 160	16.0×8.00R	32	100	16
G202 - 200	20.0×10.0R	40	100	20

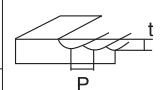
●Standard radius contour tolerance±0.02mm.

●Higher accuracy radius contour tolerance ≤±0.01mm is available on request.

※“A” 4mm Shank / 4mm 柄徑

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel		鑄鐵 Cast Iron	
	(<30HRC)		(<40HRC)		(<48HRC)		(SUS304,316)		(FCD60)	
圓角半徑 R	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
1 R	10800	230	9600	130	6400	70	8600	130	14000	200
1.5R	7200	270	6400	150	4300	85	5700	150	9600	260
2 R	5400	280	4800	160	3200	90	4300	150	7200	280
3 R	3600	320	3200	180	2100	100	2900	170	4800	320
4 R	2700	360	2400	200	1600	110	2200	200	3600	350
5 R	2200	380	1900	220	1300	110	1700	200	2900	380
6 R	1800	400	1600	230	1100	115	1450	210	2400	380
8 R	1400	430	1200	240	800	130	1100	220	1800	400
10 R	1100	420	1000	230	640	125	900	220	1400	400

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D

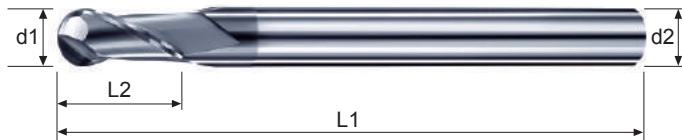


進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼球頭銑刀 長柄-2刃 Solid Carbide Ball Nose End Mills-2T (Long Shank)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G212X
Product Number : G212X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G212 - 010A	1.0×0.50R	2	75	4
G212 - 015A	1.5×0.75R	3	75	4
G212 - 020A	2.0×1.00R	4	75	4
G212 - 030A	3.0×1.50R	6	75	4
G212 - 040A	4.0×2.00R	8	75	4
G212 - 010	1.0×0.50R	2	75	6
G212 - 015	1.5×0.75R	3	75	6
G212 - 020	2.0×1.00R	4	75	6
G212 - 030	3.0×1.50R	6	75	6
G212 - 040	4.0×2.00R	8	75	6
G212 - 050	5.0×2.50R	10	75	6
G212 - 060	6.0×3.00R	12	75	6
G212 - 080	8.0×4.00R	16	75	8
G212 - 080L	8.0×4.00R	16	100	8
G212 - 100	10.0×5.00R	20	100	10
G212 - 120	12.0×6.00R	24	100	12
G212 - 140	14.0×7.00R	28	150	16
G212 - 160	16.0×8.00R	32	150	16
G212 - 200	20.0×10.0R	40	150	20

- Standard radius contour tolerance ±0.02mm.
- Higher accuracy radius contour tolerance ≤±0.01mm is available on request.

- ※ “A” 4mm Shank / 4mm 柄徑
- ※ “L” Long Shank / 長柄

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel		鑄鐵 Cast Iron	
	<30HRC		<40HRC		<48HRC		(SUS304,316)		(FCD60)	
圓角半徑 R	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
1 R	10800	230	9600	130	6400	70	8600	130	14000	200
1.5R	7200	270	6400	150	4300	85	5700	150	9600	260
2 R	5400	280	4800	160	3200	90	4300	150	7200	280
3 R	3600	320	3200	180	2100	100	2900	170	4800	320
4 R	2700	360	2400	200	1600	110	2200	200	3600	350
5 R	2200	380	1900	220	1300	110	1700	200	2900	380
6 R	1800	400	1600	230	1100	115	1450	210	2400	380
8 R	1400	430	1200	240	800	130	1100	220	1800	400
10 R	1100	420	1000	230	640	125	900	220	1400	400

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D

進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

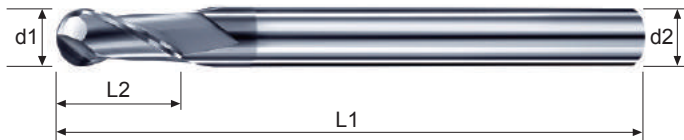


High Performance Ball Nose End Mills



鎢鋼球頭銑刀 特長柄-2刃

Solid Carbide Ball Nose End Mills-2T (Super Long Shank)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號 : G282X

Product Number : G282X

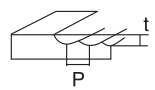
訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G282 - 020	2.0×1.00R	4	100	6
G282 - 030	3.0×1.50R	6	100	6
G282 - 040A	4.0×2.00R	8	100	4
G282 - 040	4.0×2.00R	8	100	6
G282 - 050	5.0×2.50R	10	100	6
G282 - 060	6.0×3.00R	12	100	6
G282 - 080	8.0×4.00R	16	150	8
G282 - 100	10.0×5.00R	20	150	10
G282 - 120	12.0×6.00R	24	150	12
G282 - 160	16.0×8.00R	32	180	16
G282 - 200	20.0×10.0R	40	220	20

- Standard radius contour tolerance±0.02mm.
- Higher accuracy radius contour tolerance ≤±0.01mm is available on request.

- ※ “A” 4mm Shank / 4mm 柄徑
- ※ “L” Long Shank / 長柄

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron (FCD60)	
	<30HRC		<40HRC		<48HRC		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
圓角半徑 R	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)				
1 R	10800	230	9600	130	6400	70	8600	130	14000	200
1.5R	7200	270	6400	150	4300	85	5700	150	9600	260
2 R	5400	280	4800	160	3200	90	4300	150	7200	280
3 R	3600	320	3200	180	2100	100	2900	170	4800	320
4 R	2700	360	2400	200	1600	110	2200	200	3600	350
5 R	2200	380	1900	220	1300	110	1700	200	2900	380
6 R	1800	400	1600	230	1100	115	1450	210	2400	380
8 R	1400	430	1200	240	800	130	1100	220	1800	400
10 R	1100	420	1000	230	640	125	900	220	1400	400

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼球頭銑刀-4刃

Solid Carbide Ball Nose End Mills-4T (Long Flute)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

產品型號：G204X

Product Number：G204X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G204 - 010	1.0×0.50R	2	50	4
G204 - 015	1.5×0.75R	3	50	4
G204 - 020	2.0×1.00R	4	50	4
G204 - 030A	3.0×1.50R	6	50	4
G204 - 040A	4.0×2.00R	8	50	4
G204 - 030	3.0×1.50R	6	50	6
G204 - 040	4.0×2.00R	8	50	6
G204 - 050	5.0×2.50R	10	50	6
G204 - 060	6.0×3.00R	12	50	6
G204 - 080	8.0×4.00R	16	60	8
G204 - 100	10.0×5.00R	20	75	10
G204 - 120	12.0×6.00R	24	75	12
G204 - 140	14.0×7.00R	28	100	16
G204 - 160	16.0×8.00R	32	100	16
G204 - 200	20.0×10.0R	40	100	20

鎢鋼球頭銑刀 長柄-4刃

Solid Carbide Ball Nose End Mills-4T (Long Flute)

產品型號：G214X

Product Number：G214X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G214 - 040A	4.0×2.0R	8	75	4
G214 - 040	4.0×2.0R	8	75	6
G214 - 050	5.0×2.5R	10	75	6
G214 - 060	6.0×3.0R	12	75	6
G214 - 080	8.0×4.0R	16	75	8
G214 - 080L	8.0×4.0R	16	100	8
G214 - 100	10.0×5.0R	20	100	10
G214 - 120	12.0×6.0R	24	100	12
G214 - 160	16.0×8.0R	32	150	16
G214 - 200	20.0×10R	40	150	20

●Standard radius contour tolerance±0.02mm.

●Higher accuracy radius contour tolerance ≤±0.01mm is available on request.

※“A” 4mm Shank / 4mm 柄徑

※“L” Long Shank / 長柄

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)	
	<30HRC		<40HRC		<48HRC		回轉數 (rpm)	進給 (mm/min)
圓角半徑 R	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)		
2R	5400	375	4800	215	3200	120	4300	200
3R	3600	430	3200	240	2100	135	2900	225
4R	2700	485	2400	270	1600	135	2200	270
5R	2200	510	1900	270	1300	135	1700	270
6R	1800	540	1600	270	1100	135	1450	270
8R	1400	560	1200	270	800	160	1100	270
10R	1100	550	1000	260	640	150	900	270

	粗切削	細加工	
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm	
鑿距 (P)	< 0.7D	< 0.1D	

進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

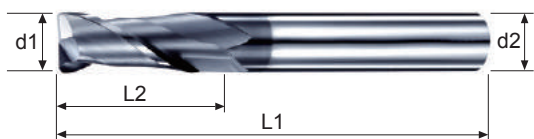


High Performance End Mills with Corner Radius



鎢鋼R角銑刀-2刃

Solid Carbide Corner Radius End Mills-2T



材料分類 / Work Materials

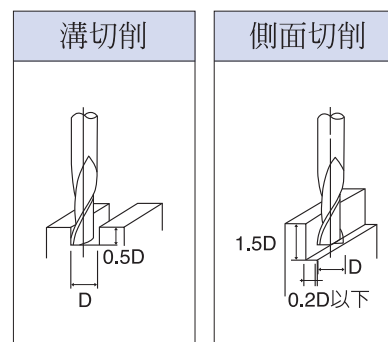
P	M	K	S	H1
●	●	●	●	●

產品型號 : G306X

Product Number : G306X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G306 - 01002	1.0×R0.2	3	50	4	G306 - 06003	6.0×R0.3	15	50	6
G306 - 01003	1.0×R0.3	3	50	4	G306 - 06005	6.0×R0.5	15	50	6
G306 - 01502	1.5×R0.2	4	50	4	G306 - 06010	6.0×R1.0	15	50	6
G306 - 01503	1.5×R0.3	4	50	4	G306 - 06015	6.0×R1.5	15	50	6
G306 - 01505	1.5×R0.5	4	50	4	G306 - 06020	6.0×R2.0	15	50	6
G306 - 02002	2.0×R0.2	6	50	4	G306 - 08003	8.0×R0.3	20	60	8
G306 - 02003	2.0×R0.3	6	50	4	G306 - 08005	8.0×R0.5	20	60	8
G306 - 02005	2.0×R0.5	6	50	4	G306 - 08010	8.0×R1.0	20	60	8
G306 - 02502	2.5×R0.2	7	50	4	G306 - 08015	8.0×R1.5	20	60	8
G306 - 02503	2.5×R0.3	7	50	4	G306 - 08020	8.0×R2.0	20	60	8
G306 - 02505	2.5×R0.5	7	50	4	G306 - 08030	8.0×R3.0	20	60	8
G306 - 03002	3.0×R0.2	8	50	4	G306 - 10003	10.0×R0.3	25	75	10
G306 - 03003	3.0×R0.3	8	50	4	G306 - 10005	10.0×R0.5	25	75	10
G306 - 03005	3.0×R0.5	8	50	4	G306 - 10010	10.0×R1.0	25	75	10
G306 - 03010	3.0×R1.0	8	50	4	G306 - 10015	10.0×R1.5	25	75	10
G306 - 04002	4.0×R0.2	10	50	4	G306 - 10020	10.0×R2.0	25	75	10
G306 - 04003	4.0×R0.3	10	50	4	G306 - 10030	10.0×R3.0	25	75	10
G306 - 04005	4.0×R0.5	10	50	4	G306 - 12003	12.0×R0.3	30	75	12
G306 - 04010	4.0×R1.0	10	50	4	G306 - 12005	12.0×R0.5	30	75	12
G306 - 05002	5.0×R0.2	13	50	6	G306 - 12010	12.0×R1.0	30	75	12
G306 - 05003	5.0×R0.3	13	50	6	G306 - 12015	12.0×R1.5	30	75	12
G306 - 05005	5.0×R0.5	13	50	6	G306 - 12020	12.0×R2.0	30	75	12
G306 - 05010	5.0×R1.0	13	50	6	G306 - 12030	12.0×R3.0	30	75	12
G306 - 06002	6.0×R0.2	15	50	6					

被削材 Material	溝切削 Slotting								
	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		
	(HRC30<20)		(HRC40<30)		(<56HRC)		回轉數 (rpm)	進給 (mm/min)	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)			
4	4000	150	3200	90	2400	55	3200	115	
6	2700	170	2100	100	1600	61	2100	130	
8	2000	190	1600	110	1200	65	1600	145	
10	1600	195	1300	120	960	70	1300	150	
12	1400	220	1050	125	800	75	1050	160	
側面切削 Side milling	刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
	4	7200	720	4000	360	2400	120	4000	180
	6	5000	800	2700	400	1600	145	2700	200
	8	3700	800	2000	400	1200	155	2000	200
	10	3000	720	1600	360	960	145	1600	180
	12	2500	720	1300	360	800	145	1300	180



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

High Performance End Mills with Corner Radius



鎢鋼R角銑刀 長柄-2刃

Solid Carbide Corner Radius End Mills-2T (Long Shank)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

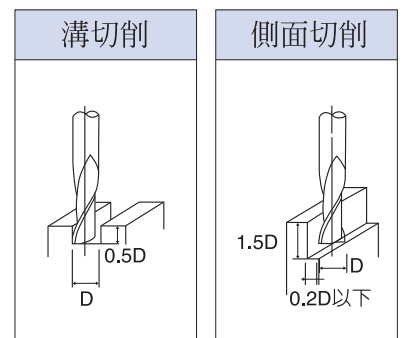
產品型號 : G302X

Product Number : G302X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G302 - 06003	6.0×R0.3	15	75	6
G302 - 06005	6.0×R0.5	15	75	6
G302 - 06005L	6.0×R0.5	15	100	6
G302 - 06010	6.0×R1.0	15	75	6
G302 - 06015	6.0×R1.5	15	75	6
G302 - 08003	8.0×R0.3	20	75	8
G302 - 08005	8.0×R0.5	20	75	8
G302 - 08010	8.0×R1.0	20	75	8
G302 - 08015	8.0×R1.5	20	75	8
G302 - 08020	8.0×R2.0	20	75	8
G302 - 10005	10.0×R0.5	25	100	10
G302 - 10010	10.0×R1.0	25	100	10
G302 - 10015	10.0×R1.5	25	100	10
G302 - 10020	10.0×R2.0	25	100	10
G302 - 10030	10.0×R3.0	25	100	10
G302 - 12005	12.0×R0.5	30	100	12
G302 - 12010	12.0×R1.0	30	100	12
G302 - 12015	12.0×R1.5	30	100	12
G302 - 12020	12.0×R2.0	30	100	12
G302 - 12030	12.0×R3.0	30	100	12

※ “L” Long Shank / 長柄

被削材 Material	溝切削 Slotting							
	合金鋼 Steel						不鏽鋼 Stainless Steel	
	(HRC30<20)		(HRC40<30)		(<56HRC)		(SUS304,316)	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
6	2700	170	2100	100	1600	61	2100	130
8	2000	190	1600	110	1200	65	1600	145
10	1600	195	1300	120	960	70	1300	150
12	1400	220	1050	125	800	75	1050	160
側面切削 Side milling								
6	5000	800	2700	400	1600	145	2700	200
8	3700	800	2000	400	1200	155	2000	200
10	3000	720	1600	360	960	145	1600	180
12	2500	720	1300	360	800	145	1300	180



進刀深度超越上述時，請將進給降低 20%~30%。

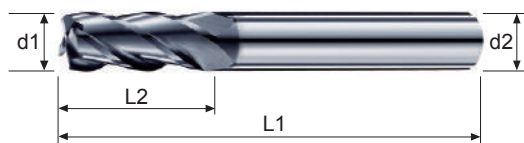


High Performance End Mills with Corner Radius



鎢鋼R角銑刀-4刃

Solid Carbide Corner Radius End Mills-4T



材料分類 / Work Materials

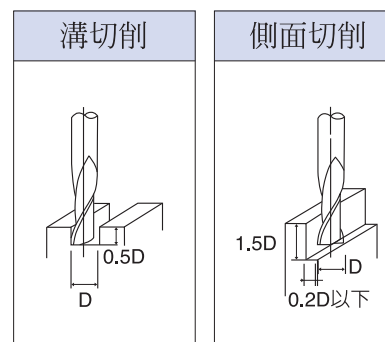
P	M	K	S	H1
●	●	●	●	●

產品型號 : G308X

Product Number : G308X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G308 - 01002	1.0×R0.2	3	50	4	G308 - 06005	6.0×R0.5	15	50	6
G308 - 01502	1.5×R0.2	4	50	4	G308 - 06010	6.0×R1.0	15	50	6
G308 - 01503	1.5×R0.3	4	50	4	G308 - 06015	6.0×R1.5	15	50	6
G308 - 01505	1.5×R0.5	4	50	4	G308 - 06020	6.0×R2.0	15	50	6
G308 - 02002	2.0×R0.2	6	50	4	G308 - 08003	8.0×R0.3	20	60	8
G308 - 02003	2.0×R0.3	6	50	4	G308 - 08005	8.0×R0.5	20	60	8
G308 - 02005	2.0×R0.5	6	50	4	G308 - 08010	8.0×R1.0	20	60	8
G308 - 02502	2.5×R0.2	7	50	4	G308 - 08015	8.0×R1.5	20	60	8
G308 - 02503	2.5×R0.3	7	50	4	G308 - 08020	8.0×R2.0	20	60	8
G308 - 02505	2.5×R0.5	7	50	4	G308 - 08030	8.0×R3.0	20	60	8
G308 - 03002	3.0×R0.2	8	50	4	G308 - 10003	10.0×R0.3	25	75	10
G308 - 03003	3.0×R0.3	8	50	4	G308 - 10005	10.0×R0.5	25	75	10
G308 - 03005	3.0×R0.5	8	50	4	G308 - 10010	10.0×R1.0	25	75	10
G308 - 03010	3.0×R1.0	8	50	4	G308 - 10015	10.0×R1.5	25	75	10
G308 - 04002	4.0×R0.2	10	50	4	G308 - 10020	10.0×R2.0	25	75	10
G308 - 04003	4.0×R0.3	10	50	4	G308 - 10030	10.0×R3.0	25	75	10
G308 - 04005	4.0×R0.5	10	50	4	G308 - 12003	12.0×R0.3	30	75	12
G308 - 04010	4.0×R1.0	10	50	4	G308 - 12005	12.0×R0.5	30	75	12
G308 - 05002	5.0×R0.2	13	50	6	G308 - 12010	12.0×R1.0	30	75	12
G308 - 05003	5.0×R0.3	13	50	6	G308 - 12015	12.0×R1.5	30	75	12
G308 - 05005	5.0×R0.5	13	50	6	G308 - 12020	12.0×R2.0	30	75	12
G308 - 05010	5.0×R1.0	13	50	6	G308 - 12030	12.0×R3.0	30	75	12
G308 - 06002	6.0×R0.2	15	50	6					
G308 - 06003	6.0×R0.3	15	50	6					

被削材 Material	側面切削 Side milling							
	合金鋼 Steel						不鏽鋼 Stainless Steel	
	<30HRC		(HRC30~45)		(HRC45~55)			
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
4	8000	960	5600	540	3600	250	5600	520
6	5900	1100	3700	640	2400	290	3700	600
8	4400	1100	2800	660	1800	310	2800	600
10	3500	1000	2300	640	1400	300	2300	560
12	3000	1000	2000	640	1200	300	1900	530
	溝切削 Slotting							
4	7200	720	4000	360	2400	120	4000	180
6	5000	800	2700	400	1600	145	2700	200
8	3700	800	2000	400	1200	155	2000	200
10	3000	720	1600	360	960	145	1600	180
12	2500	720	1300	360	800	145	1300	180



進刀深度超越上述時，請將進給降低 20%~30%。

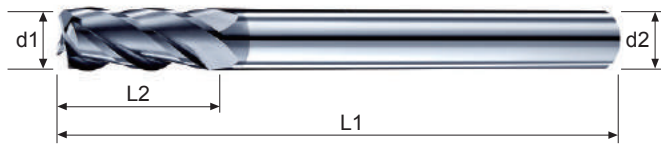
※以上數據僅供參考

High Performance End Mills with Corner Radius



鎢鋼R角銑刀 長柄-4刃

Solid Carbide Corner Radius End Mills-4T (Long Shank)



材料分類 / Work Materials

P	M	K	S	H1
●	●	●	●	●

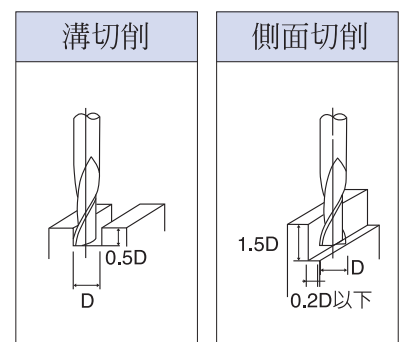
產品型號 : G304X

Product Number : G304X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G304 - 06003	6.0×R0.3	15	75	6
G304 - 06005	6.0×R0.5	15	75	6
G304 - 06005L	6.0×R0.5	15	100	6
G304 - 06010	6.0×R1.0	15	75	6
G304 - 06010L	6.0×R1.0	15	100	6
G304 - 06015	6.0×R1.5	15	75	6
G304 - 06020	6.0×R2.0	15	75	6
G304 - 08003	8.0×R0.3	20	75	8
G304 - 08005	8.0×R0.5	20	75	8
G304 - 08005L	8.0×R0.5	20	100	8
G304 - 08010	8.0×R1.0	20	75	8
G304 - 08010L	8.0×R1.0	20	100	8
G304 - 08015	8.0×R1.5	20	75	8
G304 - 08020	8.0×R2.0	20	75	8
G304 - 10005	10.0×R0.5	25	100	10
G304 - 10010	10.0×R1.0	25	100	10
G304 - 10015	10.0×R1.5	25	100	10
G304 - 10020	10.0×R2.0	25	100	10
G304 - 10030	10.0×R3.0	25	100	10
G304 - 12005	12.0×R0.5	30	100	12
G304 - 12010	12.0×R1.0	30	100	12
G304 - 12015	12.0×R1.5	30	100	12
G304 - 12020	12.0×R2.0	30	100	12
G304 - 12030	12.0×R3.0	30	100	12

※ “L” Long Shank / 長柄

被削材 Material	側面切削 Side milling							
	合金鋼 Steel						不鏽鋼 Stainless Steel	
	(<30HRC)		(HRC30~45)		(HRC45~55)			
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
6	5900	1100	3700	640	2400	290	3700	600
8	4400	1100	2800	660	1800	310	2800	600
10	3500	1000	2300	640	1400	300	2300	560
12	3000	1000	2000	640	1200	300	1900	530
溝切削 Slotting								
6	5000	800	2700	400	1600	145	2700	200
8	3700	800	2000	400	1200	155	2000	200
10	3000	720	1600	360	960	145	1600	180
12	2500	720	1300	360	800	145	1300	180



進刀深度超越上述時，請將進給降低 20%~30%。

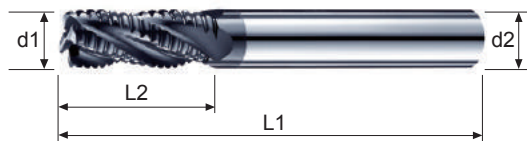


High Performance Roughing End Mills



鎢鋼立銑刀 粗加工-4刃

Solid Carbide Roughing End Mills-4T



材料分類 / Work Materials

P	M	K	H1
●	●	●	●

產品型號: G601X

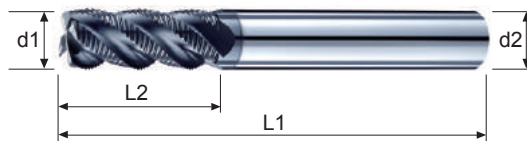
Product Number: G601X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	刃數 Flute	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	刃數 Flute
G601 - 0603	6.0	16	50	6	3	G601 - 120	12.0	30	75	12	4
G601 - 0803	8.0	20	60	8	3	G601 - 140	14.0	40	100	14	4
G601 - 1003	10.0	25	75	10	3	G601 - 160	16.0	40	100	16	4
G601 - 0604	6.0	16	50	6	4	G601 - 200	20.0	45	100	20	4
G601 - 0804	8.0	20	60	8	4						
G601 - 1004	10.0	25	75	10	4						



鎢鋼立銑刀 粗加工-4刃

Solid Carbide Roughing End Mills-4T



材料分類 / Work Materials

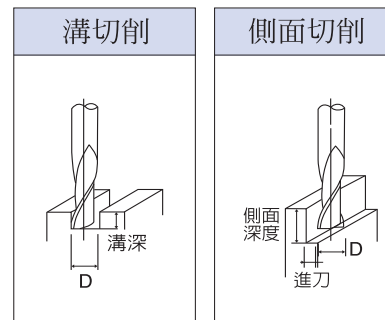
P	M	K	H1
●	●	●	●

產品型號: G604X

Product Number: G604X

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	刃數 Flute
G604 - 060	6.0	16	50	6	4
G604 - 080	8.0	20	60	8	4
G604 - 100	10.0	25	75	10	4
G604 - 120	12.0	30	75	12	4
G604 - 140	14.0	40	100	14	4
G604 - 160	16.0	40	100	16	4
G604 - 200	20.0	45	100	20	4

被削材 Material	普通鋼·合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)	
	<30HRC		<40HRC		<48HRC		回轉數R (rpm)	進給F (mm/min)
刃徑 D	回轉數R (rpm)	進給F (mm/min)	回轉數R (rpm)	進給F (mm/min)	回轉數R (rpm)	進給F (mm/min)		
6	4200	260	3500	210	1900	55	2400	140
8	3200	260	2600	210	1400	55	1800	140
10	2500	260	2100	210	1100	55	1400	140
12	2100	260	1700	210	900	55	1200	140
14	1800	260	1500	210	800	55	1000	140
16	1600	260	1300	210	700	55	900	140
20	1300	260	1000	210	600	55	700	140
側面深度	1.5 D		1.5D		1.0D		1.5D	
側面進刀	0.5 D		0.4D		0.3D		0.4D	
溝深	0.75D		0.5D		0.4D		0.5D	



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

DX Type

Tool Material : Ultra Micro Grain Solid Carbide

刀 具 材 料 : 極超微粒鎢鋼

Coating Type : AlTiN⁺

Using higher levels of tungsten carbide matches with high heat-resistance and high abrasion-resistance of AlTiN⁺ coating to enhance its tools life and reduce the number of tool changes under the working piece <68°HRC. The higher cutting speed could also reduce the processing time.

使用最高硬度的鎢鋼材料，搭配高耐熱性、高抗磨損性的AlTiN⁺塗層，使得該系列刀具在加工高硬度淬火材料（<68°HRC）時，除了延長刀具壽命、減少換刀次數外，並能以更高的切削速度，減少加工時所需時間。

Suitable for 適用於：

- Hardened Materials < 48°HRC 淬火鋼 < 48°HRC
- Hardened Materials 48°~56°HRC 淬火鋼 48°~56°HRC
- Hardened Materials < 68°HRC 淬火鋼 < 68°HRC

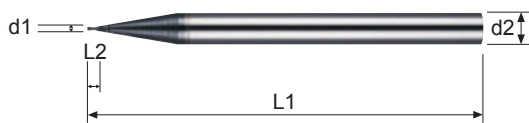


End Mills (Micro) for High Hardness



鎢鋼立銑刀 微小徑-2刃

Solid Carbide Micro Diameter End Mills-2T



材料分類 / Work Materials

P3、P4	H
●	●

產品型號：G100DX

Product Number：G100DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G100 - 3002	0.2	0.4	38	3
G100 - 3003	0.3	0.6	38	3
G100 - 3004	0.4	0.8	38	3
G100 - 3005	0.5	1.0	38	3
G100 - 3006	0.6	1.2	38	3
G100 - 3007	0.7	1.4	38	3
G100 - 3008	0.8	1.6	38	3
G100 - 3009	0.9	1.8	38	3
G100 - 4001	0.1	0.2	50	4
G100 - 4002	0.2	0.4	50	4
G100 - 4003	0.3	0.6	50	4
G100 - 4004	0.4	0.8	50	4
G100 - 4005	0.5	1.0	50	4
G100 - 4006	0.6	1.2	50	4
G100 - 4007	0.7	1.4	50	4
G100 - 4008	0.8	1.6	50	4
G100 - 4009	0.9	1.8	50	4

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron	
	<30HRC		<40HRC		<48HRC		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)				
0.3	36000	600	36000	425	36000	235	36000	180	36000	450
0.4	36000	750	36000	520	36000	300	36000	230	36000	560
0.5	36000	910	36000	600	36000	370	36000	300	36000	660
0.6	36000	1140	36000	750	36000	470	36000	370	36000	850
0.7	36000	1280	36000	850	36000	540	36000	415	36000	960
0.8	36000	1420	36000	950	36000	610	36000	465	36000	1085
0.9	36000	1650	36000	1100	36000	680	36000	540	36000	1250

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D

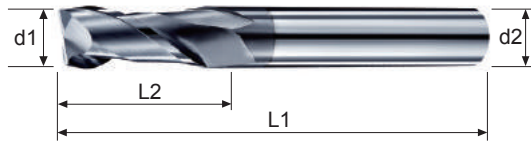
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀-2刃

Solid Carbide Square End Mills-2T



材料分類 / Work Materials

P3、P4	H
●	●

產品型號：G106DX

Product Number：G106DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G106 - 010	1.0	3	50	4
G106 - 015	1.5	4	50	4
G106 - 020	2.0	6	50	4
G106 - 025	2.5	7	50	4
G106 - 030A	3.0	8	50	4
G106 - 040A	4.0	11	50	4
G106 - 030	3.0	8	50	6
G106 - 040	4.0	11	50	6
G106 - 050	5.0	14	50	6
G106 - 060	6.0	16	50	6
G106 - 080	8.0	20	60	8
G106 - 100	10.0	25	75	10
G106 - 120	12.0	30	75	12
G106 - 140	14.0	40	100	16
G106 - 160	16.0	40	100	16
G106 - 200	20.0	40	100	20

※ “A” 4mm Shank / 4mm 柄徑



End Mills for High Hardness

UMG
carbide

0.2μm

N

4

35°



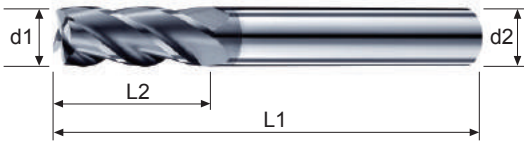
HRC
< 68°

AlTiN
DX



鎢鋼立銑刀-4刃

Solid Carbide Square End Mills-4T



材料分類 / Work Materials

P3、P4	H
●	●

產品型號 : G108DX

Product Number : G108DX

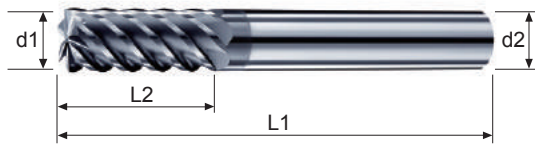
訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G108 - 020	2.0	6	50	4
G108 - 025	2.5	7	50	4
G108 - 030A	3.0	8	50	4
G108 - 040A	4.0	11	50	4
G108 - 030	3.0	8	50	6
G108 - 040	4.0	11	50	6
G108 - 050	5.0	14	50	6
G108 - 060	6.0	16	50	6
G108 - 080	8.0	20	60	8
G108 - 100	10.0	25	75	10
G108 - 120	12.0	30	75	12
G108 - 140	14.0	40	100	16
G108 - 160	16.0	40	100	16
G108 - 200	20.0	40	100	20

※ “A” 4mm Shank / 4mm 柄徑



鎢鋼立銑刀 高螺旋-6刃 & 8刃

Solid Carbide Square End Mills-6T & 8T (High Helix)



材料分類 / Work Materials

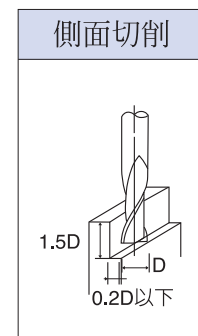
P3、P4	H
●	●

產品型號：G166DX

Product Number：G166DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	刃數 Flute
G166 - 060	6.0	16	50	6	6
G166 - 080	8.0	20	60	8	6
G166 - 100	10.0	25	75	10	6
G166 - 120	12.0	30	75	12	6
G166 - 140	14.0	38	100	14	6
G166 - 160	16.0	40	100	16	6
G166 - 200	20.0	42	100	20	8

被削材 Material	熱處理鋼 Pre-hardened Steel					
	48HRC		48~56HRC		56~68HRC	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
6	5300	900	4000	400	3200	100
8	4000	900	3000	420	2400	100
10	3200	800	2580	450	1900	100
12	2650	700	2000	360	1600	100
14	2000	600	1750	300	1400	100
16	2000	600	1500	270	1200	100
20	1600	450	1200	210	950	100



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

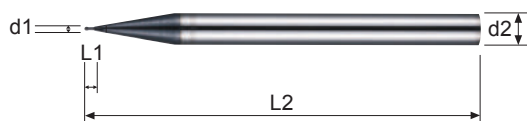


Ball Nose End Mills (Micro) for High Hardness



鎢鋼球頭銑刀 微小徑-2刃

Solid Carbide Ball Nose End Mills-2T (Micro Diameter)



材料分類 / Work Materials

P3、P4	H1
●	●

產品型號：G201DX

Product Number：G201DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G201 - 3002	0.2×0.10R	0.4	38	3
G201 - 3003	0.3×0.15R	0.6	38	3
G201 - 3004	0.4×0.20R	0.8	38	3
G201 - 3005	0.5×0.25R	1.0	38	3
G201 - 3006	0.6×0.30R	1.2	38	3
G201 - 3007	0.7×0.35R	1.4	38	3
G201 - 3008	0.8×0.40R	1.6	38	3
G201 - 3009	0.9×0.45R	1.8	38	3
G201 - 4002	0.2×0.10R	0.4	50	4
G201 - 4003	0.3×0.15R	0.6	50	4
G201 - 4004	0.4×0.20R	0.8	50	4
G201 - 4005	0.5×0.25R	1.0	50	4
G201 - 4006	0.6×0.30R	1.2	50	4
G201 - 4007	0.7×0.35R	1.4	50	4
G201 - 4008	0.8×0.40R	1.6	50	4
G201 - 4009	0.9×0.45R	1.8	50	4

被削材 Material	合金鋼 Steel						不鏽鋼 Stainless Steel (SUS304,316)		鑄鐵 Cast Iron	
	(<30HRC)		(<40HRC)		(<48HRC)		回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)				
0.3	36000	600	36000	425	36000	235	36000	180	36000	450
0.4	36000	750	36000	520	36000	300	36000	230	36000	560
0.5	36000	910	36000	600	36000	370	36000	300	36000	660
0.6	36000	1140	36000	750	36000	470	36000	370	36000	850
0.7	36000	1280	36000	850	36000	540	36000	415	36000	960
0.8	36000	1420	36000	950	36000	610	36000	465	36000	1085
0.9	36000	1650	36000	1100	36000	680	36000	540	36000	1250

	粗切削	細加工	
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm	
鑿距 (P)	< 0.7D	< 0.1D	

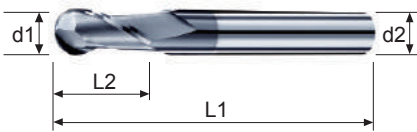
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼球頭銑刀-2刃

Solid Carbide Ball Nose End Mills-2T



材料分類 / Work Materials

P3、P4	H
●	●

產品型號：G206DX

Product Number：G206DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G206 - 010	1.0×0.50R	2	50	4
G206 - 015	1.5×0.75R	3	50	4
G206 - 020A	2.0×1.00R	4	50	4
G206 - 025	2.5×1.25R	5	50	4
G206 - 030A	3.0×1.50R	6	50	4
G206 - 040A	4.0×2.00R	8	50	4
G206 - 020	2.0×1.00R	4	50	6
G206 - 030	3.0×1.50R	6	50	6
G206 - 040	4.0×2.00R	8	50	6
G206 - 050	5.0×2.50R	10	50	6
G206 - 060	6.0×3.00R	12	50	6
G206 - 080	8.0×4.00R	16	60	8
G206 - 100	10.0×5.00R	20	75	10
G206 - 120	12.0×6.00R	24	75	12
G206 - 140	14.0×7.00R	28	100	16
G206 - 160	16.0×8.00R	32	100	16
G206 - 200	20.0×10.0R	40	100	20

※ “A” 4mm Shank / 4mm 柄徑

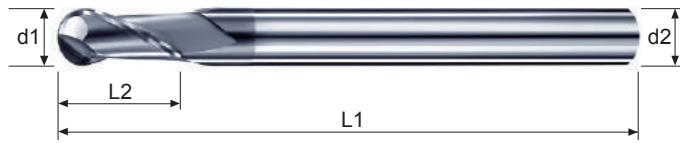


Ball Nose End Mills for High Hardness



鎢鋼球頭銑刀 長柄-2刃

Solid Carbide Ball Nose End Mills-2T (Long Shank)



材料分類 / Work Materials

P3、P4	H
●	●

產品型號：G208DX

Product Number：G208DX

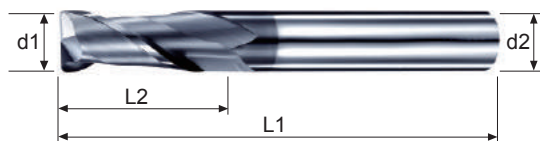
訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G208 - 010	1.0×0.50R	2	75	4
G208 - 015	1.5×0.75R	3	75	4
G208 - 020	2.0×1.00R	4	75	4
G208 - 030A	3.0×1.50R	6	75	4
G208 - 040A	4.0×2.00R	8	75	4
G208 - 030	3.0×1.50R	6	75	6
G208 - 040	4.0×2.00R	8	75	6
G208 - 050	5.0×2.50R	10	75	6
G208 - 060	6.0×3.00R	12	75	6
G208 - 080	8.0×4.00R	16	75	8
G208 - 080L	8.0×4.00R	16	100	8
G208 - 100	10.0×5.00R	20	100	10
G208 - 120	12.0×6.00R	24	100	12
G208 - 140	14.0×7.00R	28	150	16
G208 - 160	16.0×8.00R	32	150	16
G208 - 200	20.0×10.0R	40	150	20

※ “A” 4mm Shank / 4mm 柄徑 ※ “L” Long Shank / 長柄



鎢鋼R角銑刀-2刃

Solid Carbide Corner Radius End Mills-2T



材料分類 / Work Materials

P3、P4	H
●	●

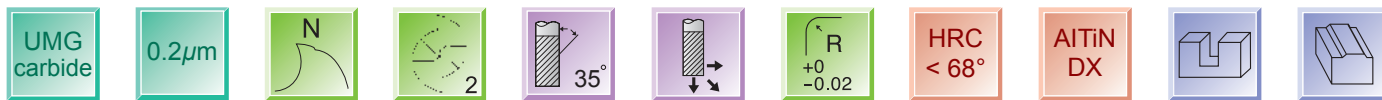
產品型號：G312DX

Product Number：G312DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G312 - 01002	1.0×R0.2	3	50	4
G312 - 01003	1.0×R0.3	3	50	4
G312 - 01502	1.5×R0.2	4	50	4
G312 - 01503	1.5×R0.3	4	50	4
G312 - 02002	2.0×R0.2	6	50	4
G312 - 02003	2.0×R0.3	6	50	4
G312 - 02005	2.0×R0.5	6	50	4
G312 - 02502	2.5×R0.2	7	50	4
G312 - 02503	2.5×R0.3	7	50	4
G312 - 02505	2.5×R0.5	7	50	4
G312 - 03002	3.0×R0.2	8	50	4
G312 - 03003	3.0×R0.3	8	50	4
G312 - 03005	3.0×R0.5	8	50	4
G312 - 03010	3.0×R1.0	8	50	4
G312 - 04002	4.0×R0.2	10	50	4
G312 - 04003	4.0×R0.3	10	50	4
G312 - 04005	4.0×R0.5	10	50	4
G312 - 04010	4.0×R1.0	10	50	4
G312 - 04015	4.0×R1.5	10	50	4
G312 - 05002	5.0×R0.2	13	50	6
G312 - 05003	5.0×R0.3	13	50	6
G312 - 05005	5.0×R0.5	13	50	6
G312 - 05010	5.0×R1.0	13	50	6
G312 - 06002	6.0×R0.2	15	50	6
G312 - 06003	6.0×R0.3	15	50	6
G312 - 06005	6.0×R0.5	15	50	6
G312 - 06010	6.0×R1.0	15	50	6
G312 - 06015	6.0×R1.5	15	50	6
G312 - 06020	6.0×R2.0	15	50	6
G312 - 08003	8.0×R0.3	20	60	8
G312 - 08005	8.0×R0.5	20	60	8
G312 - 08010	8.0×R1.0	20	60	8
G312 - 08015	8.0×R1.5	20	60	8
G312 - 08020	8.0×R2.0	20	60	8
G312 - 08030	8.0×R3.0	20	60	8
G312 - 10003	10.0×R0.3	25	75	10
G312 - 10005	10.0×R0.5	25	75	10
G312 - 10010	10.0×R1.0	25	75	10
G312 - 10015	10.0×R1.5	25	75	10
G312 - 10020	10.0×R2.0	25	75	10
G312 - 10030	10.0×R3.0	25	75	10
G312 - 12003	12.0×R0.3	30	75	12
G312 - 12005	12.0×R0.5	30	75	12
G312 - 12010	12.0×R1.0	30	75	12
G312 - 12015	12.0×R1.5	30	75	12
G312 - 12020	12.0×R2.0	30	75	12
G312 - 12030	12.0×R3.0	30	75	12



End Mills with Corner Radius for High Hardness



鎢鋼R角銑刀 長柄-2刃
Solid Carbide Corner Radius End Mills-2T (Long Shank)



材料分類 / Work Materials

P3、P4	H
●	●

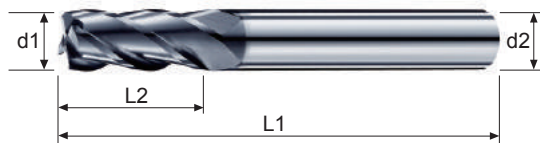
產品型號 : G316DX
Product Number : G316DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G316 - 06003	6.0×R0.3	15	75	6
G316 - 06005	6.0×R0.5	15	75	6
G316 - 06010	6.0×R1.0	15	75	6
G316 - 06015	6.0×R1.5	15	75	6
G316 - 08005	8.0×R0.5	20	75	8
G316 - 08010	8.0×R1.0	20	75	8
G316 - 08015	8.0×R1.5	20	75	8
G316 - 08020	8.0×R2.0	20	75	8
G316 - 10005	10.0×R0.5	25	100	10
G316 - 10010	10.0×R1.0	25	100	10
G316 - 10015	10.0×R1.5	25	100	10
G316 - 10020	10.0×R2.0	25	100	10
G316 - 12005	12.0×R0.5	30	100	12
G316 - 12010	12.0×R1.0	30	100	12
G316 - 12015	12.0×R1.5	30	100	12
G316 - 12020	12.0×R2.0	30	100	12
G316 - 12030	12.0×R3.0	30	100	12



鎢鋼R角銑刀-4刃

Solid Carbide Corner Radius End Mills-4T



材料分類 / Work Materials

P3、P4	H
●	●

產品型號：G314DX

Product Number：G314DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G314 - 01002	1.0×R0.2	3	50	4
G314 - 01502	1.5×R0.2	4	50	4
G314 - 01503	1.5×R0.3	4	50	4
G314 - 01505	1.5×R0.5	4	50	4
G314 - 02002	2.0×R0.2	6	50	4
G314 - 02003	2.0×R0.3	6	50	4
G314 - 02005	2.0×R0.5	6	50	4
G314 - 02502	2.5×R0.2	7	50	4
G314 - 02503	2.5×R0.3	7	50	4
G314 - 02505	2.5×R0.5	7	50	4
G314 - 03002	3.0×R0.2	8	50	4
G314 - 03003	3.0×R0.3	8	50	4
G314 - 03005	3.0×R0.5	8	50	4
G314 - 03010	3.0×R1.0	8	50	4
G314 - 04002	4.0×R0.2	10	50	4
G314 - 04003	4.0×R0.3	10	50	4
G314 - 04005	4.0×R0.5	10	50	4
G314 - 04010	4.0×R1.0	10	50	4
G314 - 05002	5.0×R0.2	13	50	6
G314 - 05003	5.0×R0.3	13	50	6
G314 - 05005	5.0×R0.5	13	50	6
G314 - 05010	5.0×R1.0	13	50	6
G314 - 06002	6.0×R0.2	15	50	6
G314 - 06003	6.0×R0.3	15	50	6
G314 - 06005	6.0×R0.5	15	50	6
G314 - 06010	6.0×R1.0	15	50	6
G314 - 06015	6.0×R1.5	15	50	6
G314 - 06020	6.0×R2.0	15	50	6
G314 - 08003	8.0×R0.3	20	60	8
G314 - 08005	8.0×R0.5	20	60	8
G314 - 08010	8.0×R1.0	20	60	8
G314 - 08015	8.0×R1.5	20	60	8
G314 - 08020	8.0×R2.0	20	60	8
G314 - 08030	8.0×R3.0	20	60	8
G314 - 10003	10.0×R0.3	25	75	10
G314 - 10005	10.0×R0.5	25	75	10
G314 - 10010	10.0×R1.0	25	75	10
G314 - 10015	10.0×R1.5	25	75	10
G314 - 10020	10.0×R2.0	25	75	10
G314 - 10030	10.0×R3.0	25	75	10
G314 - 12003	12.0×R0.3	30	75	12
G314 - 12005	12.0×R0.5	30	75	12
G314 - 12010	12.0×R1.0	30	75	12
G314 - 12015	12.0×R1.5	30	75	12
G314 - 12020	12.0×R2.0	30	75	12
G314 - 12030	12.0×R3.0	30	75	12

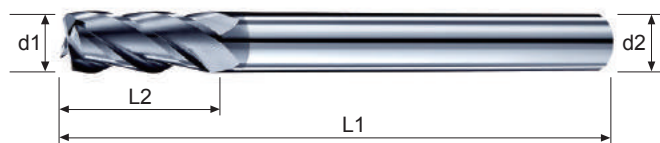


End Mills with Corner Radius for High Hardness



鎢鋼R角立銑刀 長柄-4刃

Solid Carbide Corner Radius End Mills -4T (Long Shank)



材料分類 / Work Materials

P3、P4	H
●	●

產品型號：G318DX

Product Number：G318DX

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G318 - 06003	6.0×R0.3	15	75	6
G318 - 06005	6.0×R0.5	15	75	6
G318 - 06010	6.0×R1.0	15	75	6
G318 - 06015	6.0×R1.5	15	75	6
G318 - 08005	8.0×R0.5	20	75	8
G318 - 08010	8.0×R1.0	20	75	8
G318 - 08015	8.0×R1.5	20	75	8
G318 - 08020	8.0×R2.0	20	75	8
G318 - 10005	10.0×R0.5	25	100	10
G318 - 10010	10.0×R1.0	25	100	10
G318 - 10015	10.0×R1.5	25	100	10
G318 - 10020	10.0×R2.0	25	100	10
G318 - 12005	12.0×R0.5	30	100	12
G318 - 12010	12.0×R1.0	30	100	12
G318 - 12015	12.0×R1.5	30	100	12
G318 - 12020	12.0×R2.0	30	100	12
G318 - 12030	12.0×R3.0	30	100	12

AL Type

Tool Material : Micro Grain Solid Carbide

刀 具 材 料 : 超微粒鎢鋼

Coating Type : Uncoated (Blank)

無塗層

More sharp edge blade and more smooth discharge cutting groove make working pieces could be even more meticulous by using this series of cutting tools during working on the non-ferrous metals.

更鋒利的刀刃刃口，以及更滑順的排削槽，讓此系列的刀具在切削非鐵金屬（銅、鋁）時，可以使加工物的表面更細緻化。

Suitable for 適用於：

- Aluminum and Aluminum Alloys 鋁、鋁合金
- Copper and Copper Alloys 銅、銅合金

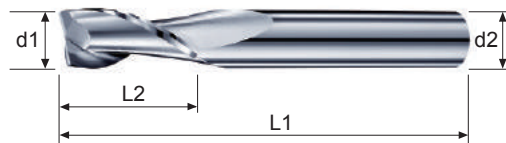


End Mills for Aluminum



鎢鋼立銑刀 鋁用-2刃

Solid Carbide Aluminum Cutting End Mills-2T



材料分類 / Work Materials



產品型號 : G132

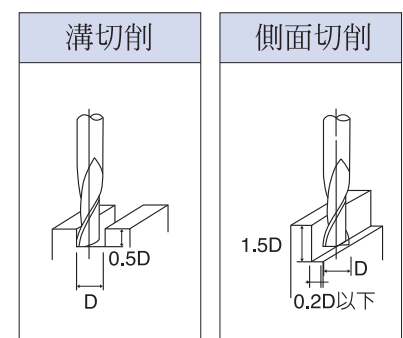
Product Number : G132

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G132 - 010B	1.0	3	38	3
G132 - 015B	1.5	5	38	3
G132 - 020B	2.0	6	38	3
G132 - 025B	2.5	7	38	3
G132 - 030B	3.0	9	38	3
G132 - 010A	1.0	3	50	4
G132 - 015A	1.5	5	50	4
G132 - 020A	2.0	6	50	4
G132 - 025A	2.5	7	50	4
G132 - 030A	3.0	9	50	4
G132 - 040	4.0	12	50	4
G132 - 050	5.0	14	50	5
G132 - 060	6.0	20	63	6
G132 - 080	8.0	20	63	8
G132 - 100	10.0	22	75	10
G132 - 120	12.0	26	75	12

※ “A” 4mm Shank / 4mm 柄徑

※ “B” 3mm Shank / 3mm 柄徑

被削材 Material	溝切削 Slotting				側面切削 Side milling			
	鋁合金 (2024,7075)		銅合金 (C2600B,BC)		鋁合金 (2024,7075)		銅合金 (C2600B,BC)	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
4	6600	120	4000	70	8000	350	4800	210
5	5300	130	3200	85	6400	400	3800	250
6	4400	130	2650	85	5300	400	3200	260
8	3300	150	2000	90	4000	450	2400	260
10	2600	150	1600	100	3200	450	1900	300
12	2200	150	1300	100	2650	450	1600	300



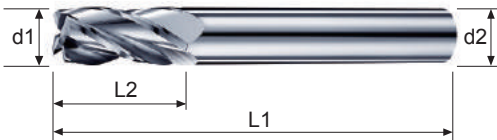
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 鋁用-4刃

Solid Carbide Aluminum Cutting End Mills-4T



材料分類 / Work Materials



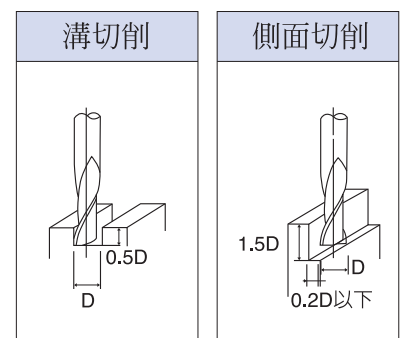
產品型號 : G134

Product Number : G134

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G134 - 040	4.0	12	50	4
G134 - 050	5.0	14	50	5
G134 - 050D	5.0	14	50	6
G134 - 060	6.0	20	63	6
G134 - 080	8.0	20	63	8
G134 - 100	10.0	22	75	10
G134 - 120	12.0	26	75	12

“D” 6mm Shank / 6mm柄徑

被削材 Material	溝切削 Slotting				側面切削 Side milling			
	鋁合金 (2024,7075)		銅合金 (C2600B,BC)		鋁合金 (2024,7075)		銅合金 (C2600B,BC)	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
4	6600	120	4000	70	8000	350	4800	210
5	5300	130	3200	85	6400	400	3800	250
6	4400	130	2650	85	5300	400	3200	260
8	3300	150	2000	90	4000	450	2400	260
10	2600	150	1600	100	3200	450	1900	300
12	2200	150	1300	100	2650	450	1600	300



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



End Mills for Aluminum

MG
carbide

0.6 μ m

H

3

45°

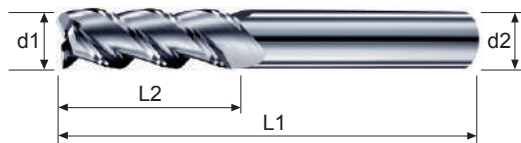


Uncoated
Blank



鎢鋼立銑刀 鋁用-3刃

Solid Carbide Aluminum Cutting End Mills-3T



材料分類 / Work Materials

N

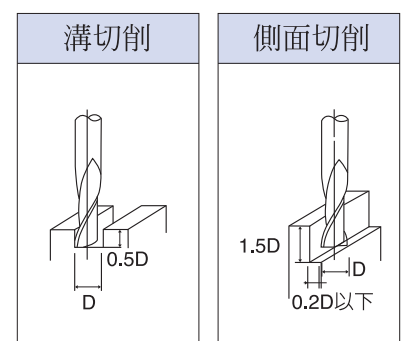
產品型號 : G135

Product Number : G135

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G135 - 010	1.0	3	50	4
G135 - 015	1.5	5	50	4
G135 - 020	2.0	6	50	4
G135 - 025	2.5	7	50	4
G135 - 030A	3.0	9	50	4
G135 - 035	3.5	11	50	4
G135 - 040A	4.0	12	50	4
G135 - 030	3.0	9	50	6
G135 - 040	4.0	12	50	6
G135 - 050	5.0	15	50	6
G135 - 060	6.0	18	50	6
G135 - 080	8.0	20	60	8
G135 - 100	10.0	30	75	10
G135 - 120	12.0	30	75	12
G135 - 140	14.0	32	90	14
G135 - 160	16.0	40	100	16
G135 - 200	20.0	45	100	20

※ “A” 4mm Shank / 4mm 柄徑

被削材 Material	溝切削 Slotting				側面切削 Side milling			
	鋁合金 (2024,7075)		銅合金 (C2600B,BC)		鋁合金 (2024,7075)		銅合金 (C2600B,BC)	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
4	6600	120	4000	70	8000	350	4800	210
5	5300	130	3200	85	6400	400	3800	250
6	4400	130	2700	85	5300	400	3200	260
8	3300	150	2000	90	4000	450	2400	260
10	2600	150	1600	100	3200	450	1900	300
12	2200	150	1300	100	2650	450	1600	300
14	1900	150	1150	100	2300	450	1400	300
16	1650	150	1000	100	2000	450	1200	300
20	1300	150	800	100	1600	450	1000	300



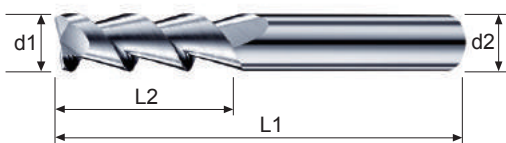
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 鋁用-2刃

Solid Carbide Aluminum Cutting End Mills-2T



材料分類 / Work Materials

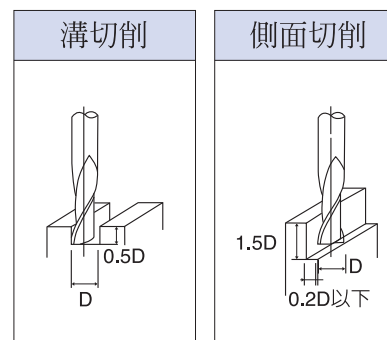


產品型號 : G155

Product Number : G155

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G155 - 030	3.0	9	50	4
G155 - 040	4.0	12	50	4
G155 - 050	5.0	14	50	6
G155 - 060	6.0	16	50	6
G155 - 080	8.0	20	60	8
G155 - 100	10.0	30	75	10
G155 - 120	12.0	30	75	12

被削材 Material	溝切削 Slotting		側面切削 Side milling	
	鋁合金		鋁合金	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
3	25000	900	32000	1400
4	19000	1000	24000	1500
5	15000	1000	19000	1600
6	13000	1100	16000	1900
8	9500	1200	12000	1900
10	7600	1200	9500	1900
12	6400	1200	8000	1900



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



End Mills for Aluminum

MG
carbide

0.6 μ m

W

3

55°

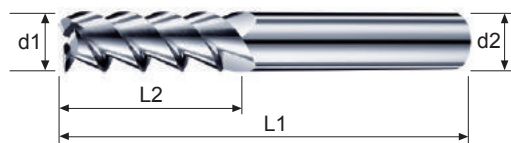


Uncoated
Blank



鎢鋼立銑刀 鋁用-3刃

Solid Carbide Aluminum Cutting End Mills-3T



材料分類 / Work Materials

N

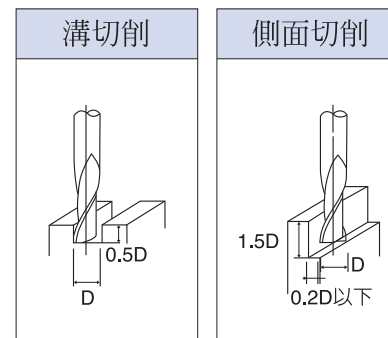
產品型號 : G156

Product Number : G156

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G156 - 020	2.0	6	50	4
G156 - 030	3.0	9	50	4
G156 - 040A	4.0	12	50	4
G156 - 040	4.0	12	50	6
G156 - 050	5.0	14	50	6
G156 - 060	6.0	16	50	6
G156 - 080	8.0	20	60	8
G156 - 100	10.0	30	75	10
G156 - 120	12.0	30	75	12
G156 - 140	14.0	40	100	16
G156 - 150	15.0	40	100	16
G156 - 160	16.0	40	100	16
G156 - 200	20.0	45	100	20

“A” 4mm Shank / 4mm 柄徑 “B” 3mm Shank / 3mm 柄徑

被削材 Material	溝切削 Slotting		側面切削 Side milling	
	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
鋁合金				
鋁合金				
刃徑 D				
3	25000	900	32000	1400
4	19000	1000	24000	1500
5	15000	1000	19000	1600
6	13000	1100	16000	1900
8	9500	1200	12000	1900
10	7600	1200	9500	1900
12	6400	1200	8000	1900
16	4800	1000	6000	1900
20	3800	970	4800	1500



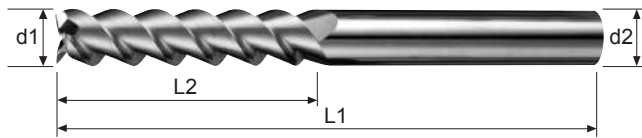
進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考



鎢鋼立銑刀 長刃-3刃

Solid Carbide Aluminum Cutting End Mills-3T (Long Shank)



材料分類 / Work Materials



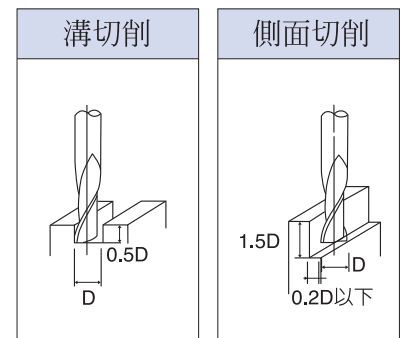
產品型號 : G157

Product Number : G157

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G157 - 030	3.0	15	75	6
G157 - 040A	4.0	20	75	4
G157 - 040	4.0	20	75	6
G157 - 050	5.0	25	75	6
G157 - 060	6.0	30	75	6
G157 - 080	8.0	30	75	8
G157 - 080L	8.0	40	100	8
G157 - 100	10.0	45	100	10
G157 - 120	12.0	50	100	12
G157 - 160	16.0	65	150	16
G157 - 200	20.0	75	150	20

※ “A” 4mm Shank / 4mm 柄徑 ※ “L” Long Flute and Long Shank / 長刃長柄

被削材 Material	溝切削 Slotting		側面切削 Side milling	
	鋁合金		鋁合金	
刃徑 D	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
3	25000	900	32000	1400
4	19000	1000	24000	1500
5	15000	1000	19000	1600
6	13000	1100	16000	1900
8	9500	1200	12000	1900
10	7600	1200	9500	1900
12	6400	1200	8000	1900
16	4800	1000	6000	1900
20	3800	970	4800	1500



進刀深度超越上述時，請將進給降低 20%~30%。

※ 以上數據僅供參考

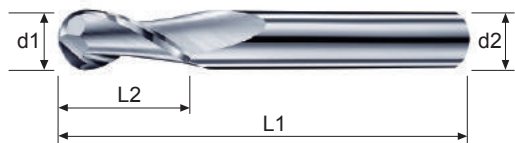


Ball Nose End Mills for Aluminum



鎢鋼球頭銑刀 鋁用-2刃

Solid Carbide Aluminum Cutting Ball Nose End Mills-2T



材料分類 / Work Materials



產品型號 : G232

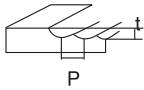
Product Number : G232

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G232 - 010B	1.0×0.50R	3	38	3
G232 - 015B	1.5×0.75R	5	38	3
G232 - 020B	2.0×1.00R	6	38	3
G232 - 030B	3.0×1.50R	9	38	3
G232 - 010A	1.0×0.50R	3	50	4
G232 - 015A	1.5×0.75R	5	50	4
G232 - 020A	2.0×1.00R	6	50	4
G232 - 030A	3.0×1.50R	9	50	4
G232 - 040	4.0×2.00R	14	50	4
G232 - 050	5.0×2.50R	16	50	5
G232 - 060	6.0×3.00R	20	63	6
G232 - 080	8.0×4.00R	20	63	8
G232 - 100	10.0×5.00R	22	75	10
G232 - 120	12.0×6.00R	26	75	12
G232 - 140	14.0×7.00R	32	90	14
G232 - 160	16.0×8.00R	32	100	16

※ “A” 4mm Shank / 4mm 柄徑 ※ “B” 3mm Shank / 3mm 柄徑

被削材 Material	鋁合金 (2024,7075)		銅合金 (C2600B,BC)	
	回轉數 (rpm)	進給 (mm/min)	回轉數 (rpm)	進給 (mm/min)
圓角半徑 0.5R	35000	700	35000	500
1.0R	35000	900	23000	500
1.5R	19000	1200	15000	650
2.0R	14500	1200	11500	650
2.5R	12000	1200	9500	860
3.0R	10000	1200	8000	860
4.0R	8000	1200	5800	860
5.0R	6300	1200	4800	860
7.0R	4000	1200	3000	860
8.0R	3200	1200	2400	860

	粗切削	細加工
進刀深度 (t)	< 0.3D	0.1 ~ 0.3mm
鑿距 (P)	< 0.7D	< 0.1D



進刀深度超越上述時，請將進給降低 20%~30%。

※以上數據僅供參考

Drills. Reamers

Tool Material : Micro Grain Solid Carbide

刀 具 材 料 : 超微粒鎢鋼

We offer a series of drills to DIN standard. The usable ranging from Steels, Stainless Steels, Cast Iron, Non-Ferrous Materials, Superalloys and Hardened Materials.

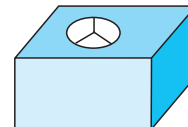
我們提供符合DIN規範的鑽頭系列(DIN6539, DIN338, DIN6537K)，使用範圍從鋼鐵、不鏽鋼、鑄鐵、非鐵金屬、高溫合金到淬火鋼。

Suitable for 適用於：

- Carbon Steels, Alloy Steels 碳鋼、合金鋼
- Stainless Steels 不鏽鋼
- Cast Iron 鑄鐵
- Aluminum and Aluminum Alloys 鋁、鋁合金
- Copper and Copper Alloys 銅、銅合金
- Nickel Alloys and Titanium 鎳基合金 / 鈦合金
- Hardened Materials < 48°HRC 淬火鋼 < 48°HRC
- Hardened Materials 48°~56°HRC 淬火鋼 48°~56°HRC

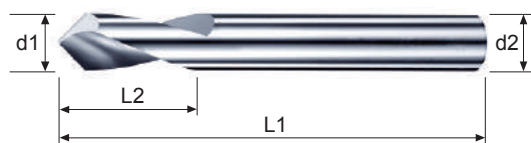


NC Spot Drills



90° 鎢鋼定點鑽-2刃

Solid Carbide Spotting Drills-2T 90°



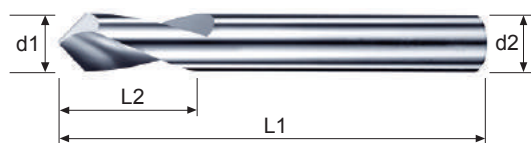
材料分類 / Work Materials

P1~P4	M	K1, K2	N1~N4	H1
●	●	●	●	●

產品型號 : G901

Product Number : G901

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G901 - 030	3.0	10	40	3
G901 - 040	4.0	12	50	4
G901 - 050	5.0	15	50	5
G901 - 060	6.0	20	50	6
G901 - 080	8.0	25	60	8
G901 - 100	10.0	25	75	10
G901 - 120	12.0	30	75	12



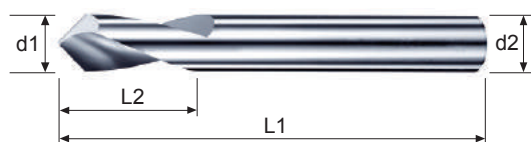
120° 鎢鋼定點鑽-2刃

Solid Carbide Spotting Drills-2T 120°

產品型號 : G902

Product Number : G902

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G902 - 030	3.0	10	40	3
G902 - 040	4.0	12	50	4
G902 - 050	5.0	15	50	5
G902 - 060	6.0	20	50	6
G902 - 080	8.0	25	60	8
G902 - 100	10.0	25	75	10
G902 - 120	12.0	30	75	12



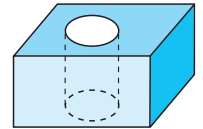
60° 鎢鋼定點鑽-2刃

Solid Carbide Spotting Drills-2T 60°

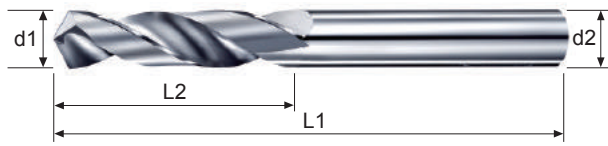
產品型號 : G903

Product Number : G903

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G903 - 030	3.0	10	40	3
G903 - 040	4.0	12	50	4
G903 - 050	5.0	15	50	5
G903 - 060	6.0	20	50	6
G903 - 080	8.0	25	60	8
G903 - 100	10.0	25	75	10
G903 - 120	12.0	30	75	12



鎢鋼鑽頭-2刃 (通用型) Solid Carbide Twist Drills-2T



材料分類 / Work Materials

P1-P4	M	K1 - K2	N1-N4	H1
●	●	●	●	●

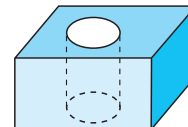
產品型號 : G801

Product Number : G801

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G801 - 020	2.0	12	38	2.0	G801 - 063	6.3	31	70	6.3
G801 - 021	2.1	12	38	2.1	G801 - 064	6.4	31	70	6.4
G801 - 022	2.2	13	40	2.2	G801 - 065	6.5	31	70	6.5
G801 - 023	2.3	13	40	2.3	G801 - 066	6.6	31	70	6.6
G801 - 024	2.4	14	43	2.4	G801 - 067	6.7	31	70	6.7
G801 - 025	2.5	14	43	2.5	G801 - 068	6.8	34	74	6.8
G801 - 026	2.6	14	43	2.6	G801 - 069	6.9	34	74	6.9
G801 - 027	2.7	16	46	2.7	G801 - 070	7.0	34	74	7.0
G801 - 028	2.8	16	46	2.8	G801 - 071	7.1	34	74	7.1
G801 - 029	2.9	16	46	2.9	G801 - 072	7.2	34	74	7.2
G801 - 030	3.0	16	46	3.0	G801 - 073	7.3	34	74	7.3
G801 - 031	3.1	18	49	3.1	G801 - 074	7.4	34	74	7.4
G801 - 032	3.2	18	49	3.2	G801 - 075	7.5	34	74	7.5
G801 - 033	3.3	18	49	3.3	G801 - 076	7.6	37	79	7.6
G801 - 034	3.4	20	52	3.4	G801 - 077	7.7	37	79	7.7
G801 - 035	3.5	20	52	3.5	G801 - 078	7.8	37	79	7.8
G801 - 036	3.6	20	52	3.6	G801 - 079	7.9	37	79	7.9
G801 - 037	3.7	20	52	3.7	G801 - 080	8.0	37	79	8.0
G801 - 038	3.8	22	55	3.8	G801 - 081	8.1	37	79	8.1
G801 - 039	3.9	22	55	3.9	G801 - 082	8.2	37	79	8.2
G801 - 040	4.0	22	55	4.0	G801 - 083	8.3	37	79	8.3
G801 - 041	4.1	22	55	4.1	G801 - 084	8.4	37	79	8.4
G801 - 042	4.2	22	55	4.2	G801 - 085	8.5	37	79	8.5
G801 - 043	4.3	24	58	4.3	G801 - 086	8.6	40	84	8.6
G801 - 044	4.4	24	58	4.4	G801 - 087	8.7	40	84	8.7
G801 - 045	4.5	24	58	4.5	G801 - 088	8.8	40	84	8.8
G801 - 046	4.6	24	58	4.6	G801 - 089	8.9	40	84	8.9
G801 - 047	4.7	24	58	4.7	G801 - 090	9.0	40	84	9.0
G801 - 048	4.8	26	62	4.8	G801 - 091	9.1	40	84	9.1
G801 - 049	4.9	26	62	4.9	G801 - 092	9.2	40	84	9.2
G801 - 050	5.0	26	62	5.0	G801 - 093	9.3	40	84	9.3
G801 - 051	5.1	26	62	5.1	G801 - 094	9.4	40	84	9.4
G801 - 052	5.2	26	62	5.2	G801 - 095	9.5	40	84	9.5
G801 - 053	5.3	26	62	5.3	G801 - 096	9.6	43	89	9.6
G801 - 054	5.4	28	66	5.4	G801 - 097	9.7	43	89	9.7
G801 - 055	5.5	28	66	5.5	G801 - 098	9.8	43	89	9.8
G801 - 056	5.6	28	66	5.6	G801 - 099	9.9	43	89	9.9
G801 - 057	5.7	28	66	5.7	G801 - 100	10.0	43	89	10.0
G801 - 058	5.8	28	66	5.8	G801 - 102	10.2	43	89	10.2
G801 - 059	5.9	28	66	5.9	G801 - 105	10.5	43	89	10.5
G801 - 060	6.0	28	66	6.0	G801 - 110	11.0	47	95	11.0
G801 - 061	6.1	31	70	6.1	G801 - 115	11.5	47	95	11.5
G801 - 062	6.2	31	70	6.2	G801 - 120	12.0	51	102	12.0



Twist Drills



鎢鋼直柄鑽頭-2刃

Solid Carbide Straight Shank Drills-2T



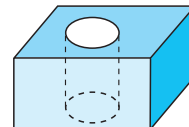
材料分類 / Work Materials

P1~P4	M	K1、K2	N1~N4	H1
●	●	●	●	●

產品型號 : G802

Product Number : G802

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia
G802 - 030	3.0	33	61	3.0	G802 - 070	7.0	69	109	7.0
G802 - 031	3.1	36	65	3.1	G802 - 071	7.1	69	109	7.1
G802 - 032	3.2	36	65	3.2	G802 - 072	7.2	69	109	7.2
G802 - 033	3.3	36	65	3.3	G802 - 073	7.3	69	109	7.3
G802 - 034	3.4	39	70	3.4	G802 - 074	7.4	69	109	7.4
G802 - 035	3.5	39	70	3.5	G802 - 075	7.5	69	109	7.5
G802 - 036	3.6	39	70	3.6	G802 - 076	7.6	75	117	7.6
G802 - 037	3.7	39	70	3.7	G802 - 077	7.7	75	117	7.7
G802 - 038	3.8	43	75	3.8	G802 - 078	7.8	75	117	7.8
G802 - 039	3.9	43	75	3.9	G802 - 079	7.9	75	117	7.9
G802 - 040	4.0	43	75	4.0	G802 - 080	8.0	75	117	8.0
G802 - 041	4.1	43	75	4.1	G802 - 081	8.1	75	117	8.1
G802 - 042	4.2	43	75	4.2	G802 - 082	8.2	75	117	8.2
G802 - 043	4.3	47	80	4.3	G802 - 083	8.3	75	117	8.3
G802 - 044	4.4	47	80	4.4	G802 - 084	8.4	75	117	8.4
G802 - 045	4.5	47	80	4.5	G802 - 085	8.5	75	117	8.5
G802 - 046	4.6	47	80	4.6	G802 - 086	8.6	81	125	8.6
G802 - 047	4.7	47	80	4.7	G802 - 087	8.7	81	125	8.7
G802 - 048	4.8	52	86	4.8	G802 - 088	8.8	81	125	8.8
G802 - 049	4.9	52	86	4.9	G802 - 089	8.9	81	125	8.9
G802 - 050	5.0	52	86	5.0	G802 - 090	9.0	81	125	9.0
G802 - 051	5.1	52	86	5.1	G802 - 091	9.1	81	125	9.1
G802 - 052	5.2	52	86	5.2	G802 - 092	9.2	81	125	9.2
G802 - 053	5.3	52	86	5.3	G802 - 093	9.3	81	125	9.3
G802 - 054	5.4	57	93	5.4	G802 - 094	9.4	81	125	9.4
G802 - 055	5.5	57	93	5.5	G802 - 095	9.5	81	125	9.5
G802 - 056	5.6	57	93	5.6	G802 - 096	9.6	87	133	9.6
G802 - 057	5.7	57	93	5.7	G802 - 097	9.7	87	133	9.7
G802 - 058	5.8	57	93	5.8	G802 - 098	9.8	87	133	9.8
G802 - 059	5.9	57	93	5.9	G802 - 099	9.9	87	133	9.9
G802 - 060	6.0	57	93	6.0	G802 - 100	10.0	87	133	10.0
G802 - 061	6.1	63	101	6.1	G802 - 102	10.2	87	133	10.2
G802 - 062	6.2	63	101	6.2	G802 - 105	10.5	87	133	10.5
G802 - 063	6.3	63	101	6.3	G802 - 110	11.0	94	142	11.0
G802 - 064	6.4	63	101	6.4	G802 - 115	11.5	94	142	11.5
G802 - 065	6.5	63	101	6.5	G802 - 120	12.0	101	151	12.0
G802 - 066	6.6	63	101	6.6					
G802 - 067	6.7	63	101	6.7					
G802 - 068	6.8	69	109	6.8					
G802 - 069	6.9	69	109	6.9					



鈹鋼高性能鑽頭-2刃

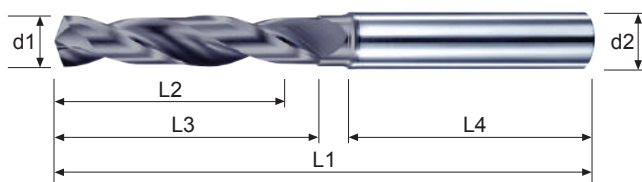
Solid Carbide High Performance Drills-2T

材料分類 / Work Materials

P3~P6	M1、M2	S2-S4	H
●	●	●	●

產品型號：G806X

Product Number：G806X



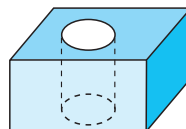
訂購代號	刃徑 d1	柄徑 d2	全長 L1	有效長 L2	刃長 L3	柄長 L4	訂購代號	刃徑 d1	柄徑 d2	全長 L1	有效長 L2	刃長 L3	柄長 L4
Order No.	Dia	Shank Dia	Overall Length	Effective Length	Flute Length	Shank Length	Order No.	Dia	Shank Dia	Overall Length	Effective Length	Flute Length	Shank Length
G806 - 030	3.0	6	62	14	20	36	G806 - 069	6.9	8	79	24	34	36
G806 - 031	3.1	6	62	14	20	36	G806 - 070	7.0	8	79	24	34	36
G806 - 032	3.2	6	62	14	20	36	G806 - 071	7.1	8	79	29	41	36
G806 - 033	3.3	6	62	14	20	36	G806 - 072	7.2	8	79	29	41	36
G806 - 034	3.4	6	62	14	20	36	G806 - 073	7.3	8	79	29	41	36
G806 - 035	3.5	6	62	14	20	36	G806 - 074	7.4	8	79	29	41	36
G806 - 036	3.6	6	62	14	20	36	G806 - 075	7.5	8	79	29	41	36
G806 - 037	3.7	6	62	14	20	36	G806 - 076	7.6	8	79	29	41	36
G806 - 038	3.8	6	66	17	24	36	G806 - 077	7.7	8	79	29	41	36
G806 - 039	3.9	6	66	17	24	36	G806 - 078	7.8	8	79	29	41	36
G806 - 040	4.0	6	66	17	24	36	G806 - 079	7.9	8	79	29	41	36
G806 - 041	4.1	6	66	17	24	36	G806 - 080	8.0	8	79	29	41	36
G806 - 042	4.2	6	66	17	24	36	G806 - 081	8.1	10	89	35	47	40
G806 - 043	4.3	6	66	17	24	36	G806 - 082	8.2	10	89	35	47	40
G806 - 044	4.4	6	66	17	24	36	G806 - 083	8.3	10	89	35	47	40
G806 - 045	4.5	6	66	17	24	36	G806 - 084	8.4	10	89	35	47	40
G806 - 046	4.6	6	66	17	24	36	G806 - 085	8.5	10	89	35	47	40
G806 - 047	4.7	6	66	17	24	36	G806 - 086	8.6	10	89	35	47	40
G806 - 048	4.8	6	66	20	28	36	G806 - 087	8.7	10	89	35	47	40
G806 - 049	4.9	6	66	20	28	36	G806 - 088	8.8	10	89	35	47	40
G806 - 050	5.0	6	66	20	28	36	G806 - 089	8.9	10	89	35	47	40
G806 - 051	5.1	6	66	20	28	36	G806 - 090	9.0	10	89	35	47	40
G806 - 052	5.2	6	66	20	28	36	G806 - 091	9.1	10	89	35	47	40
G806 - 053	5.3	6	66	20	28	36	G806 - 092	9.2	10	89	35	47	40
G806 - 054	5.4	6	66	20	28	36	G806 - 093	9.3	10	89	35	47	40
G806 - 055	5.5	6	66	20	28	36	G806 - 094	9.4	10	89	35	47	40
G806 - 056	5.6	6	66	20	28	36	G806 - 095	9.5	10	89	35	47	40
G806 - 057	5.7	6	66	20	28	36	G806 - 096	9.6	10	89	35	47	40
G806 - 058	5.8	6	66	20	28	36	G806 - 097	9.7	10	89	35	47	40
G806 - 059	5.9	6	66	20	28	36	G806 - 098	9.8	10	89	35	47	40
G806 - 060	6.0	6	66	20	28	36	G806 - 099	9.9	10	89	35	47	40
G806 - 061	6.1	8	79	24	34	36	G806 - 100	10.0	10	89	35	47	40
G806 - 062	6.2	8	79	24	34	36	G806 - 102	10.2	12	102	40	55	45
G806 - 063	6.3	8	79	24	34	36	G806 - 105	10.5	12	102	40	55	45
G806 - 064	6.4	8	79	24	34	36	G806 - 108	10.8	12	102	40	55	45
G806 - 065	6.5	8	79	24	34	36	G806 - 110	11.0	12	102	40	55	45
G806 - 066	6.6	8	79	24	34	36	G806 - 115	11.5	12	102	40	55	45
G806 - 067	6.7	8	79	24	34	36	G806 - 120	12.0	12	102	40	55	45
G806 - 068	6.8	8	79	24	34	36							

切削參數表

工件材料	抗拉強度σ 硬度	切削速度V _c in m/min	對應鑽孔直徑(mm)的每轉進給量 f mm / rev			
			3	5	8	12
普通碳鋼 Carbon Steel	≤ 500 N/mm ²	100—120	0,08—0,13	0,10—0,17	0,13—0,22	0,18—0,31
	≤ 600 N/mm ²	90—110	0,08—0,13	0,11—0,18	0,15—0,25	0,20—0,34
	> 600 N/mm ²	80—100	0,09—0,15	0,12—0,20	0,17—0,28	0,24—0,40
合金鋼和鑄鋼 Alloy-Steel Castiron	≤ 700 N/mm ²	70—90	0,09—0,15	0,13—0,22	0,19—0,31	0,25—0,42
	≤ 900 N/mm ²	60—80	0,08—0,13	0,12—0,20	0,17—0,28	0,22—0,37
	> 900 N/mm ²	60—80	0,08—0,13	0,11—0,18	0,15—0,25	0,20—0,34
高合金鋼 High Alloy Steel	≤ 1000 N/mm ²	60—80	0,06—0,10	0,08—0,14	0,12—0,20	0,17—0,29
	> 1000 N/mm ²	50—70	0,06—0,09	0,08—0,13	0,12—0,19	0,17—0,28

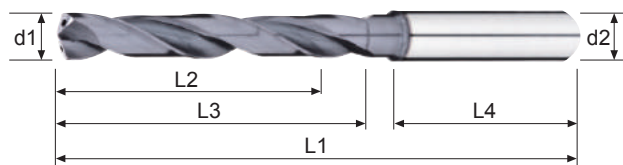


High Performance Drills



鎢鋼內冷高速鑽頭

High Performance Carbide Drills-Coolant Hole



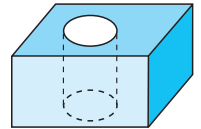
材料分類 / Work Materials

P1~P4	M	K1、K2	N1~N4	H1
●	●	●	●	●

產品型號：G816

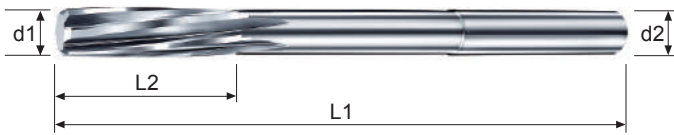
Product Number：G816

訂購代號 Order No.	刃徑 d1 Diameter	柄徑 d2 Shank Dia	全長 L1 Overall Length	有效長 L2 Effective Length	刃長 L3 Flute Length	柄長 L4 Shank Length
G816 - 040	4.0	6	74	29	36	36
G816 - 042	4.2	6	74	29	36	36
G816 - 045	4.5	6	74	29	36	36
G816 - 046	4.6	6	74	29	36	36
G816 - 047	4.7	6	74	29	36	36
G816 - 048	4.8	6	82	35	44	36
G816 - 050	5.0	6	82	35	44	36
G816 - 051	5.1	6	82	35	44	36
G816 - 052	5.2	6	82	35	44	36
G816 - 053	5.3	6	82	35	44	36
G816 - 055	5.5	6	82	35	44	36
G816 - 056	5.6	6	82	35	44	36
G816 - 057	5.7	6	82	35	44	36
G816 - 058	5.8	6	82	35	44	36
G816 - 059	5.9	6	82	35	44	36
G816 - 060	6.0	6	82	35	44	36
G816 - 063	6.3	8	91	43	53	36
G816 - 064	6.4	8	91	43	53	36
G816 - 065	6.5	8	91	43	53	36
G816 - 067	6.7	8	91	43	53	36
G816 - 068	6.8	8	91	43	53	36
G816 - 069	6.9	8	91	43	53	36
G816 - 070	7.0	8	91	43	53	36
G816 - 072	7.2	8	91	43	53	36
G816 - 074	7.4	8	91	43	53	36
G816 - 075	7.5	8	91	43	53	36
G816 - 076	7.6	8	91	43	53	36
G816 - 078	7.8	8	91	43	53	36
G816 - 079	7.9	8	91	43	53	36
G816 - 080	8.0	8	91	43	53	36
G816 - 083	8.3	10	103	49	61	40
G816 - 085	8.5	10	103	49	61	40
G816 - 087	8.7	10	103	49	61	40
G816 - 088	8.8	10	103	49	61	40
G816 - 090	9.0	10	103	49	61	40
G816 - 091	9.1	10	103	49	61	40
G816 - 092	9.2	10	103	49	61	40
G816 - 093	9.3	10	103	49	61	40
G816 - 095	9.5	10	103	49	61	40
G816 - 098	9.8	10	103	49	61	40
G816 - 099	9.9	10	103	49	61	40
G816 - 100	10.0	10	103	49	61	40
G816 - 102	10.2	12	118	56	71	45
G816 - 105	10.5	12	118	56	71	45
G816 - 108	10.8	12	118	56	71	45
G816 - 110	11.0	12	118	56	71	45
G816 - 115	11.5	12	118	56	71	45
G816 - 120	12.0	12	118	56	71	45



錫鋼機械鉸刀-6刃

Solid Carbide Machine Reamers-6T



材料分類 / Work Materials

P	M	K	N1~N4	S	H1
●	●	●	●	●	●

產品型號 : G706

Product Number : G706

訂購代號 Order No.	刃徑 d1 Dia	刃長 L2 Flute Length	全長 L1 Overall Length	柄徑 d2 Shank Dia	刃數 Flute
G706 - 020	2.0	11	49	3.0	6
G706 - 025	2.5	14	57	3.0	6
G706 - 030	3.0	15	61	3.0	6
G706 - 035	3.5	18	70	3.5	6
G706 - 040	4.0	19	75	4.0	6
G706 - 045	4.5	21	80	4.5	6
G706 - 050	5.0	23	86	5.0	6
G706 - 055	5.5	26	93	5.5	6
G706 - 060	6.0	26	93	6.0	6
G706 - 065	6.5	28	101	6.5	6
G706 - 070	7.0	31	109	7.0	6
G706 - 075	7.5	31	109	7.5	6
G706 - 080	8.0	33	117	8.0	6
G706 - 085	8.5	33	117	8.5	6
G706 - 090	9.0	36	125	9.0	6
G706 - 095	9.5	36	125	9.5	6
G706 - 100	10.0	38	133	10.0	6
G706 - 105	10.5	38	133	10.5	6
G706 - 110	11.0	41	142	11.0	6
G706 - 115	11.5	41	142	11.5	6
G706 - 120	12.0	44	151	12.0	6



ISO Tolerance measure table (μm) ISO 公差表

ϕ mm	< 3	3—6	6—10	10—18	18—30	30—50	50—65	65—80
e 7	- 14 - 24	- 20 - 32	- 25 - 40	- 32 - 50	- 40 - 61	- 50 - 75	- 60 - 90	- 60 - 90
e 8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106	- 60 - 106
e 9	- 14 - 39	- 20 - 50	- 25 - 61	- 32 - 75	- 40 - 92	- 50 - 112	- 60 - 134	- 60 - 134
h 5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 13
h 6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 19
h 7	0 - 10	0 - 12	0 - 15	0 - 18	0 - 21	0 - 25	0 - 30	0 - 30
h 8	0 - 14	0 - 18	0 - 22	0 - 27	0 - 33	0 - 39	0 - 46	0 - 46
h 9	0 - 25	0 - 30	0 - 36	0 - 43	0 - 52	0 - 62	0 - 74	0 - 74
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84	0 - 100	0 - 120	0 - 120
h11	0 - 60	0 - 75	0 - 90	0 - 110	0 - 130	0 - 160	0 - 190	0 - 190
h16	0 - 600	0 - 750	0 - 900	0 - 1100	0 - 1300	0 - 1600	0 - 1900	0 - 1900
js14	+ 125 - 125	+ 150 - 150	+ 180 - 180	+ 215 - 215	+ 260 - 260	+ 310 - 310	+ 370 - 370	+ 370 - 370
js16	+ 300 - 300	+ 375 - 375	+ 450 - 450	+ 550 - 550	+ 650 - 650	+ 800 - 800	+ 950 - 950	+ 950 - 950
k11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 190 0
k12	+ 100 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 300 0
m 6	+ 8 + 2	+ 12 + 4	+ 15 + 6	+ 18 + 7	+ 21 + 8	+ 25 + 9	+ 30 + 11	+ 30 + 11
m 7	+ 12 + 2	+ 16 + 4	+ 21 + 6	+ 25 + 7	+ 29 + 8	+ 34 + 9	+ 41 + 11	+ 41 + 11
z 9	+ 51 + 26	+ 65 + 35	+ 78 + 42	+ 103 + 60	+ 140 + 88	+ 198 + 136	+ 246 + 172	+ 284 + 210
H 5	+ 4 0	+ 5 0	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 13 0
H 6	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 16 0	+ 19 0	+ 19 0
H 7	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 30 0
H 8	+ 14 0	+ 18 0	+ 22 0	+ 27 0	+ 33 0	+ 39 0	+ 46 0	+ 46 0
H 9	+ 25 0	+ 30 0	+ 36 0	+ 43 0	+ 52 0	+ 62 0	+ 74 0	+ 74 0
H10	+ 40 0	+ 48 0	+ 58 0	+ 70 0	+ 84 0	+ 100 0	+ 120 0	+ 120 0
H11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 190 0
P 6	- 6 - 12	- 9 - 17	- 12 - 21	- 15 - 26	- 18 - 31	- 21 - 37	- 26 - 45	- 26 - 45
P 7	- 6 - 16	- 8 - 20	- 9 - 24	- 11 - 29	- 14 - 35	- 17 - 42	- 21 - 51	- 21 - 51
P 9	- 6 - 31	- 12 - 42	- 15 - 51	- 18 - 61	- 22 - 74	- 26 - 88	- 32 - 106	- 32 - 106

Table of Cutting Formula 切削公式表

Milling 銑削

Metric 公制

$$V_c = \frac{\pi \times D_c \times N}{1000}$$

$$N = \frac{V_c \times 1000}{\pi \times D_c}$$

$$V_f = N \times Z \times fz$$

V_c = Cutting Speed 切削速度 m/min.

D_c = Cutter Diameter 銑刀直徑 mm

N = RPM 迴轉數 rev/min.

V_f = Feed Speed 每分鐘進給 mm/min.

fz = Feed per Tooth 每刃進給 mm

Z = Number of Flutes 刃數 Z

Drilling 鑽孔

Metric 公制

$$V_c = \frac{\pi \times D_c \times N}{1000}$$

$$N = \frac{V_c \times 1000}{\pi \times D_c}$$

$$V_f = N \times fz$$

V_c = Cutting Speed 切削速度 m/min.

D_c = Cutter Diameter 鑽頭直徑 mm

N = RPM 迴轉數 rev/min.

V_f = Feed Speed 每分鐘進給 mm/min.

fz = Feed per Revolution 每轉進給 mm/rev

Troubleshooting guide for End Mills

Standard Steps for Common Problems

Trouble		Basic Remedies		Details
Edge failure	Excessive wear on periphery and end cutting edges	Tool material	-Use higher wear-resistant grades	-For solid end mills-Change from uncoated to coated end mills
		Cutting conditions	-Decrease speed and increase feed -Examine cutting fluids	-Cutting fluids-change from water soluble type to non-water soluble type
	Chipping of the cutting edges	Cutting conditions	-Reduce feed rate -Use down-cut milling -Reduce the depth of cut	
Machine and others		-Remove backlash on the machine -Stronger clamping of the workpiece -Reduce the amount of overhang		
Tool breakage while cutting	Cutting conditions	-Increase speed -Decrease feed rate -Decrease depth of cut -Shorten the length of cut	-If the spindle speed is not fast enough, use an arbor speed increaser	
	Tool	-Reduce the amount of overhang		
Unsatisfactory Surface finish	Poor Surface finish: -Surface roughness -Surface waviness -Surface squareness	Tool material	-Use materials that have a high Young's Modulus	-Use Hing-Helix Spiral End Mills (HSM type)-Change the end mill from 2 teeth to 4 teeth
		Tool	-Enlarge the helix angle -Increase the number of flutes -Shorten the length of cut	
		Cutting conditions	-Reduce feed rate -Reduce the depth of cut -Use up-cut milling	
		Other	-Prevent build-up on the cutting edge	
Chattering marks	Cutting conditions	-Decrease speed-Use down cut milling -Use cutting fluid		
	Other	-Ensure that both the workpiece and tool are properly secured	-Check the clearances between the chuck, collet and end mill	
Others	Packing of chips	Tool	-Reduce the number of flutes	-Change the end mill from 4 teeth to 2 teeth
		Cutting conditions	-Reduce feed rate -Reduce the depth of cut	



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