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COMPANY'S PROFILE 公司簡介

Speed Tiger was founded in 1998. It is not only the largest cutting tools manufacturer, but also the first one that combined coating technology. We have up to 160 sales locations in 42 major industrial countries from Europe, America, Japan, etc.

Speed Tiger's main target is to create the core values of our products. Due to the advanced production technology, professional coating technology, strict quality control system, and well-rounded and rapid service, Speed Tiger is appointed as metal processing consultant supplier by many global well-known processing plants.

震虎精密科技股份有限公司創立於 1998 年，不僅為台灣最具規模的銑刀廠，也是台灣第一家結合鍍層的銑刀廠。全球有 160 個銷售據點，遍及歐美日等 42 國。

震虎以創造產品價值為核心目標，以先進的生產技術 & 專業的塗層技術 & 嚴苛的品管制度 & 全方位的迅速服務，成為世界加工大廠所青睞的金屬加工顧問供應商。

VISION企業願景

Be the BEST Asian manufacturer in cutting tools market, and assist enterprises in using high efficient cutting tools to produce high quality and innovative products.

成為刀具市場中最卓越的華人廠商，協助企業使用現代高效刀具走向高品質、創新產品

VALUES 價值觀

Eco Friendly 安全環保

Quality Assurance 堅持品質

Innovation + R&D 創新研發

Pursuing Excellence 力求卓越

Customer Orientation 客戶滿意

QUALITY POLICY 品質政策

Quality Priority、Customer Satisfaction、Continual Improvement

品質第一、顧客滿意、持續改進

Advanced Production Technology
先進的生產技術

SPEED TIGER introduced the latest technology and facilities, and have more than 100 sets of grinding machine from Germany, Switzerland, Japan and Taiwan. We have been increasing our productivity to do mass production and produce customized tools in a short time, and match up with the updating requests.

不斷引進德國、瑞士、日本、台灣等最新自動化的機種與技術，設備達100餘台，俱備短時間量產與客製化生產能力，迅速因應現今市場日新月異的需求變化。

Professional Coating Technology
專業的塗層技術

Speed Tiger introduced coating technology and equipments from Switzerland in 2004, and became the first manufacturer combining cutting tools with coating techniques.

We are also good at developing many kinds of coating based on customers' processed requests and eventually become an eco-friendly cutting tools company.

先進刀具塗層技術與設備，成為台灣首家將精密刀具與科技塗層技術整合的企業，擅長依據客戶需求去研發各種專用塗層，達到綠能加工生產的要求。

Strict Quality Control System
嚴苛的品管制度

Ahead of others, Speed Tiger developed auto-inspect machines with our collaboration factory. From raw materials to finished products, we insist on high standard of inspection system, to make sure every product share equivalent and stable quality.

領先業界與獨家廠商合作研發刀具自動全檢機，由進料到出貨，各項品檢量測制度最高標準，確保每個產品的品質一致，使客戶製程與加工件品質穩定。

Well-rounded and Rapid Service
全方位的迅速服務

Cutting Tools Applied Center is dedicated to innovative R&D and cutting test, in order to quickly solve our customers' various processing problems, and help them reduce processing time and costs. That's why we can become the best milling adviser.

應用研發中心致力於創新研發、切削測試，解決客戶各種加工難題，能迅速協助降低客戶加工時間與成本，成為客戶最佳銑削顧問。

Tool Materials

600 Nano	Tungsten Carbide 600 Nano 鎢鋼600奈米
600 PLUS	Tungsten Carbide 600 PLUS 鎢鋼600奈米PLUS
400 Nano	Tungsten Carbide 400 Nano 鎢鋼400奈米
200 Nano	Tungsten Carbide 200 Nano 鎢鋼200奈米
HSS	High Speed Steel 高速鋼
MG	Tungsten Carbide 600 Nano 鎢鋼600奈米
SMG	Tungsten Carbide 400 Nano 鎢鋼400奈米

Coating Level

nACo	nACo Coating nACo 鍍層
nACRo	nACRo Coating nACRo 鍍層
TB	TB Coating TB 鍍層
RS	RS Coating RS 鍍層
TiSiN	TiSiN Coating TiSiN 鍍層
TiCN	TiCN Coating TiCN 鍍層
AlTiN	AlTiN Coating AlTiN 鍍層
SH	SH Coating SH 鍍層
nBS	nBS Coating nBS 鍍層
SS	SS Coating SS 鍍層
SSA	SSA Coating SSA 鍍層

Helix Angle

20°	Helix Angle 20° 切削刃角度 20°
25°	Helix Angle 25° 切削刃角度 25°
30°	Helix Angle 30° 切削刃角度 30°
35°	Helix Angle 35° 切削刃角度 35°
40°	Helix Angle 40° 切削刃角度 40°
45°	Helix Angle 45° 切削刃角度 45°
50°	Helix Angle 50° 切削刃角度 50°
55°	Helix Angle 55° 切削刃角度 55°
25°	Helix Angle 25° 切削刃角度 25°
30°	Helix Angle 30° 切削刃角度 30°
35°	Helix Angle 35° 切削刃角度 35°
40°	Helix Angle 40° 切削刃角度 40°
45°	Helix Angle 45° 切削刃角度 45°
50°	Helix Angle 50° 切削刃角度 50°
55°	Helix Angle 55° 切削刃角度 55°
35°	Helix Angle 35° 切削刃角度 35°
20°	Helix Angle 20° 切削刃角度 20°
25°	Helix Angle 25° 切削刃角度 25°
30°	Helix Angle 30° 切削刃角度 30°
35°	Helix Angle 35° 切削刃角度 35°
40°	Helix Angle 40° 切削刃角度 40°
45°	Helix Angle 45° 切削刃角度 45°
50°	Helix Angle 50° 切削刃角度 50°
55°	Helix Angle 55° 切削刃角度 55°

Tools Specification

HRC ▶ 40	Working Hardness 40° 可被切削材硬度 40°
HRC ▶ 45	Working Hardness 45° 可被切削材硬度 45°
HRC ▶ 50	Working Hardness 50° 可被切削材硬度 50°
HRC ▶ 53	Working Hardness 53° 可被切削材硬度 53°
HRC ▶ 55	Working Hardness 55° 可被切削材硬度 55°
HRC ▶ 60	Working Hardness 60° 可被切削材硬度 60°
HRC ▶ 65	Working Hardness 65° 可被切削材硬度 65°
R	Conner Radius 圓鼻角度

Unit/單位: mm

Product Line 產品別	Application 應用別	Series 系列	Page 頁碼
Carbide End Mills 鎢鋼立銑刀	General Series 泛用系列	600 Nano、600Plus、400 Nano、200 Nano Series 600 奈 米、600 奈 米 Plus、400 奈 米、200 奈 米 系列	22-137
	Non-Ferrous Series 非鐵用系列	General Series for Non-Ferrous 銅鋁合金專用刀	138-160
		High Speed Series for Non-Ferrous 超高速鋁用刀	161-169
	Functional Series 功能性系列	RS Series - Anti-wear 超潤滑系列	172-195
		Oil Jet Series 油孔系列	196-204
		FHP Series - Heavy Duty 強力高速重切削銑刀系列	206-213
		FHP+ Series - Heavy Duty Plus 高速重切削粗精銑刀系列	214-217
		HPSS Series - High Speed Plugging + Slotting + Side milling 插溝側三合一重切削銑刀系列	218-221
		KK Series - Multi Flutes High Efficiency 多刃高效立銑刀	222-227
		SH Series - Super High Hardness & Super High Speed Cutting 超高硬度 & 超高速加工系列	228-231
		Big Foot Series - Double Removal Rate 高移除率球刀系列	232-235
		SUS Series - Stainless Steel Expert 不鏽鋼專用系列	236-237
		DAB/ DAC Series - 3 Different Flutes 3 刃不等分割系列	238-239
Replaceable End Mills Head 可替換刀頭立銑刀	General Series 泛用系列	Power Tips Series- General 嵌露頭角 - 泛用型	240-245
	Non-Ferrous Series 非鐵用系列	Power Tips Series - Non-Ferrous 嵌露頭角 - 銅鋁用	246
	Functional Series 功能性系列	Power Tips Series- Heavy-duty operation 嵌露頭角 - 高速重切削粗精銑刀型	247
		Power Tips Series- Super High Speed Hardness 嵌露頭角 超高硬度 & 超高速型	248-249
Carbide Drills 鎢鋼鑽頭	Carbide Drill 噴射鑽頭	SD Series 噴射鑽頭	250-265
	Carbide Coolant Drill 油孔鑽頭	SDC Series 油孔鑽頭	266-277
	Position Drill 定位鑽	PDST series 定位鑽	278-281
Reamer 絞刀	Reamer 鎢鋼絞刀	RE Series 鎢鋼絞刀	282-284
	Carbide Edge Reamer 刃部鎢鋼頭絞刀	REC Series 刃部鎢鋼頭絞刀	285
HSS End Mills 高速鋼立銑刀	General Series 泛用系列	HSS Series 高速鋼立銑刀	286-303

Unit/單位: mm

Carbide End Mill 鎢鋼立銑刀

General Series 泛用系列
600 Nano、600 Plus、400 Nano、200 Nano Series 系列

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用: 炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy	Spec. 規格表	Cutting Condition 切削條件
Square 平刀	2	Miniature Square Type 微小徑立銑刀	MIE			○	◎						○	○	26	324
			MIE		AlTiN	○	◎	◎	○			○			27	324
			UMIE		nBS	○	◎	◎	◎	○		○			28	316
			SFUMIE		TiSiN	○	○	○	◎	◎	○	○			30	317
		Square Type 立銑刀	P-SSE			○	○						○	○	32	304
			P-MSE			○	○						○	○	32	304
			P-SE			○	○						○	○	32	304
			P-SSE		AlTiN	○	◎	◎	○			○			33	304
			P-MSE		AlTiN	○	◎	◎	○			○			33	304
			P-SE		AlTiN	○	◎	◎	○			○			33	304
			UET		nBS	○	◎	◎	◎	◎	○	○			34	321
			SFUET		TiSiN	○	○	○	◎	◎	◎	○			35	322
		Long Flute Square Type 長刃立銑刀	P-LET			○	○						○	○	36	307
			P-LET		AlTiN	○	◎	○	○	○		○			37	307
			ULET		nBS	○	◎	◎	◎	◎	○	○			38	323
			SFULET		TiSiN	○	○	○	◎	◎	◎	○			39	323

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅合金 / 銅 copper alloy	鋁合金 Aluminum alloy		
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Square 平刀	2	Long Shank Square Type 長柄立銑刀	SLE			○	○						○	○	40	324
			MLE			○	○						○	○	40	324
			SLE		AlTiN	○	◎	◎	○			○			41	324
			MLE		AlTiN	○	◎	◎	○			○			41	324
		Long Neck Square Type 深溝長頸立銑刀	P-LNT			○	○						○	○	42	305
			P-LNT		AlTiN	○	◎	◎	◎			○			44	305
			ULNT		nBS	○	◎	◎	◎	◎	○	○			46	318
			SFULNT		nACo	○	○	○	◎	◎	◎	○			48	318
		Taper Square Type 斜度立銑刀	TTA		AlTiN	○	◎	◎	○			○			50	397
		Taper Long Flute Square Type 長刃斜度立銑刀	LTTA		AlTiN	○	◎	◎	○			○			54	398
	3	Square Type 立銑刀	P-MPE			○	○						○	○	56	308
			P-PE			○	○						○	○	56	308
			P-MPE		AlTiN	○	◎	◎	○			○			57	308
			P-PE		AlTiN	○	◎	◎	○			○			57	308
		Fine Pitch & Roughing Type 粗精銑立銑刀	NTA		AlTiN	○	◎	◎				○			58	327
			XTA		AlTiN	○	◎	◎				○			59	329
	4	Square Type 立銑刀	P-SSE			○	○						○	○	60	309

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy		
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Square 平刀	4	Square Type 立銑刀	P-MSE			○	○						○	○	60	309
			P-SE			○	○						○	○	60	309
			P-SSE		AlTiN	○	◎	◎	○			○			61	309
			P-MSE		AlTiN	○	◎	◎	○			○			61	309
			P-SE		AlTiN	○	◎	◎	○			○			61	309
			UET		nBS	○	◎	◎	◎	◎	○	○			62	331
			SFUET		TiSiN	○	○	○	◎	◎	◎	○			63	332
			P-MPE			○	○						○	○	64	309
			P-PE			○	○						○	○	64	309
			P-MPE		AlTiN	○	◎	◎	○			○			65	309
			P-PE		AlTiN	○	◎	◎	○			○			65	309
			UVT		nBS	○	◎	◎	◎	○	○	○			66	337
		Long Shank Square Type 長柄立銑刀	SLE			○	○						○	○	67	334
			MLE			○	○						○	○	67	334
			SLE		AlTiN	○	◎	◎	○			○			68	334
			MLE		AlTiN	○	◎	◎	○			○			68	334
		Long Flute Square Type 長刃立銑刀	P-LET			○	○						○	○	69	310

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用: 炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 銅 copper alloy	鋁/低合金 Aluminum alloy	Spec. 規格表	Cutting Condition 切削條件
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Square 平刀	4	Long Flute Square Type 長刃立銑刀	P-LET		AlTiN	○	◎	◎	○			○			70	310
			ULET		nBS	○	◎	◎	◎	◎	○	○			71	333
			SFULET		TiSiN	○	○	○	◎	◎	◎	○			72	333
		Fine Pitch & Roughing Type 粗精銑立銑刀	NTA		AlTiN	○	◎	◎				○			73	328
			XTA		AlTiN	○	◎	◎				○			74	330
	6	Square Type 立銑刀	UVT		nBS	○	◎	◎	◎	○	○	○			66	337
			SFUVT		TiSiN	○	○	○	◎	◎	◎	○			76	338
		Long Flute Square Type 長刃立銑刀	ULVT		nBS	○	◎	◎	◎	○	○	○			75	337
			SFULVT		TiSiN	○	○	○	◎	◎	◎	○			77	338
	8	Square Type 立銑刀	UVT		nBS	○	◎	◎	◎	○	○	○			66	337
			SFUVT		TiSiN	○	○	○	◎	◎	◎	○			76	338
		Long Flute Square Type 長刃立銑刀	ULVT		nBS	○	◎	◎	◎	○	○	○			75	337
			SFULVT		TiSiN	○	○	○	◎	◎	◎	○			77	338
Ball Nose 球刀	2	Miniature Ball Nose Type 微小徑球型立銑刀	MIB			○	○						○	○	78	341
			MIB		AlTiN	○	◎	◎	○			○			79	341
			UMIB		nBS	○	◎	◎	◎	◎		○			80	339
			SFUMIB		TiSiN	○	○	○	◎	◎	○	○			82	340

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy		
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Ball Nose 球刀	2	Ball Nose Type 球型立銑刀	P-SSB			○	○						○	○	83	311
			P-MSB			○	○						○	○	83	311
			P-SB			○	○						○	○	83	311
			P-SSB		AlTiN	○	◎	◎	○			○			84	311
			P-MSB		AlTiN	○	◎	◎	○			○			84	311
			P-SB		AlTiN	○	◎	◎	○			○			84	311
			UBT		nBS	○	◎	◎	◎	◎	○	○			85	349
			SFUBT		TiSiN	○	○	○	◎	◎	◎	○			86	350
		Power Short Flute Ball Nose Type 強力短刃球型立銑刀	UBTSX		nBS	○	◎	◎	◎	◎	○	○			87	351
			SFUBTSX		TiSiN	○	○	○	◎	◎	◎	○			88	352
		Long Shank Ball Nose Type 長柄球型立銑刀	SLB			○	○						○	○	89	341
			MLB			○	○						○	○	89	341
			LLB			○	○						○	○	89	341
			XLB			○	○						○	○	89	341
			SLB		AlTiN	○	◎	◎	○			○			90	341
			MLB		AlTiN	○	◎	◎	○			○			90	341
			LLB		AlTiN	○	◎	◎	○			○			90	341
			XLB		AlTiN	○	◎	◎	○			○			90	341

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 銅 copper alloy	鋁/低合金 Aluminum alloy		
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Ball Nose 球刀	2	Long Shank Ball Nose Type 長柄球型立銑刀	ULBTS		nBS	○	◎	◎	◎	◎	○	○			91	353
			ULBTM		nBS	○	◎	◎	◎	◎	○	○			91	353
			ULBTL		nBS	○	◎	◎	◎	◎	○	○			91	353
			SFULBT		TiSiN	○	○	○	◎	◎	◎	○			92	354
		Long Neck Ball Nose Type 深溝長頸球型立銑刀	P-LNBT			○	○						○	○	93	312
			P-LNBT		AlTiN	○	◎	◎	○			○			95	312
			ULNBT		nBS	○	◎	◎	◎	◎		○			97	344
			SFULNBT		nACo	○	○	○	◎	◎	◎	○			99	344
		Taper Neck Ball Nose Type 深溝斜頸球型立銑刀	PBTA		AlTiN	○	◎	◎	○			○			101	362
			UPBT		nBS	○	◎	◎	◎	◎	○	○			102	347
		Taper Long Neck Ball Nose Type 深溝長斜頸球型立銑刀	ULPBT		nBS	○	◎	◎	◎	◎	○	○			103	348
		Taper Ball Nose Type 斜度球型立銑刀	TBTA		AlTiN	○	◎	◎	○			○			104	399
	4	Ball Nose Type 球型立銑刀	P-SSB			○	○						○	○	106	313
			P-MSB			○	○						○	○	106	313
			P-SB			○	○						○	○	106	313
			P-SSB		AlTiN	○	◎	◎	○			○			107	313
			P-MSB		AlTiN	○	◎	◎	○			○			107	313

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用: 碳素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy	Spec. 規格表	Cutting Condition 切削條件
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Ball Nose 球刀	4	Ball Nose Type 球型立銑刀	P-SB		AlTiN	○	◎	◎	○			○			107	313
			UBT		nBS	○	◎	◎	◎	◎	○	○			108	355
			SFUBT		TiSiN	○	○	○	◎	◎	◎	○			109	356
		Long Shank Ball Nose Type 長柄球型立銑刀	ULBT		nBS	○	◎	◎	◎	◎	○	○			108	355
Corner Radius 圓鼻刀	2	Corner Radius Type 標準圓鼻立銑刀	P-RTA			○	○						○	○	110	314
			P-RTA		AlTiN	○	◎	◎	○			○			112	314
			URTA		nBS	○	◎	◎	◎	◎	○	○			114	357
		Long Shank Corner Radius Type 長柄圓鼻立銑刀	P-LRTA		AlTiN	○	◎	◎	○			○			115	314
		Long Neck Long Shank Corner Radius Type 深溝長頸長柄圓鼻立銑刀	SFUCRM		TiSiN	○	○	○	◎	◎	◎	○			116	360
		Long Neck Corner Radius Type 深溝長頸圓鼻立銑刀	SFUCR		nACo	○	○	○	◎	◎	◎	○			117	
		Taper Neck Corner Radius Type 深溝斜頸圓鼻立銑刀	UCRS		nBS	○	◎	◎	◎	◎	○	○			124	358
			SFUCRS		TiSiN	○	○	○	◎	◎	◎	○			125	359
	4	Corner Radius Type 圓鼻立銑刀	P-RTA			○	○						○	○	126	315
			P-RTA		AlTiN	○	◎	◎	○			○			128	315
			URTA		nBS	○	◎	◎	◎	◎	○	○			130	363
			SFURTA		TiSiN	○	○	○	◎	◎	◎	○			131	364
		Long Shank Corner Radius Type 長柄圓鼻立銑刀	P-LRTA		AlTiN	○	◎	◎	○			○			132	315

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 銅 copper alloy	鋁/低合金 Aluminum alloy		
General Series 泛用系列 600 Nano、600 Plus、400 Nano、200 Nano Series 系列																
Corner Radius 圓鼻刀	4	Long Corner Radius Nose Type 深溝長頸圓鼻立銑刀	UCR		nBS	○	◎	◎	◎	◎	○	○			133	365
		Long Neck Long Shank Corner Radius Type 深溝長頸長柄圓鼻立銑刀	SFUCRM		TiSiN	○	○	○	◎	◎	◎	○			134	366
		Taper Neck Corner Radius Type 深溝斜頸圓鼻立銑刀	UCRS		nBS	○	◎	◎	◎	◎	○	○			135	367
			SFUCRS		TiSiN	○	○	○	◎	◎	◎	○			136	368
Multi-function 多功能	2	Multi-function Type 多功能立銑刀	CDM		AlTiN	○	◎	◎	○			○			137	
Non-Ferrous Series 非鐵用系列 General Series for Non-Ferrous 銅鋁合金專用刀																
Square 平刀	1	Square Type-For Wood & Plastic & Aluminum 鋁、塑膠、木工用立銑刀	AP										◎	◎	140	
			AP		TB								◎	◎	141	
	2	Square Type 銅鋁合金立銑刀	AE5										○	◎	142	402
			AE5		TB								○	◎	143	402
			AEL5										○	◎	142	404
			AEL5		TB								○	◎	143	404
			CE										◎	○	144	403
		Square Type 銅鋁合金立銑刀	CE		TB								◎	○	145	403
			CEL		TB								◎	○	146	320
		Specular Square Type 全鏡面鋁用立銑刀	AET										○	◎	147	402
			AET		TB								○	◎	148	402
			ALET		TB								○	◎	149	404

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy		
Non-Ferrous Series 非鐵用系列 General Series for Aluminum & Copper Alloy 銅鋁合金專用刀																
Square 平刀	3	Square Type 銅鋁合金立銑刀	AE5										○	◎	150	405
			AE5		TB								○	◎	151	405
			AEL5										○	◎	150	406
			AEL5		TB								○	◎	151	406
		Specular Square Type 全鏡面鋁用立銑刀	AET										○	◎	152	405
			AET		TB								○	◎	153	405
			ALET		TB								○	◎	154	406
		Roughing Type 銅鋁合金粗銑刀	ANT										○	◎	155	373
			ANT		TB								○	◎	156	373
		Wave Type 波浪鋁用刀	WAE										○	◎	157	
			WAE		TB								○	◎	158	
Ball Nose 球刀	2	Ball Nose Type 銅鋁合金球型立銑刀	ACB										◎	◎	159	341
			ACB		TB								◎	◎	160	341
Non-Ferrous Series 非鐵用系列 High Speed Series for Aluminum 超高速鋁用刀																
Square 平刀	3	High Speed Square series - For Aluminum 超高速鋁用刀	AAS		TB								○	◎	161	369
			AA		TB								○	◎	161	369
		Long Neck Square Type 深溝長頸鋁用立銑刀	AAL		TB								○	◎	162	
		High Feed U-Type Aluminum 超高速鋁用立銑刀	AUE										○	◎	163	372
		High Feed U-Type Aluminum 超高速長刃鋁用立銑刀	AUEL										○	◎	163	

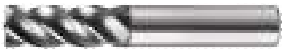
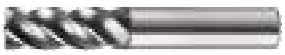
Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 銅 copper alloy	鋁/低合金 Aluminum alloy		
Non-Ferrous Series 非鐵用系列 High Speed Series for Aluminum 超高速鋁用刀																
Ball Nose 球刀	2	Ball Nose Type 鋁用球型立銑刀	AUB		TB								◎	◎	164	
		Long Neck Ball Nose Type 深溝長頸鋁用球型立銑刀	ACBL		TB								◎	◎	165	346
Corner Radius 圓鼻刀	2	Corner Radius Type 鋁用圓鼻立銑刀	CMF		TB								○	◎	166	
	3	Corner Radius Type 鋁用圓鼻立銑刀	CA-AA		TB								○	◎	167	
			CR-AA		TB								○	◎	168	370
Functional Series 功能性系列 RS Series - Anti-wear 超潤滑系列																
Square 平刀	2	Miniature Square Type 微小徑立銑刀	SUMIE		RS	◎	◎	○	○			◎	○	○	174	324
		Square Type 立銑刀	SUPE		RS	◎	◎	◎	○			◎	○	○	175	324
		Long Flute Square Type 長刃立銑刀	SULET		RS	◎	◎	◎	○			◎	○	○	176	323
		Long Neck Square Type 深溝長頸立銑刀	SULNT		RS	◎	◎	◎	○			◎	○	○	177	320
	3	Square Type 立銑刀	SUPE		RS	◎	◎	○	○			◎	○	○	179	326
		Fine Pitch Roughing Type 粗精立銑刀	SUNTA		RS	◎	◎	○		○		◎	○	○	181	327
			SUXTA		RS	◎	◎	○		○		◎	○	○	182	329
	4	Square Type 立銑刀	SUPE		RS	◎	◎	◎	○			◎	○	○	183	334
Square 平刀	4	Long Flute Square Type 長刃立銑刀	SULET		RS	◎	◎	◎	○			◎	○	○	184	333
			SULPE		RS	◎	◎	◎	○			◎	○	○	185	336
		Fine Pitch &Roughing Type 粗精立銑刀	SUNTA		RS	◎	◎	○	○			◎	○	○	186	328
			SUXTA		RS	◎	◎	○	○			◎	○	○	187	330

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy		
Functional Series 功能性系列 RS Series - Anti-wear 超潤滑系列																
Ball Nose 球刀	2	Miniature Ball Nose Type 微小徑球型立銑刀	SUMIB		RS	◎	◎	◎	○			◎	○	○	188	341
		Ball Nose Type 球型立銑刀	SUBT		RS	◎	◎	◎	○			◎	○	○	189	341
		Long Shank Ball Nose Type 長柄球型立銑刀	SULB		RS	◎	◎	◎	○			◎	○	○	190	341
		Long Neck Ball Nose Type 深溝長頸球型立銑刀	SULNBT		RS	◎	◎	◎	○			◎	○	○	191	346
	4	Ball Nose Type 球型立銑刀	SUBT		RS	◎	◎	◎	○			◎	○	○	193	407
Corner Radius 圓鼻刀	3	Corner Radius Type 圓鼻立銑刀	SURTA		RS	◎	◎	◎	○			◎	○	○	194	361
Functional Series 功能性系列 Oil Jet Series 油孔系列																
Square 平刀	2	Square Type 油孔立銑刀	JSE		RS	◎	◎	◎	○				○	○	198	324
		Square Type for Non-Ferrous 油孔鋁用立銑刀	JAE			x	x	x	x	x	x	x	◎	◎	199	402
	3	Square Type for Non-Ferrous 油孔鋁用立銑刀	JAE			x	x	x	x	x	x	x	◎	◎	199	405
		Roughing & Fine Pitch Roughing Type 油孔粗銑刀	JANT			x	x	x	x	x	x	x	◎	◎	200	373
			JNTA		RS	◎	◎	◎	○				○	○	201	327
			JXTA		RS	◎	◎	◎	○				○	○	202	329
Square 平刀	4	Square Type 油孔立銑刀	JSE		RS	◎	◎	◎	○				○	○	198	334
		Roughing & Fine Pitch Roughing Type 油孔粗銑刀	JNTA		RS	◎	◎	◎	○				○	○	201	328
			JXTA		RS	◎	◎	◎	○				○	○	202	330
Ball Nose 球刀	2	Ball Nose Type 油孔球型立銑刀	JSB		RS	◎	◎	◎	○				○	○	203	341
Corner Radius 圓鼻刀	4	Corner Radius Type 油孔圓鼻立銑刀	JRTA		RS	◎	◎	◎	○	○			○	○	204	401

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅低合金 / 銅 copper alloy	鋁低合金 Aluminum alloy		
Functional Series 功能性系列 FHP Series - Heavy Duty 強力高速重切削銑刀系列																
Square 平刀	4	Short Flute Square Type 短刃立銑刀	FHPS		nBS	◎	◎	◎	○	○					208	391
		Square Type 立銑刀	FHP		nBS	◎	◎	◎	○	○					211	391
		Long Flute Square Type 長刃立銑刀	FHPM		nBS	◎	◎	◎	○	○					212	391
			FHPL		nBS	◎	◎	◎	○	○					212	391
Corner Radius 圓鼻刀	4	Corner Radius Type 圓鼻立銑刀	CRFHP		nBS	◎	◎	◎	○	○					213	391
Functional Series 功能性系列 FHP+ Series - Heavy Duty Plus 高速重切削粗精銑刀系列																
Square 平刀	4	Square Type 立銑刀	FHPC		nACRo	◎	◎	◎	○	○	x	○	○		216	386
		Long Flute Square Type 長刃立銑刀	FHPMC		nACRo	◎	◎	◎	○	○	x	○	○		216	386
			FHPLC		nACRo	◎	◎	◎	○	○	x	○	○		216	386
Corner Radius 圓鼻刀	4	Corner Radius Type 圓鼻立銑刀	CRFHPC		nACRo	◎	◎	◎	○	○	x	○	○		217	386
Functional Series 功能性系列 HPSS Series - High Speed Plugging + Slotting + Sidemilling 插溝側三合一重切削銑刀系列																
Square 平刀	3	Square Type 立銑刀	HPSS		SS	◎	◎	○							221	387
Functional Series 功能性系列 KK Series - Multi Flutes High Efficiency 多刃高效立銑刀																
Square 平刀	2	Roughing & Finishing Type 精銑立銑刀	KKH		nACo	◎	◎	◎	◎	◎	○				224	
			KKM		TiSiN	◎	◎	◎	◎	○					225	
			KKF		nACRo	◎	◎	◎	○	○					226	
			KKR		nACRo	◎	◎	◎	○	○					227	

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy		
Functional Series 功能性系列 KK Series - Multi Flutes High Efficiency 多刃高效立銑刀																
Square 平刀	3	Roughing & Finishing Type 精銑立銑刀	KKH		nACo	◎	◎	◎	◎	◎	○				224	
			KKM		TiSiN	◎	◎	◎	◎	○					225	
			KKF		nACRo	◎	◎	◎	○	○					226	
			KKR		nACRo	◎	◎	◎	○	○					227	
	4		KKH		nACo	◎	◎	◎	◎	◎	○				224	
			KKM		TiSiN	◎	◎	◎	◎	○					225	
Functional Series 功能性系列 SH Series - Super High Hardness & Super High Speed Cutting 超高硬度 & 超高速加工系列																
Ball Nose 球刀	2	Ball Nose Type 超高硬度/超高速球刀	KTG		SH	○	○	◎	◎	◎	◎				230	389
Corner Radius 圓鼻刀	4	Corner Radius Type 超高硬度/超高速圓鼻刀	KCR		SH	○	○	◎	◎	◎	◎				231	388
Functional Series 功能性系列 Big Foot Series - Double Removal Rate 高移除率球刀系列																
Ball Nose 球刀	2	Ball Nose Type 高移除率球刀	BFR		SH	○	○	◎	◎	◎	◎				235	390
Functional Series 功能性系列 SUS Series - Stainless Steel Expert 不鏽鋼專用系列																
Square 平刀	4	Square Type 不鏽鋼專用立銑刀	SUS		SSA	○	○					◎			237	334
		Long Flute Square Type 不鏽鋼專用長刃立銑刀	SUSL		SSA	○	○					◎			237	333
Functional Series 功能性系列 DAB/ DAC Series - 3 Difference Flutes 3刃不等分割系列																
Corner Radius 圓鼻刀	3	3 Different Flutes Corner Radius Type 3刃不等分割圓鼻立銑刀	DAC		nACo	○	◎	◎	◎	◎	◎	○			238	
Ball Nose 球刀		3 Different Flutes Ball Nose Type 3刃不等分割球型立銑刀	DAB		nACo	○	◎	◎	◎	◎	◎	○			239	

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅合金 / 銅 copper alloy	鋁合金 Aluminum alloy		
Replaceable End Mills Head 可替換刀頭立銑刀																
General Series 泛用系列 Power Tips Series- General 嵌露頭角-泛用型																
Square 平刀	2	Square Type 平刀頭	SES		nACRo	◎	◎	○	○	○					242	376
	3	Square Type 平刀頭	PES		nACRo	◎	◎	○	○						243	377
	4	Square Type 平刀頭	SES		nACRo	◎	◎	○	○	○					242	376
Ball Nose 球刀	2	Ball Nose Type 球型刀頭	SBS		nACRo	◎	◎	◎	○	○					244	341
	4	Ball Nose Type 球型刀頭	SBS		nACRo	◎	◎	◎	○	○					244	400
Corner Radius 圓鼻刀	2	Corner Radius Type 圓鼻刀頭	RTAS		nACRo	◎	◎	◎	○	○					245	380
	4	Corner Radius Type 圓鼻刀頭	RTAS		nACRo	◎	◎	◎	○	○					245	381
Non-Ferrous Series 非鐵用系列 Power Tips Series - Non-Ferrous 嵌露頭角- 銅鋁用																
Square 平刀	2	Square Type 鋁用刀頭	AES5			x	x	x	x	x	x	x	◎	◎	246	382
	3	Square Type 鋁用刀頭	AES5			x	x	x	x	x	x	x	◎	◎	246	383
Functional Series 功能性系列 Power Tips Series- Heavy-duty operation 嵌露頭角-高速重切削粗精銑刀型																
Square 平刀	4	Square Type 重切削平刀頭	FHPCS		nACRo	◎	◎	◎	○						247	384
Functional Series 功能性系列 Power Tips Series- Super High Speed Hardness 嵌露頭角 超高硬度 & 超高速型																
Ball Nose 球刀	2	Ball Nose Type 超高硬度高速型球型刀頭	KTGS		nACo	◎	◎	◎	◎	◎					248	374
Corner Radius 圓鼻刀	4	Corner Radius Type 超高硬度高速型圓鼻刀頭	KCRS		nACo	◎	◎	◎	◎	○					249	378

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅/低合金 / 鋼 copper alloy	鋁/低合金 Aluminum alloy		
Carbide Drills 鎢鋼鑽頭																
Carbide Drill 噴射鑽頭 SD Series 噴射鑽頭																
Drill 鑽頭	2	Jet Drill 噴射鑽頭	3SD		nACRo	◎	◎	◎	◎	x	x		x	x	254	393
			5SD		nACRo	◎	◎	◎	◎	x	x		x	x	258	394
			8SD		nACRo	◎	◎	◎	◎	x	x		x	x	262	
Carbide Coolant Drill 油孔鑽頭 SDC Series 油孔鑽頭																
Drill 鑽頭	2	Coolant Drill 油孔鑽頭	3SDC		nACRo	◎	◎	◎	◎	x	x		x	x	266	395
			5SDC		nACRo	◎	◎	◎	◎	x	x		x	x	270	395
			8SDC		nACRo	◎	◎	◎	◎	x	x		x	x	274	395
Position Drill 定位鑽 PDST series 定位鑽																
Multi-function 多功能	2	Position Drill 定位鑽	PDST			○	◎	○					○	○	278	
			PDST		TiCN	◎	◎	◎	○			○			279	
		Long Shank Position Drill 長柄定位鑽	PDST			○	◎	○					○	○	280	
			PDST		TiCN	○	◎	◎	○				○	○	281	
Reamer 絞刀																
RE & REC Series- Reamer & Carbide Edge Reamer 鎢鋼絞刀 / 刃部鎢鋼頭絞刀																
Reamer 絞刀	6	Reamer 絞刀	RE			○	○	○	○	○	○	○			282	
		Carbide Edge Reamer 刃部鎢鋼	REC			○	○	○	○	○	○	○			285	

Unit/單位: mm

End Shape 刃端形狀	Flute 刃數	Type 刀型	Mode 型號	Shape 圖樣	Coating 塗層	work 切削材 ◎Excellent 最適用 ○Good 適用									Spec. 規格表	Cutting Condition 切削條件
						炭素鋼 / 低合金鋼 carbon steel, Alloy steel	預硬鋼 45 HRC 以下 Pre-harden steel under 45HRC	高硬度 50 HRC以下 High-hardened under 50HRC	高硬度 55 HRC以下 High-hardened under 55HRC	高硬度 60 HRC以下 High-hardened under 60HRC	高硬度 65 HRC以下 High-hardened under 65HRC	不銹鋼 Stainless steel	銅合金 / 銅 copper alloy	鋁合金 Aluminum alloy		
HSS End Mills 高速鋼立銑刀																
General Series 泛用系列 HSS Series 高速鋼立銑刀																
Square 平刀	2	Square Type 立銑刀	HSS			◎	○						○	○	288	
			HSS		TiCN	◎	◎						○	○	289	
		Long Flute Square Type 長刃立銑刀	HSSL			◎	○						○	○	290	
			HSSL		TiCN	◎	◎						○	○	291	
	4	Square Type 立銑刀	HSS			◎	○						○	○	292	
			HSS		TiCN	◎	◎						○	○	293	
		Long Flute Square Type 長刃立銑刀	HSSL			◎	○						○	○	294	
			HSSL		TiCN	◎	◎						○	○	295	
		Roughing & Fine Pitch Roughing Type 粗精銑刀	HSSNTA			◎	○						○	○	296	
			HSSNTA		TiCN	◎	◎						○	○	297	
			HSSXTA			◎	○						○	○	298	
			HSSXTA		TiCN	◎	◎						○	○	299	
		Roughing & Fine Pitch Roughing Type 長刃粗精銑刀	HSSLNTA			◎	○						○	○	300	
			HSSLNTA		TiCN	◎	◎						○	○	301	
			HSSLXTA			◎	○						○	○	302	
			HSSLXTA		TiCN	◎	◎						○	○	303	

Unit/單位: mm

General Series 泛用系列

600NaNo

600Plus

400NaNo

200NaNo

SPEED TIGER
600 PLUS
SERIES
SPEED TIGER
INFINITY POWER PRECISION TECHNOLOGY
本系列刀具設計獲得台灣銑刀改良專利：編號102219129 專利產品 仿冒必究
Enhanced geometry of end mills Patent of Taiwan: No. 102219129 Patent product, all rights reserved

高效率泛用型銑刀 HIGH EFFICIENT END MILL

600 PLUS 系列

600 Plus Series

1 特殊刀型設計 + 強化刃口崩角設計，使刀具有最大的鋼性，同時擁有最大的有效排屑空間

Maximized rigidity, and chip removals are greatly improved due to special geometric design and reinforced design in cutting edges against chipping at corners.

2 抑制顫振及噪音的效果更加明顯

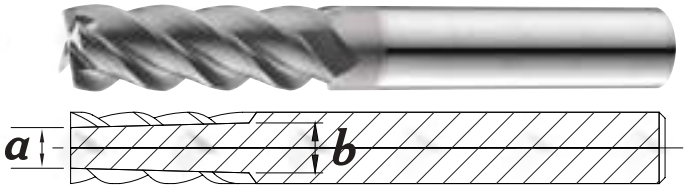
Excellent performance of anti-vibration and noise.

3 刀具塗層：震虎獨家高硬度專用塗層，有效提高刀具壽命跟加工表面精度

High hardness-used coating,effectively improves tool life and finishes.

此刀型設計可提升加工效率

This shape makes more efficient



$b > a$

Taper Core 錐型心厚

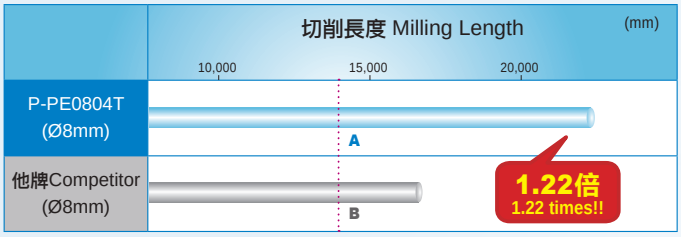
本設計獲得台灣銑刀改良專利：編號102219129 專利產品 仿冒必究

Enhanced geometry of end mills Patent of Taiwan: No. 102219129 Patent product, all rights reserved

長壽命! 600 PLUS新刀型使壽命增加22%

New geometry for 600 PLUS can prolong tool life by 22%!

工具 Tool	P-PE0804T
工件 Work Material	中碳鋼 S45C
加工方式 Milling Type	側銑 Side milling
切削速度 Milling Speed	100m/min
進給速度 Speed (min^{-1})	1400mm/min
切深 Depth of cut	ap=15.00mm ae=1.00mm
冷卻方式 Coolant	空冷 Air Blow
使用機台 Machine	立式綜合加工機 Vertical Machining Center



A

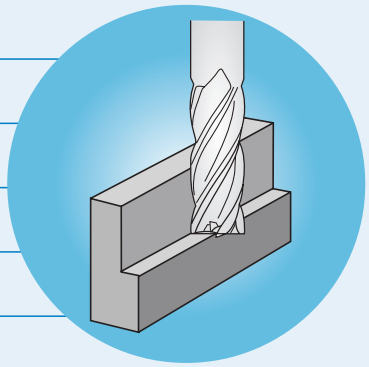
P-PE0804T：加工140M的損耗照片
P-PE0804T：Picture of wear after milling 140m

B

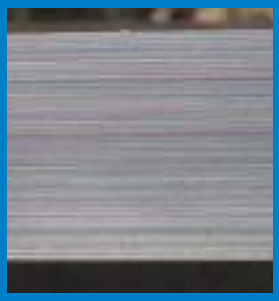
他牌：加工140M的損耗照片
Competitor：Picture of wear after milling 140m

600 PLUS新刀型能夠減少加工時產生的震顫，銑出良好的加工表面
The new developed 600 PLUS enable to operate stable without chipping and produce a superb surface finish.

工具 Tool	P-PE0804T
工件 Work Material	中碳鋼 S45C
加工方式 Milling Type	側銑 Side milling
切削速度 Milling Speed	100m/min
進給速度 Speed (min^{-1})	1400mm/min
切深 Depth of cut	ap=15.00mm ae=1.00mm
冷卻方式 Coolant	空冷 Air Blow
使用機台 Machine	立式綜合加工機 Vertical Machining Center



P-PE0804T：加工表面良好
Favorable Machined Surface



他牌：一般加工表面
Competitor：General Machined Surface

效率UP! 600 PLUS實現高速加工，節省加工時間25%↑
Achieving efficient maching by 600 PLUS ; Milling time reduced by more than 25%!

工具 Tool	他牌 Competitor Ø8mm	SPEED TIGER 600 PLUS P-PE0804T
工件 Work Material	中碳鋼 S50C	
加工方式 Milling Type	側銑 Side milling	
切削速度 Milling Speed	100m/min	100m/min
進給速度 Speed (min^{-1})	2200mm/min	2800mm/min
切深 Depth of cut	ap=15.00mm ae=1.00mm	
加工長度 Working Length	110m	
加工時間 Working Time	500min	**392min**
冷卻方式 Coolant	空冷 Air Blow	
使用機台 Machine	立式綜合加工機 Vertical Machining Center	

他牌 Competitor

加工時間
8小時20分鐘
Cutting Time
8hr 20min

為您省下**25%**加工時間
SAVE your time 25%↑

SPEED TIGER
600 PLUS

加工時間
6小時32分鐘
Cutting Time
6hr 32min

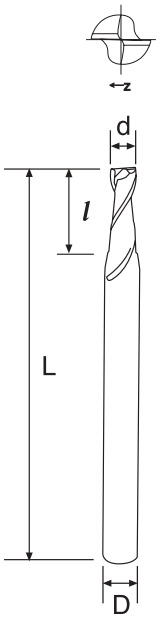
切 削 條件表 P324
Cutting Condition

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

600 Nano | HRC ▶40 | 35°

- Super Ultra Fine Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
MIE0022	0.2	0.4	50	4	2
MIE0032	0.3	0.6	50	4	2
MIE0042	0.4	0.8	50	4	2
MIE0052	0.5	1	50	4	2
MIE0062	0.6	1.2	50	4	2
MIE0072	0.7	1.4	50	4	2
MIE0082	0.8	1.6	50	4	2
MIE0092	0.9	1.8	50	4	2
MIE0102	1	3	50	4	2
MIE0112	1.1	3	50	4	2
MIE0122	1.2	3	50	4	2
MIE0132	1.3	3	50	4	2
MIE0142	1.4	3	50	4	2
MIE0152	1.5	4	50	4	2
MIE0162	1.6	4	50	4	2
MIE0172	1.7	4	50	4	2
MIE0182	1.8	4	50	4	2
MIE0192	1.9	4	50	4	2
MIE0202	2	6	50	4	2
MIE0212	2.1	6	50	4	2
MIE0222	2.2	6	50	4	2
MIE0232	2.3	6	50	4	2
MIE0242	2.4	6	50	4	2
MIE0252	2.5	8	50	4	2
MIE0262	2.6	8	50	4	2
MIE0272	2.7	8	50	4	2
MIE0282	2.8	8	50	4	2
MIE0292	2.9	8	50	4	2
MIE0302	3	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎						○	○

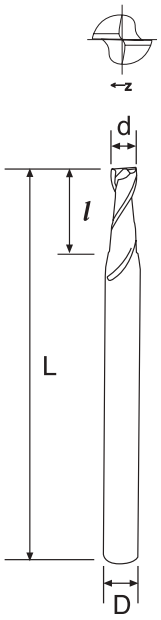
Unit/單位: mm

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

600 Nano | HRC ▶50 | 35° | AlTiN

- Super Ultra Fine Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
MIE0022 AlTiN	0.2	0.4	50	4	2
MIE0032 AlTiN	0.3	0.6	50	4	2
MIE0042 AlTiN	0.4	0.8	50	4	2
MIE0052 AlTiN	0.5	1	50	4	2
MIE0062 AlTiN	0.6	1.2	50	4	2
MIE0072 AlTiN	0.7	1.4	50	4	2
MIE0082 AlTiN	0.8	1.6	50	4	2
MIE0092 AlTiN	0.9	1.8	50	4	2
MIE0102 AlTiN	1	3	50	4	2
MIE0112 AlTiN	1.1	3	50	4	2
MIE0122 AlTiN	1.2	3	50	4	2
MIE0132 AlTiN	1.3	3	50	4	2
MIE0142 AlTiN	1.4	3	50	4	2
MIE0152 AlTiN	1.5	4	50	4	2
MIE0162 AlTiN	1.6	4	50	4	2
MIE0172 AlTiN	1.7	4	50	4	2
MIE0182 AlTiN	1.8	4	50	4	2
MIE0192 AlTiN	1.9	4	50	4	2
MIE0202 AlTiN	2	6	50	4	2
MIE0212 AlTiN	2.1	6	50	4	2
MIE0222 AlTiN	2.2	6	50	4	2
MIE0232 AlTiN	2.3	6	50	4	2
MIE0242 AlTiN	2.4	6	50	4	2
MIE0252 AlTiN	2.5	8	50	4	2
MIE0262 AlTiN	2.6	8	50	4	2
MIE0272 AlTiN	2.7	8	50	4	2
MIE0282 AlTiN	2.8	8	50	4	2
MIE0292 AlTiN	2.9	8	50	4	2
MIE0302 AlTiN	3	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

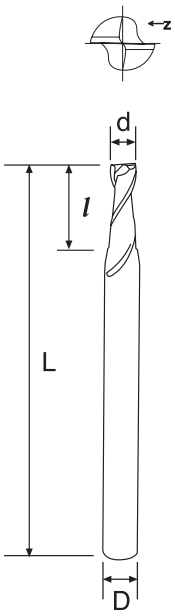
切 削 條件表 P316
Cutting Condition

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
UMIE3022 nBS	0.2	0.4	38	3	2
UMIE3032 nBS	0.3	0.6	38	3	2
UMIE3042 nBS	0.4	0.7	38	3	2
UMIE3052 nBS	0.5	0.8	38	3	2
UMIE3062 nBS	0.6	0.9	38	3	2
UMIE3072 nBS	0.7	1.4	38	3	2
UMIE3082 nBS	0.8	1.6	38	3	2
UMIE3092 nBS	0.9	1.8	38	3	2
UMIE3102 nBS	1	3	38	3	2
UMIE3112 nBS	1.1	3	38	3	2
UMIE3122 nBS	1.2	3	38	3	2
UMIE3132 nBS	1.3	3	38	3	2
UMIE3142 nBS	1.4	3	38	3	2
UMIE3152 nBS	1.5	4	38	3	2
UMIE3162 nBS	1.6	4	38	3	2
UMIE3172 nBS	1.7	4	38	3	2
UMIE3182 nBS	1.8	4	38	3	2
UMIE3192 nBS	1.9	4	38	3	2
UMIE3202 nBS	2	6	38	3	2
UMIE3212 nBS	2.1	6	38	3	2
UMIE3222 nBS	2.2	6	38	3	2
UMIE3232 nBS	2.3	6	38	3	2
UMIE3242 nBS	2.4	6	38	3	2
UMIE3252 nBS	2.5	8	38	3	2
UMIE3262 nBS	2.6	8	38	3	2
UMIE3272 nBS	2.7	8	38	3	2
UMIE3282 nBS	2.8	8	38	3	2
UMIE3292 nBS	2.9	8	38	3	2
UMIE3302 nBS	3	8	38	3	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	○		○		

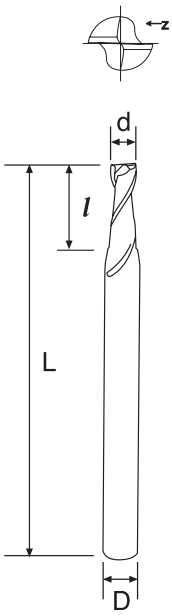
Unit/單位: mm

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
UMIE0022 nBS	0.2	0.4	50	4	2
UMIE0032 nBS	0.3	0.6	50	4	2
UMIE0042 nBS	0.4	0.7	50	4	2
UMIE0052 nBS	0.5	0.8	50	4	2
UMIE0062 nBS	0.6	0.9	50	4	2
UMIE0072 nBS	0.7	1.4	50	4	2
UMIE0082 nBS	0.8	1.6	50	4	2
UMIE0092 nBS	0.9	1.8	50	4	2
UMIE0102 nBS	1	3	50	4	2
UMIE0112 nBS	1.1	3	50	4	2
UMIE0122 nBS	1.2	3	50	4	2
UMIE0132 nBS	1.3	3	50	4	2
UMIE0142 nBS	1.4	3	50	4	2
UMIE0152 nBS	1.5	4	50	4	2
UMIE0162 nBS	1.6	4	50	4	2
UMIE0172 nBS	1.7	4	50	4	2
UMIE0182 nBS	1.8	4	50	4	2
UMIE0192 nBS	1.9	4	50	4	2
UMIE0202 nBS	2	6	50	4	2
UMIE0212 nBS	2.1	6	50	4	2
UMIE0222 nBS	2.2	6	50	4	2
UMIE0232 nBS	2.3	6	50	4	2
UMIE0242 nBS	2.4	6	50	4	2
UMIE0252 nBS	2.5	8	50	4	2
UMIE0262 nBS	2.6	8	50	4	2
UMIE0272 nBS	2.7	8	50	4	2
UMIE0282 nBS	2.8	8	50	4	2
UMIE0292 nBS	2.9	8	50	4	2
UMIE0302 nBS	3	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	○		○		

Unit/單位: mm

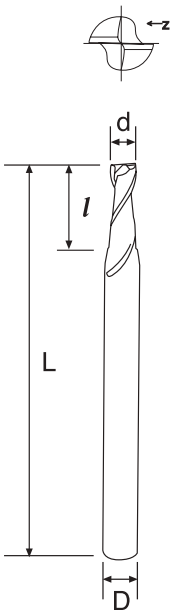
切 削 條件表 P317
Cutting Condition

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

200 Nano | HRC ▶60 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
SFUMIE0023 TiSiN	0.2	0.4	38	3	2
SFUMIE0033 TiSiN	0.3	0.6	38	3	2
SFUMIE0043 TiSiN	0.4	0.8	38	3	2
SFUMIE0053 TiSiN	0.5	1	38	3	2
SFUMIE0063 TiSiN	0.6	1.2	38	3	2
SFUMIE0073 TiSiN	0.7	1.4	38	3	2
SFUMIE0083 TiSiN	0.8	1.6	38	3	2
SFUMIE0093 TiSiN	0.9	1.8	38	3	2
SFUMIE0103 TiSiN	1	2	38	3	2
SFUMIE0113 TiSiN	1.1	2	38	3	2
SFUMIE0123 TiSiN	1.2	2.5	38	3	2
SFUMIE0133 TiSiN	1.3	2.5	38	3	2
SFUMIE0143 TiSiN	1.4	3	38	3	2
SFUMIE0153 TiSiN	1.5	3	38	3	2
SFUMIE0163 TiSiN	1.6	3.5	38	3	2
SFUMIE0173 TiSiN	1.7	3.5	38	3	2
SFUMIE0183 TiSiN	1.8	4	38	3	2
SFUMIE0193 TiSiN	1.9	4	38	3	2
SFUMIE0203 TiSiN	2	4	38	3	2
SFUMIE0213 TiSiN	2.1	4	38	3	2
SFUMIE0223 TiSiN	2.2	4.5	38	3	2
SFUMIE0233 TiSiN	2.3	4.5	38	3	2
SFUMIE0243 TiSiN	2.4	5	38	3	2
SFUMIE0253 TiSiN	2.5	5	38	3	2
SFUMIE0263 TiSiN	2.6	5	38	3	2
SFUMIE0273 TiSiN	2.7	5.5	38	3	2
SFUMIE0283 TiSiN	2.8	5.5	38	3	2
SFUMIE0293 TiSiN	2.9	6	38	3	2
SFUMIE0303 TiSiN	3	6	38	3	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	○	○		

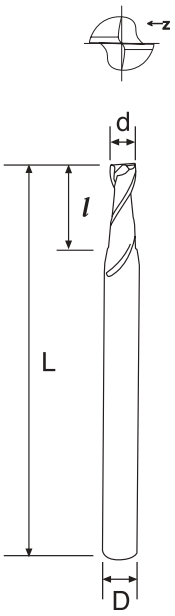
Unit/單位: mm

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

200 Nano | HRC ▶60 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
SFUMIE0024 TiSiN	0.2	0.4	50	4	2
SFUMIE0034 TiSiN	0.3	0.6	50	4	2
SFUMIE0044 TiSiN	0.4	0.8	50	4	2
SFUMIE0054 TiSiN	0.5	1	50	4	2
SFUMIE0064 TiSiN	0.6	1.2	50	4	2
SFUMIE0074 TiSiN	0.7	1.4	50	4	2
SFUMIE0084 TiSiN	0.8	1.6	50	4	2
SFUMIE0094 TiSiN	0.9	1.8	50	4	2
SFUMIE0104 TiSiN	1	2	50	4	2
SFUMIE0114 TiSiN	1.1	2	50	4	2
SFUMIE0124 TiSiN	1.2	2.5	50	4	2
SFUMIE0134 TiSiN	1.3	2.5	50	4	2
SFUMIE0144 TiSiN	1.4	3	50	4	2
SFUMIE0154 TiSiN	1.5	3	50	4	2
SFUMIE0164 TiSiN	1.6	3.5	50	4	2
SFUMIE0174 TiSiN	1.7	3.5	50	4	2
SFUMIE0184 TiSiN	1.8	4	50	4	2
SFUMIE0194 TiSiN	1.9	4	50	4	2
SFUMIE0204 TiSiN	2	4	50	4	2
SFUMIE0214 TiSiN	2.1	4	50	4	2
SFUMIE0224 TiSiN	2.2	4.5	50	4	2
SFUMIE0234 TiSiN	2.3	4.5	50	4	2
SFUMIE0244 TiSiN	2.4	5	50	4	2
SFUMIE0254 TiSiN	2.5	5	50	4	2
SFUMIE0264 TiSiN	2.6	5	50	4	2
SFUMIE0274 TiSiN	2.7	5.5	50	4	2
SFUMIE0284 TiSiN	2.8	5.5	50	4	2
SFUMIE0294 TiSiN	2.9	6	50	4	2
SFUMIE0304 TiSiN	3	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	○	○		

ST 600+

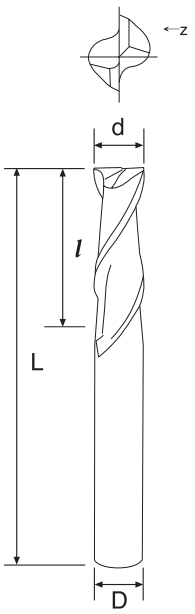
切削條件表 P304
Cutting Condition

Square series - 2 flutes

■ 2刃立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-SSE0102	1	3	50	3	2
P-MSE0102	1	3	50	4	2
P-SSE0152	1.5	4	50	3	2
P-MSE0152	1.5	4	50	4	2
P-SSE0202	2	6	50	3	2
P-MSE0202	2	6	50	4	2
P-SSE0252	2.5	8	50	3	2
P-MSE0252	2.5	8	50	4	2
P-SSE0302	3	8	50	3	2
P-MSE0302	3	8	50	4	2
P-MSE0352	3.5	10	50	4	2
P-MSE0402	4	11	50	4	2
P-SE0102	1	3	50	6	2
P-SE0152	1.5	4	50	6	2
P-SE0202	2	6	50	6	2
P-SE0252	2.5	8	50	6	2
P-SE0302	3	8	50	6	2
P-SE0352	3.5	10	50	6	2
P-SE0402	4	11	50	6	2
P-SE0452	4.5	13	50	6	2
P-SE0502	5	13	50	6	2
P-SE0552	5.5	13	50	6	2
P-SE0602	6	16	50	6	2
P-SE0652	6.5	16	60	8	2
P-SE0702	7	16	60	8	2
P-SE0752	7.5	19	60	8	2
P-SE0802	8	20	60	8	2
P-SE0852	8.5	20	75	10	2
P-SE0902	9	20	75	10	2
P-SE0952	9.5	25	75	10	2
P-SE1002	10	25	75	10	2
P-SE1052	10.5	25	75	12	2
P-SE1102	11	30	75	12	2
P-SE1152	11.5	30	75	12	2
P-SE1202	12	32	75	12	2
P-SE1402	14	40	100	16	2
P-SE1602	16	40	100	16	2
P-SE1802	18	45	100	20	2
P-SE2002	20	45	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P304 Cutting Condition

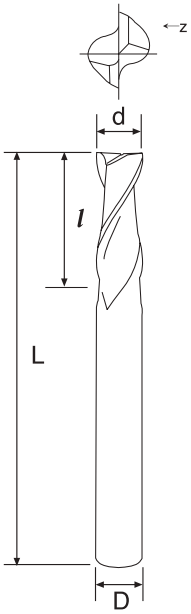
SPEED TIGER

Square series - 2 flutes

■ 2刃立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-SSE0102 AlTiN	1	3	50	3	2
P-MSE0102 AlTiN	1	3	50	4	2
P-SSE0152 AlTiN	1.5	4	50	3	2
P-MSE0152 AlTiN	1.5	4	50	4	2
P-SSE0202 AlTiN	2	6	50	3	2
P-MSE0202 AlTiN	2	6	50	4	2
P-SSE0252 AlTiN	2.5	8	50	3	2
P-MSE0252 AlTiN	2.5	8	50	4	2
P-SSE0302 AlTiN	3	8	50	3	2
P-MSE0302 AlTiN	3	8	50	4	2
P-MSE0352 AlTiN	3.5	10	50	4	2
P-MSE0402 AlTiN	4	11	50	4	2
P-SE0102 AlTiN	1	3	50	6	2
P-SE0152 AlTiN	1.5	4	50	6	2
P-SE0202 AlTiN	2	6	50	6	2
P-SE0252 AlTiN	2.5	8	50	6	2
P-SE0302 AlTiN	3	8	50	6	2
P-SE0352 AlTiN	3.5	10	50	6	2
P-SE0402 AlTiN	4	11	50	6	2
P-SE0452 AlTiN	4.5	13	50	6	2
P-SE0502 AlTiN	5	13	50	6	2
P-SE0552 AlTiN	5.5	13	50	6	2
P-SE0602 AlTiN	6	16	50	6	2
P-SE0652 AlTiN	6.5	16	60	8	2
P-SE0702 AlTiN	7	16	60	8	2
P-SE0752 AlTiN	7.5	19	60	8	2
P-SE0802 AlTiN	8	20	60	8	2
P-SE0852 AlTiN	8.5	20	75	10	2
P-SE0902 AlTiN	9	20	75	10	2
P-SE0952 AlTiN	9.5	25	75	10	2
P-SE1002 AlTiN	10	25	75	10	2
P-SE1052 AlTiN	10.5	25	75	12	2
P-SE1102 AlTiN	11	30	75	12	2
P-SE1152 AlTiN	11.5	30	75	12	2
P-SE1202 AlTiN	12	32	75	12	2
P-SE1402 AlTiN	14	40	100	16	2
P-SE1602 AlTiN	16	40	100	16	2
P-SE1802 AlTiN	18	45	100	20	2
P-SE2002 AlTiN	20	45	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

切 削 條件表 P321
Cutting Condition

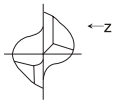
Square series - 2 flutes

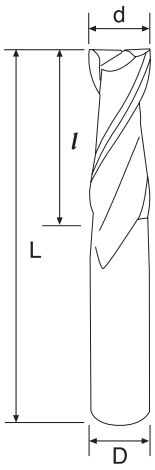
■ 2刃立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
UET0102 nBS	1	3	50	4	2
UET0152 nBS	1.5	4	50	4	2
UET0202 nBS	2	6	50	4	2
UET0252 nBS	2.5	8	50	4	2
UET0302 nBS	3	8	50	4	2
UET0352 nBS	3.5	10	50	4	2
UET0402 nBS	4	11	50	4	2
UET0452 nBS	4.5	13	50	6	2
UET0502 nBS	5	13	50	6	2
UET0552 nBS	5.5	13	50	6	2
UET0602 nBS	6	16	50	6	2
UET0652 nBS	6.5	16	60	8	2
UET0702 nBS	7	17	60	8	2
UET0752 nBS	7.5	17	60	8	2
UET0802 nBS	8	21	60	8	2
UET0852 nBS	8.5	25	75	10	2
UET0902 nBS	9	25	75	10	2
UET0952 nBS	9.5	25	75	10	2
UET1002 nBS	10	26	75	10	2
UET1102 nBS	11	28	75	12	2
UET1202 nBS	12	30	75	12	2
UET1302 nBS	13	33	75	14	2
UET1402 nBS	14	33	75	14	2
UET1502 nBS	15	33	75	16	2
UET1602 nBS	16	33	75	16	2
UET1802 nBS	18	45	100	18	2
UET2002 nBS	20	50	100	20	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

Unit/單位: mm

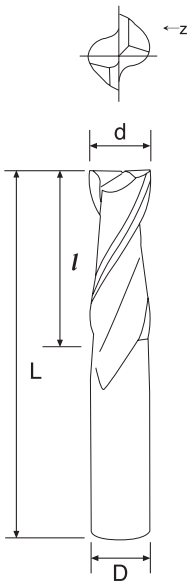
www.speedtiger.com.tw

Square series - 2 flutes

■ 2刃立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFUET0102 TiSiN	1	2.5	50	4	2
SFUET0152 TiSiN	1.5	3	50	4	2
SFUET0202 TiSiN	2	5	50	4	2
SFUET0252 TiSiN	2.5	6	50	4	2
SFUET0302 TiSiN	3	7.5	50	4	2
SFUET0352 TiSiN	3.5	8	50	4	2
SFUET0402 TiSiN	4	9	50	4	2
SFUET0452 TiSiN	4.5	10	50	6	2
SFUET0502 TiSiN	5	11	50	6	2
SFUET0552 TiSiN	5.5	12	50	6	2
SFUET0602 TiSiN	6	13	60	6	2
SFUET0652 TiSiN	6.5	14	60	8	2
SFUET0702 TiSiN	7	14	60	8	2
SFUET0752 TiSiN	7.5	16	60	8	2
SFUET0802 TiSiN	8	16	60	8	2
SFUET0852 TiSiN	8.5	18	75	10	2
SFUET0902 TiSiN	9	18	75	10	2
SFUET0952 TiSiN	9.5	22	75	10	2
SFUET1002 TiSiN	10	22	75	10	2
SFUET1052 TiSiN	10.5	24	75	12	2
SFUET1102 TiSiN	11	24	75	12	2
SFUET1152 TiSiN	11.5	24	75	12	2
SFUET1202 TiSiN	12	26	75	12	2
SFUET1402 TiSiN	14	30	75	16	2
SFUET1502 TiSiN	15	30	75	16	2
SFUET1602 TiSiN	16	33	75	16	2
SFUET2002 TiSiN	20	45	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

ST 600+

切 削 條件表 P307
Cutting Condition

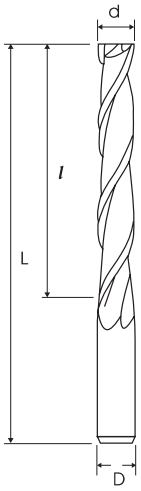
Square series - Long Flute - 2 flutes

■ 2刃長刃立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-LET0102	1	7	50	4	2
P-LET0152	1.5	9	50	4	2
P-LET0202	2	12	50	4	2
P-LET0252	2.5	12	50	4	2
P-LET0302	3	15	60	6	2
P-LET0352	3.5	15	60	6	2
P-LET0402	4	20	75	6	2
P-LET0452	4.5	20	75	6	2
P-LET0502	5	25	75	6	2
P-LET0552	5.5	25	75	6	2
P-LET0602	6	30	75	6	2
P-LET0702	7	30	100	8	2
P-LET0802	8	40	100	8	2
P-LET0902	9	40	100	10	2
P-LET1002	10	40	100	10	2
P-LET1102	11	40	100	12	2
P-LET1202	12	50	100	12	2
P-LET1402	14	50	150	16	2
P-LET1602	16	60	150	16	2
P-LET2002	20	90	200	20	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P307 Cutting Condition

SPEED TIGER

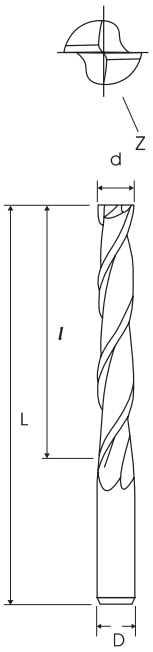
Square series - Long Flute - 2 flutes

■ 2刃長刃立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-LET0102 AlTiN	1	7	50	4	2
P-LET0152 AlTiN	1.5	9	50	4	2
P-LET0202 AlTiN	2	12	50	4	2
P-LET0252 AlTiN	2.5	12	50	4	2
P-LET0302 AlTiN	3	15	60	6	2
P-LET0352 AlTiN	3.5	15	60	6	2
P-LET0402 AlTiN	4	20	75	6	2
P-LET0452 AlTiN	4.5	20	75	6	2
P-LET0502 AlTiN	5	25	75	6	2
P-LET0552 AlTiN	5.5	25	75	6	2
P-LET0602 AlTiN	6	30	75	6	2
P-LET0702 AlTiN	7	30	100	8	2
P-LET0802 AlTiN	8	40	100	8	2
P-LET0902 AlTiN	9	40	100	10	2
P-LET1002 AlTiN	10	40	100	10	2
P-LET1102 AlTiN	11	40	100	12	2
P-LET1202 AlTiN	12	50	100	12	2
P-LET1402 AlTiN	14	50	150	16	2
P-LET1602 AlTiN	16	60	150	16	2
P-LET2002 AlTiN	20	90	200	20	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	○	○	○		○		

Unit/單位: mm

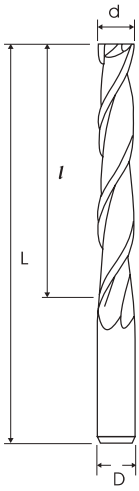
切 削 條件表 P323
Cutting Condition

Square series - Long Flute - 2 flutes

■ 2刃長刃立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
ULET0102 nBS	1	5	50	4	2
ULET0152 nBS	1.5	6	50	4	2
ULET0202 nBS	2	8	50	6	2
ULET0252 nBS	2.5	10	50	6	2
ULET0302 nBS	3	12	60	6	2
ULET0352 nBS	3.5	14	60	6	2
ULET0402 nBS	4	16	60	6	2
ULET0452 nBS	4.5	16	60	6	2
ULET0502 nBS	5	20	60	6	2
ULET0552 nBS	5.5	20	60	6	2
ULET0602 nBS	6	25	75	6	2
ULET0702 nBS	7	26	75	8	2
ULET0802 nBS	8	26	75	8	2
ULET0812 nBS	8	36	100	8	2
ULET1002 nBS	10	40	100	10	2
ULET1102 nBS	11	40	100	12	2
ULET1202 nBS	12	46	100	12	2
ULET1402 nBS	14	46	100	14	2
ULET1502 nBS	15	46	100	16	2
ULET1602 nBS	16	46	100	16	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

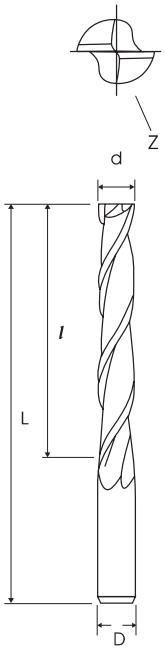
Unit/單位: mm

Square series - Long Flute - 2 flutes

■ 2刃長刃立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
SFULET0102 TiSiN	1	4	50	4	2
SFULET0152 TiSiN	1.5	6	50	4	2
SFULET0202 TiSiN	2	8	50	4	2
SFULET0302 TiSiN	3	11	60	6	2
SFULET0402 TiSiN	4	14	60	6	2
SFULET0452 TiSiN	4.5	16	60	6	2
SFULET0502 TiSiN	5	18	60	6	2
SFULET0552 TiSiN	5.5	20	60	6	2
SFULET0602 TiSiN	6	25	75	6	2
SFULET0652 TiSiN	6.5	25	75	8	2
SFULET0702 TiSiN	7	25	75	8	2
SFULET0752 TiSiN	7.5	25	75	8	2
SFULET0802 TiSiN	8	25	75	8	2
SFULET0812 TiSiN	8	35	100	8	2
SFULET0852 TiSiN	8.5	35	100	10	2
SFULET0902 TiSiN	9	35	100	10	2
SFULET0952 TiSiN	9.5	40	100	10	2
SFULET1002 TiSiN	10	40	100	10	2
SFULET1052 TiSiN	10.5	40	100	12	2
SFULET1102 TiSiN	11	40	100	12	2
SFULET1152 TiSiN	11.5	45	100	12	2
SFULET1202 TiSiN	12	45	100	12	2
SFULET1402 TiSiN	14	45	100	16	2
SFULET1502 TiSiN	15	45	100	16	2
SFULET1602 TiSiN	16	45	100	16	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

切 削 條件表 P324
Cutting Condition

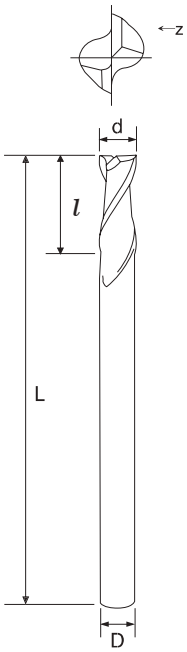
Square series - Long Shank - 2 flutes

■ 2刃長柄立銑刀

600 Nano | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SLE0602	6	16	75	6	2
MLE0602	6	16	100	6	2
SLE0802	8	20	75	8	2
MLE0802	8	20	100	8	2
SLE1002	10	25	100	10	2
MLE1002	10	25	150	10	2
SLE1202	12	32	100	12	2
MLE1202	12	32	150	12	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

www.speedtiger.com.tw

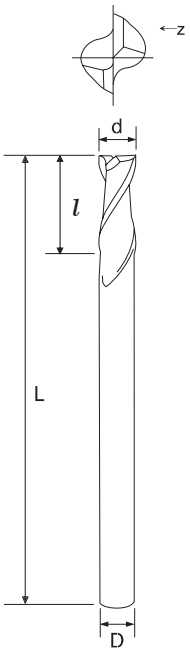
Square series - Long Shank - 2 flutes

■ 2刃長柄立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SLE0602 AlTiN	6	16	75	6	2
MLE0602 AlTiN	6	16	100	6	2
SLE0802 AlTiN	8	20	75	8	2
MLE0802 AlTiN	8	20	100	8	2
SLE1002 AlTiN	10	25	100	10	2
MLE1002 AlTiN	10	25	150	10	2
SLE1202 AlTiN	12	32	100	12	2
MLE1202 AlTiN	12	32	150	12	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

ST 600+

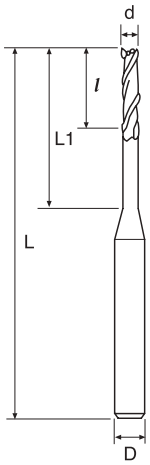
切削條件表 P305
Cutting Condition

Square series - Long Neck - 2 flutes

■ 2刃深溝專用長頸立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNT05022	0.5	0.75	2	50	4	2
P-LNT05042	0.5	0.75	4	50	4	2
P-LNT05062	0.5	0.75	6	50	4	2
P-LNT06022	0.6	0.9	2	50	4	2
P-LNT06042	0.6	0.9	4	50	4	2
P-LNT06062	0.6	0.9	6	50	4	2
P-LNT07042	0.7	1.1	4	50	4	2
P-LNT07062	0.7	1.1	6	50	4	2
P-LNT08042	0.8	1.2	4	50	4	2
P-LNT08062	0.8	1.2	6	50	4	2
P-LNT08082	0.8	1.2	8	50	4	2
P-LNT09062	0.9	1.4	6	50	4	2
P-LNT09082	0.9	1.4	8	50	4	2
P-LNT09102	0.9	1.4	10	50	4	2
P-LNT10062	1	1.5	6	50	4	2
P-LNT10082	1	1.5	8	50	4	2
P-LNT10102	1	1.5	10	50	4	2
P-LNT10122	1	1.5	12	50	4	2
P-LNT10162	1	1.5	16	50	4	2
P-LNT12062	1.2	1.8	6	50	4	2
P-LNT12082	1.2	1.8	8	50	4	2
P-LNT12102	1.2	1.8	10	50	4	2
P-LNT12122	1.2	1.8	12	50	4	2
P-LNT14062	1.4	2.1	6	50	4	2
P-LNT14102	1.4	2.1	10	50	4	2
P-LNT14162	1.4	2.1	16	50	4	2
P-LNT15062	1.5	2.3	6	50	4	2
P-LNT15082	1.5	2.3	8	50	4	2
P-LNT15102	1.5	2.3	10	50	4	2
P-LNT15122	1.5	2.3	12	50	4	2
P-LNT15142	1.5	2.3	14	50	4	2
P-LNT15162	1.5	2.3	16	50	4	2
P-LNT15182	1.5	2.3	18	50	4	2
P-LNT15202	1.5	2.3	20	50	4	2
P-LNT16062	1.6	2.4	6	50	4	2
P-LNT16082	1.6	2.4	8	50	4	2
P-LNT16102	1.6	2.4	10	50	4	2
P-LNT16122	1.6	2.4	12	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P305 Cutting Condition

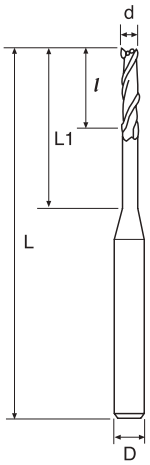
SPEED TIGER

Square series - Long Neck - 2 flutes

■ 2刃深溝專用長頸立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNT16142	1.6	2.4	14	50	4	2
P-LNT16162	1.6	2.4	16	50	4	2
P-LNT16182	1.6	2.4	18	50	4	2
P-LNT18082	1.8	2.7	8	50	4	2
P-LNT18142	1.8	2.7	14	50	4	2
P-LNT18202	1.8	2.7	20	50	4	2
P-LNT20062	2	3	6	50	4	2
P-LNT20082	2	3	8	50	4	2
P-LNT20102	2	3	10	50	4	2
P-LNT20122	2	3	12	50	4	2
P-LNT20142	2	3	14	50	4	2
P-LNT20162	2	3	16	50	4	2
P-LNT20182	2	3	18	50	4	2
P-LNT20202	2	3	20	50	4	2
P-LNT25082	2.5	4	8	50	4	2
P-LNT25102	2.5	4	10	50	4	2
P-LNT25122	2.5	4	12	50	4	2
P-LNT25142	2.5	4	14	50	4	2
P-LNT25162	2.5	4	16	50	4	2
P-LNT25202	2.5	4	20	50	4	2
P-LNT30082	3	4.5	8	50	6	2
P-LNT30102	3	4.5	10	50	6	2
P-LNT30122	3	4.5	12	50	6	2
P-LNT30162	3	4.5	16	60	6	2
P-LNT30202	3	4.5	20	60	6	2
P-LNT30252	3	4.5	25	75	6	2
P-LNT35122	3.5	6	12	50	6	2
P-LNT35162	3.5	6	16	60	6	2
P-LNT35202	3.5	6	20	75	6	2
P-LNT35252	3.5	6	25	75	6	2
P-LNT35302	3.5	6	30	75	6	2
P-LNT40122	4	6	12	50	6	2
P-LNT40162	4	6	16	60	6	2
P-LNT40202	4	6	20	75	6	2
P-LNT40252	4	6	25	75	6	2
P-LNT40302	4	6	30	75	6	2
P-LNT40352	4	6	35	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

ST 600+

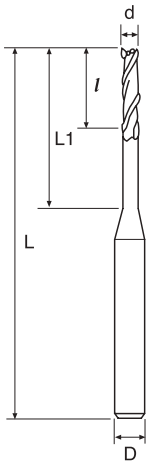
切削條件表 P305 Cutting Condition

Square series - Long Neck - 2 flutes

■ 2刃深溝專用長頸立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNT05022 AlTiN	0.5	0.75	2	50	4	2
P-LNT05042 AlTiN	0.5	0.75	4	50	4	2
P-LNT05062 AlTiN	0.5	0.75	6	50	4	2
P-LNT06022 AlTiN	0.6	0.9	2	50	4	2
P-LNT06042 AlTiN	0.6	0.9	4	50	4	2
P-LNT06062 AlTiN	0.6	0.9	6	50	4	2
P-LNT07042 AlTiN	0.7	1.1	4	50	4	2
P-LNT07062 AlTiN	0.7	1.1	6	50	4	2
P-LNT08042 AlTiN	0.8	1.2	4	50	4	2
P-LNT08062 AlTiN	0.8	1.2	6	50	4	2
P-LNT08082 AlTiN	0.8	1.2	8	50	4	2
P-LNT09062 AlTiN	0.9	1.4	6	50	4	2
P-LNT09082 AlTiN	0.9	1.4	8	50	4	2
P-LNT09102 AlTiN	0.9	1.4	10	50	4	2
P-LNT10062 AlTiN	1	1.5	6	50	4	2
P-LNT10082 AlTiN	1	1.5	8	50	4	2
P-LNT10102 AlTiN	1	1.5	10	50	4	2
P-LNT10122 AlTiN	1	1.5	12	50	4	2
P-LNT10162 AlTiN	1	1.5	16	50	4	2
P-LNT12062 AlTiN	1.2	1.8	6	50	4	2
P-LNT12082 AlTiN	1.2	1.8	8	50	4	2
P-LNT12102 AlTiN	1.2	1.8	10	50	4	2
P-LNT12122 AlTiN	1.2	1.8	12	50	4	2
P-LNT14062 AlTiN	1.4	2.1	6	50	4	2
P-LNT14102 AlTiN	1.4	2.1	10	50	4	2
P-LNT14162 AlTiN	1.4	2.1	16	50	4	2
P-LNT15062 AlTiN	1.5	2.3	6	50	4	2
P-LNT15082 AlTiN	1.5	2.3	8	50	4	2
P-LNT15102 AlTiN	1.5	2.3	10	50	4	2
P-LNT15122 AlTiN	1.5	2.3	12	50	4	2
P-LNT15142 AlTiN	1.5	2.3	14	50	4	2
P-LNT15162 AlTiN	1.5	2.3	16	50	4	2
P-LNT15182 AlTiN	1.5	2.3	18	50	4	2
P-LNT15202 AlTiN	1.5	2.3	20	50	4	2
P-LNT16062 AlTiN	1.6	2.4	6	50	4	2
P-LNT16082 AlTiN	1.6	2.4	8	50	4	2
P-LNT16102 AlTiN	1.6	2.4	10	50	4	2
P-LNT16122 AlTiN	1.6	2.4	12	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎			○		

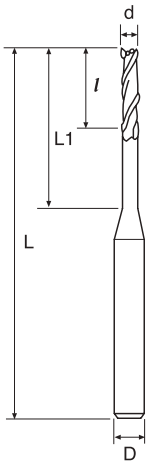
Unit/單位: mm

Square series - Long Neck - 2 flutes

■ 2刃深溝專用長頸立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNT16142 AlTiN	1.6	2.4	14	50	4	2
P-LNT16162 AlTiN	1.6	2.4	16	50	4	2
P-LNT16182 AlTiN	1.6	2.4	18	50	4	2
P-LNT18082 AlTiN	1.8	2.7	8	50	4	2
P-LNT18142 AlTiN	1.8	2.7	14	50	4	2
P-LNT18202 AlTiN	1.8	2.7	20	50	4	2
P-LNT20062 AlTiN	2	3	6	50	4	2
P-LNT20082 AlTiN	2	3	8	50	4	2
P-LNT20102 AlTiN	2	3	10	50	4	2
P-LNT20122 AlTiN	2	3	12	50	4	2
P-LNT20142 AlTiN	2	3	14	50	4	2
P-LNT20162 AlTiN	2	3	16	50	4	2
P-LNT20182 AlTiN	2	3	18	50	4	2
P-LNT20202 AlTiN	2	3	20	50	4	2
P-LNT25082 AlTiN	2.5	4	8	50	4	2
P-LNT25102 AlTiN	2.5	4	10	50	4	2
P-LNT25122 AlTiN	2.5	4	12	50	4	2
P-LNT25142 AlTiN	2.5	4	14	50	4	2
P-LNT25162 AlTiN	2.5	4	16	50	4	2
P-LNT25202 AlTiN	2.5	4	20	50	4	2
P-LNT30082 AlTiN	3	4.5	8	50	6	2
P-LNT30102 AlTiN	3	4.5	10	50	6	2
P-LNT30122 AlTiN	3	4.5	12	50	6	2
P-LNT30162 AlTiN	3	4.5	16	60	6	2
P-LNT30202 AlTiN	3	4.5	20	60	6	2
P-LNT30252 AlTiN	3	4.5	25	75	6	2
P-LNT35122 AlTiN	3.5	6	12	50	6	2
P-LNT35162 AlTiN	3.5	6	16	60	6	2
P-LNT35202 AlTiN	3.5	6	20	75	6	2
P-LNT35252 AlTiN	3.5	6	25	75	6	2
P-LNT35302 AlTiN	3.5	6	30	75	6	2
P-LNT40122 AlTiN	4	6	12	50	6	2
P-LNT40162 AlTiN	4	6	16	60	6	2
P-LNT40202 AlTiN	4	6	20	75	6	2
P-LNT40252 AlTiN	4	6	25	75	6	2
P-LNT40302 AlTiN	4	6	30	75	6	2
P-LNT40352 AlTiN	4	6	35	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎			○		

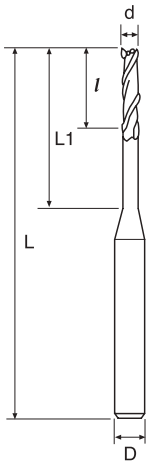
切削條件表 P318
Cutting Condition

Square series - Long Neck - 2flutes

■ 2刃深溝專用長頸立銑刀

400 Nano | HRC ▶55 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm



Mode	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
ULNT05022 nBS	0.5	0.75	2	50	4	2
ULNT05042 nBS	0.5	0.75	4	50	4	2
ULNT05062 nBS	0.5	0.75	6	50	4	2
ULNT06022 nBS	0.6	0.9	2	50	4	2
ULNT10062 nBS	1	1.5	6	50	4	2
ULNT10082 nBS	1	1.5	8	50	4	2
ULNT10102 nBS	1	1.5	10	50	4	2
ULNT10122 nBS	1	1.5	12	50	4	2
ULNT15062 nBS	1.5	2.3	6	50	4	2
ULNT15082 nBS	1.5	2.3	8	50	4	2
ULNT15102 nBS	1.5	2.3	10	50	4	2
ULNT15122 nBS	1.5	2.3	12	50	4	2
ULNT15142 nBS	1.5	2.3	14	50	4	2
ULNT15162 nBS	1.5	2.3	16	50	4	2
ULNT15182 nBS	1.5	2.3	18	50	4	2
ULNT15202 nBS	1.5	2.3	20	50	4	2
ULNT20062 nBS	2	3	6	50	4	2
ULNT20082 nBS	2	3	8	50	4	2
ULNT20102 nBS	2	3	10	50	4	2
ULNT20122 nBS	2	3	12	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

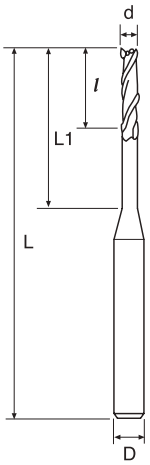
Unit/單位: mm

Square series - Long Neck - 2flutes

■ 2刃深溝專用長頸立銑刀

400 Nano | HRC ▶55 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
ULNT20142 nBS	2	3	14	50	4	2
ULNT20162 nBS	2	3	16	50	4	2
ULNT20182 nBS	2	3	18	50	4	2
ULNT20202 nBS	2	3	20	50	4	2
ULNT25082 nBS	2.5	4	8	50	4	2
ULNT25122 nBS	2.5	4	12	50	4	2
ULNT25162 nBS	2.5	4	16	50	4	2
ULNT25202 nBS	2.5	4	20	50	4	2
ULNT30102 nBS	3	4.5	10	50	6	2
ULNT30122 nBS	3	4.5	12	50	6	2
ULNT30162 nBS	3	4.5	16	60	6	2
ULNT30202 nBS	3	4.5	20	60	6	2
ULNT30252 nBS	3	4.5	25	75	6	2
ULNT40122 nBS	4	6	12	50	6	2
ULNT40162 nBS	4	6	16	60	6	2
ULNT40202 nBS	4	6	20	75	6	2
ULNT40252 nBS	4	6	25	75	6	2
ULNT40302 nBS	4	6	30	75	6	2
ULNT40352 nBS	4	6	35	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

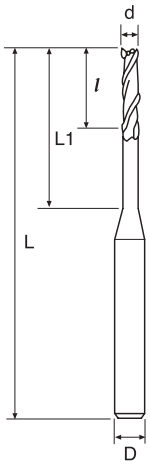
切削條件表 P318
Cutting Condition

Square series - Long Neck - 2flutes

■ 2刃深溝專用長頸立銑刀

200 Nano | HRC ▶65 | 35° | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm



Mode	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SFULNT05022 nACo	0.5	0.75	2	50	4	2
SFULNT05042 nACo	0.5	0.75	4	50	4	2
SFULNT05062 nACo	0.5	0.75	6	50	4	2
SFULNT06022 nACo	0.6	0.9	2	50	4	2
SFULNT06042 nACo	0.6	0.9	4	50	4	2
SFULNT06062 nACo	0.6	0.9	6	50	4	2
SFULNT07042 nACo	0.7	1.1	4	50	4	2
SFULNT07062 nACo	0.7	1.1	6	50	4	2
SFULNT08042 nACo	0.8	1.2	4	50	4	2
SFULNT08062 nACo	0.8	1.2	6	50	4	2
SFULNT08082 nACo	0.8	1.2	8	50	4	2
SFULNT10062 nACo	1	1.5	6	50	4	2
SFULNT10082 nACo	1	1.5	8	50	4	2
SFULNT10102 nACo	1	1.5	10	50	4	2
SFULNT10122 nACo	1	1.5	12	50	4	2
SFULNT10162 nACo	1	1.5	16	50	4	2
SFULNT15062 nACo	1.5	2.3	6	50	4	2
SFULNT15082 nACo	1.5	2.3	8	50	4	2
SFULNT15102 nACo	1.5	2.3	10	50	4	2
SFULNT15122 nACo	1.5	2.3	12	50	4	2
SFULNT15142 nACo	1.5	2.3	14	50	4	2
SFULNT15162 nACo	1.5	2.3	16	50	4	2
SFULNT15182 nACo	1.5	2.3	18	50	4	2
SFULNT15202 nACo	1.5	2.3	20	50	4	2
SFULNT20062 nACo	2	3	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

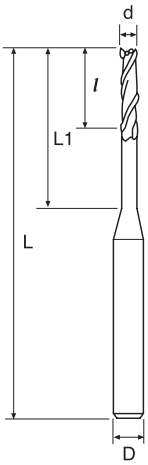
Unit/單位: mm

Square series - Long Neck - 2flutes

■ 2刃深溝專用長頸立銑刀

200 Nano | HRC ▶65 | 35° | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm



Mode	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SFULNT20082 nACo	2	3	8	50	4	2
SFULNT20102 nACo	2	3	10	50	4	2
SFULNT20122 nACo	2	3	12	50	4	2
SFULNT20142 nACo	2	3	14	50	4	2
SFULNT20162 nACo	2	3	16	50	4	2
SFULNT20182 nACo	2	3	18	50	4	2
SFULNT20202 nACo	2	3	20	50	4	2
SFULNT25082 nACo	2.5	4	8	50	4	2
SFULNT25102 nACo	2.5	4	10	50	4	2
SFULNT25122 nACo	2.5	4	12	50	4	2
SFULNT25142 nACo	2.5	4	14	50	4	2
SFULNT25162 nACo	2.5	4	16	50	4	2
SFULNT25202 nACo	2.5	4	20	50	4	2
SFULNT30082 nACo	3	4.5	8	50	6	2
SFULNT30102 nACo	3	4.5	10	50	6	2
SFULNT30122 nACo	3	4.5	12	50	6	2
SFULNT30162 nACo	3	4.5	16	60	6	2
SFULNT30202 nACo	3	4.5	20	60	6	2
SFULNT30252 nACo	3	4.5	25	75	6	2
SFULNT40122 nACo	4	6	12	50	6	2
SFULNT40162 nACo	4	6	16	60	6	2
SFULNT40202 nACo	4	6	20	75	6	2
SFULNT40252 nACo	4	6	25	75	6	2
SFULNT40302 nACo	4	6	30	75	6	2
SFULNT40352 nACo	4	6	35	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

切 削 條件表 P397
Cutting Condition

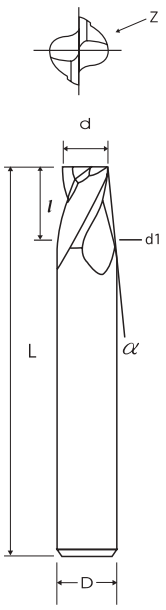
Taper Square - 2 flutes

■ 2刃斜度立銑刀

600 Nano | HRC ▶ 55 | 35° | AlTiN

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	α	d1 大 徑	Flutes Z 刃數
TTA005005 AlTiN	0.5	2	50	4	30"	0.53	2
TTA005010 AlTiN	0.5	2	50	4	1°	0.57	2
TTA005015 AlTiN	0.5	2	50	4	1°30"	0.6	2
TTA005020 AlTiN	0.5	2	50	4	2°	0.64	2
TTA005025 AlTiN	0.5	2	50	4	2°30"	0.67	2
TTA005030 AlTiN	0.5	2	50	4	3°	0.71	2
TTA005050 AlTiN	0.5	2	50	4	5°	0.85	2
TTA005070 AlTiN	0.5	2	50	4	7°	0.99	2
TTA005100 AlTiN	0.5	2	50	4	10°	1.21	2
TTA010005 AlTiN	1	4	50	4	30"	1.07	2
TTA010010 AlTiN	1	4	50	4	1°	1.14	2
TTA010015 AlTiN	1	4	50	4	1°30"	1.21	2
TTA010020 AlTiN	1	4	50	4	2°	1.28	2
TTA010025 AlTiN	1	4	50	4	2°30"	1.35	2
TTA010030 AlTiN	1	4	50	4	3°	1.42	2
TTA010050 AlTiN	1	4	50	4	5°	1.7	2
TTA010070 AlTiN	1	4	50	4	7°	1.98	2
TTA010100 AlTiN	1	4	50	4	10°	2.41	2
TTA015005 AlTiN	1.5	5	50	4	30"	1.59	2
TTA015010 AlTiN	1.5	5	50	4	1°	1.67	2
TTA015015 AlTiN	1.5	5	50	4	1°30"	1.76	2
TTA015020 AlTiN	1.5	5	50	4	2°	1.85	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

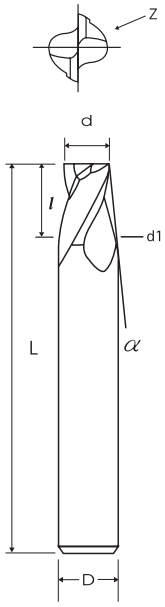
www.speedtiger.com.tw

Taper Square - 2 flutes

■ 2刃斜度立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	α	d1	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑		大 徑	Z 刃數
TTA015025 AlTiN	1.5	5	50	4	2°30"	1.93	2
TTA015030 AlTiN	1.5	5	50	4	3°	2.02	2
TTA015050 AlTiN	1.5	5	50	4	5°	2.37	2
TTA015070 AlTiN	1.5	5	50	4	7°	2.73	2
TTA015100 AlTiN	1.5	5	50	4	10°	3.26	2
TTA020005 AlTiN	2	6	50	4	30"	2.1	2
TTA020010 AlTiN	2	6	50	4	1°	2.21	2
TTA020015 AlTiN	2	6	50	4	1°30"	2.31	2
TTA020020 AlTiN	2	6	50	4	2°	2.41	2
TTA020025 AlTiN	2	6	50	4	2°30"	2.52	2
TTA020030 AlTiN	2	6	50	4	3°	2.62	2
TTA020050 AlTiN	2	6	50	4	5°	3.05	2
TTA020070 AlTiN	2	6	50	4	7°	3.47	2
TTA020100 AlTiN	2	6	50	4	10°	4.11	2
TTA025005 AlTiN	2.5	8	50	4	30"	2.64	2
TTA025010 AlTiN	2.5	8	50	4	1°	2.78	2
TTA025015 AlTiN	2.5	8	50	4	1°30"	2.91	2
TTA025020 AlTiN	2.5	8	50	4	2°	3.05	2
TTA025025 AlTiN	2.5	8	50	4	2°30"	3.2	2
TTA025030 AlTiN	2.5	8	50	4	3°	3.33	2
TTA025050 AlTiN	2.5	8	50	4	5°	3.9	2
TTA025070 AlTiN	2.5	8	50	6	7°	4.46	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

切 削 條件表 P397
Cutting Condition

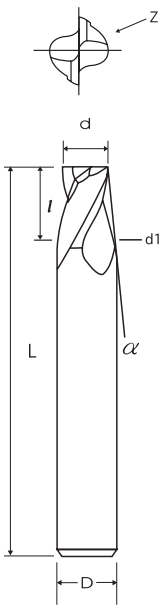
Taper Square - 2 flutes

■ 2刃斜度立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	α	d1 大 徑	Flutes Z 刃數
TTA025100 AlTiN	2.5	8	50	6	10°	5.32	2
TTA030005 AlTiN	3	10	50	6	30"	3.17	2
TTA030010 AlTiN	3	10	50	6	1°	3.35	2
TTA030015 AlTiN	3	10	50	6	1°30"	3.52	2
TTA030020 AlTiN	3	10	50	6	2°	3.69	2
TTA030025 AlTiN	3	10	50	6	2°30"	3.87	2
TTA030030 AlTiN	3	10	50	6	3°	4.05	2
TTA030050 AlTiN	3	10	50	6	5°	4.75	2
TTA030070 AlTiN	3	10	50	6	7°	5.46	2
TTA030100 AlTiN	3	10	50	6	10°	6	2
TTA040005 AlTiN	4	15	50	6	30"	4.26	2
TTA040010 AlTiN	4	15	50	6	1°	4.52	2
TTA040015 AlTiN	4	15	50	6	1°30"	4.79	2
TTA040020 AlTiN	4	15	50	6	2°	5.04	2
TTA040025 AlTiN	4	15	50	6	2°30"	5.31	2
TTA040030 AlTiN	4	15	50	6	3°	5.57	2
TTA040050 AlTiN	4	15	60	8	5°	6.62	2
TTA040070 AlTiN	4	15	60	8	7°	7.68	2
TTA050005 AlTiN	5	20	60	6	30"	5.34	2
TTA050010 AlTiN	5	20	60	6	1°	5.7	2
TTA050015 AlTiN	5	20	60	6	1°30"	6.04	2
TTA050020 AlTiN	5	20	60	8	2°	6.39	2
TTA050025 AlTiN	5	20	60	8	2°30"	6.74	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

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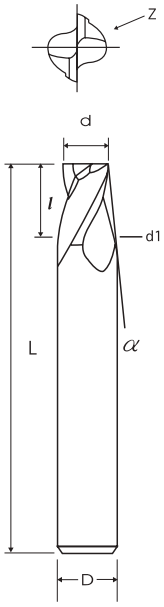
Taper Square - 2 flutes

■ 2刃斜度立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	α	d1 大 徑	Flutes Z 刃數
TTA050030 AlTiN	5	20	60	8	3°	7.1	2
TTA050050 AlTiN	5	20	75	10	5°	8.5	2
TTA050070 AlTiN	5	20	75	10	7°	9.91	2
TTA060005 AlTiN	6	20	60	8	30"	6.35	2
TTA060010 AlTiN	6	20	60	8	1°	6.7	2
TTA060015 AlTiN	6	20	60	8	1°30"	7.05	2
TTA060020 AlTiN	6	20	60	8	2°	7.4	2
TTA060025 AlTiN	6	20	60	8	2°30"	7.75	2
TTA060030 AlTiN	6	19	60	8	3°	7.99	2
TTA060050 AlTiN	6	20	75	10	5°	9.5	2
TTA080005 AlTiN	8	25	75	10	30"	8.44	2
TTA080010 AlTiN	8	25	75	10	1°	8.87	2
TTA080015 AlTiN	8	25	75	10	1°30"	9.31	2
TTA080020 AlTiN	8	25	75	10	2°	9.74	2
TTA080025 AlTiN	8	25	75	12	2°30"	10.18	2
TTA080030 AlTiN	8	25	75	12	3°	10.62	2
TTA080050 AlTiN	8	22	100	12	5°	11.8	2
TTA100005 AlTiN	10	35	100	12	30"	10.61	2
TTA100010 AlTiN	10	35	100	12	1°	11.22	2
TTA100015 AlTiN	10	35	100	12	1°30"	11.83	2
TTA100020 AlTiN	10	35	100	12	2°	11.96	2
TTA100025 AlTiN	10	35	100	16	2°30"	13.06	2
TTA100030 AlTiN	10	35	100	16	3°	13.67	2
TTA100050 AlTiN	10	35	100	16	5°	16.12	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

切 削 條件表 P398
Cutting Condition

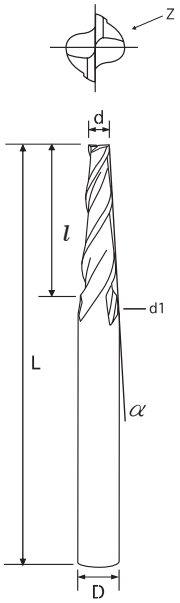
Taper series - Long flute - 2 flutes

■ 2刃長刃斜度立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	α	d1 大 徑	Flutes Z 刃數
LTTA010005 AlTiN	1	10	50	4	30"	1.17	2
LTTA010010 AlTiN	1	10	50	4	1°	1.35	2
LTTA010015 AlTiN	1	10	50	4	1°30"	1.52	2
LTTA010020 AlTiN	1	10	50	4	2°	1.7	2
LTTA010025 AlTiN	1	10	50	4	2°30"	1.87	2
LTTA010030 AlTiN	1	10	50	4	3°	2.05	2
LTTA010050 AlTiN	1	10	50	4	5°	2.74	2
LTTA010070 AlTiN	1	10	50	4	7°	3.44	2
LTTA015005 AlTiN	1.5	10	50	4	30"	1.67	2
LTTA015010 AlTiN	1.5	10	50	4	1°	1.85	2
LTTA015015 AlTiN	1.5	10	50	4	1°30"	2.02	2
LTTA015020 AlTiN	1.5	10	50	4	2°	2.2	2
LTTA015025 AlTiN	1.5	10	50	4	2°30"	2.37	2
LTTA015030 AlTiN	1.5	10	50	4	3°	2.55	2
LTTA015050 AlTiN	1.5	10	50	4	5°	3.24	2
LTTA015070 AlTiN	1.5	10	50	4	7°	3.94	2
LTTA020005 AlTiN	2	13	50	4	30"	2.22	2
LTTA020010 AlTiN	2	13	50	4	1°	2.45	2
LTTA020015 AlTiN	2	13	50	4	1°30"	2.68	2
LTTA020020 AlTiN	2	13	50	4	2°	2.9	2
LTTA020025 AlTiN	2	13	50	4	2°30"	3.13	2
LTTA020030 AlTiN	2	13	50	4	3°	3.36	2
LTTA020050 AlTiN	2	13	50	6	5°	4.27	2
LTTA020070 AlTiN	2	13	50	6	7°	5.17	2
LTTA025005 AlTiN	2.5	15	50	4	30"	2.76	2
LTTA025010 AlTiN	2.5	15	50	4	1°	3.03	2
LTTA025015 AlTiN	2.5	15	50	4	1°30"	3.29	2
LTTA025020 AlTiN	2.5	15	50	4	2°	3.56	2
LTTA025025 AlTiN	2.5	15	50	4	2°30"	3.81	2
LTTA025030 AlTiN	2.5	15	50	6	3°	4.07	2
LTTA025050 AlTiN	2.5	15	50	6	5°	5.13	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

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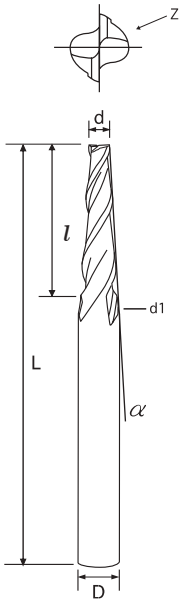
Taper series - Long flute - 2 flutes

■ 2刃長刃斜度立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	α	d1 大 徑	Flutes Z 刃數
LTTA030005 AlTiN	3	20	60	6	30"	3.35	2
LTTA030010 AlTiN	3	20	60	6	1°	3.7	2
LTTA030015 AlTiN	3	20	60	6	1°30"	4.05	2
LTTA030020 AlTiN	3	20	60	6	2°	4.39	2
LTTA030025 AlTiN	3	20	60	6	2°30"	4.65	2
LTTA030030 AlTiN	3	20	60	6	3°	5.1	2
LTTA030050 AlTiN	3	20	60	8	5°	6.5	2
LTTA040005 AlTiN	4	25	60	6	30"	4.44	2
LTTA040010 AlTiN	4	25	60	6	1°	4.88	2
LTTA040015 AlTiN	4	25	60	6	1°30"	5.13	2
LTTA040020 AlTiN	4	25	60	6	2°	5.75	2
LTTA040025 AlTiN	4	25	60	8	2°30"	6.19	2
LTTA040030 AlTiN	4	25	60	8	3°	6.62	2
LTTA040050 AlTiN	4	25	75	10	5°	8.38	2
LTTA050005 AlTiN	5	30	75	6	30"	5.52	2
LTTA050010 AlTiN	5	30	75	8	1°	6.05	2
LTTA050015 AlTiN	5	30	75	8	1°30"	6.57	2
LTTA050020 AlTiN	5	30	75	8	2°	7.09	2
LTTA050025 AlTiN	5	30	75	8	2°30"	7.62	2
LTTA050030 AlTiN	5	30	75	10	3°	8.14	2
LTTA050050 AlTiN	5	30	75	12	5°	10.25	2
LTTA060005 AlTiN	6	35	75	8	30"	6.61	2
LTTA060010 AlTiN	6	35	75	8	1°	7.22	2
LTTA060015 AlTiN	6	35	75	8	1°30"	7.83	2
LTTA060020 AlTiN	6	35	75	10	2°	8.44	2
LTTA060025 AlTiN	6	35	100	10	2°30"	9.05	2
LTTA060030 AlTiN	6	35	100	10	3°	9.67	2
LTTA060050 AlTiN	6	34	100	12	5°	11.95	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

ST 600+

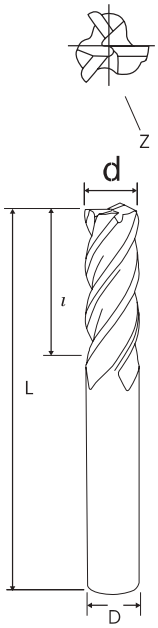
切削條件表 P308
Cutting Condition

Square series - Flute Angle 45° - 3 flutes

■ 3刃45° 立銑刀

600 PLUS | HRC ▶45 | 45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-MPE0103	1	3	50	4	3
P-MPE0153	1.5	4	50	4	3
P-MPE0203	2	6	50	4	3
P-MPE0253	2.5	8	50	4	3
P-MPE3303	3	8	50	3	3
P-MPE0303	3	8	50	4	3
P-MPE0353	3.5	10	50	4	3
P-MPE0403	4	11	50	4	3
P-PE0103	1	3	50	6	3
P-PE0153	1.5	4	50	6	3
P-PE0203	2	6	50	6	3
P-PE0253	2.5	8	50	6	3
P-PE0303	3	8	50	6	3
P-PE0353	3.5	10	50	6	3
P-PE0403	4	11	50	6	3
P-PE0453	4.5	13	50	6	3
P-PE0503	5	13	50	6	3
P-PE0553	5.5	13	50	6	3
P-PE0603	6	16	50	6	3
P-PE0653	6.5	16	60	8	3
P-PE0703	7	16	60	8	3
P-PE0753	7.5	19	60	8	3
P-PE0803	8	20	60	8	3
P-PE0853	8.5	20	75	10	3
P-PE0903	9	20	75	10	3
P-PE0953	9.5	25	75	10	3
P-PE1003	10	30	75	10	3
P-PE1053	10.5	30	75	12	3
P-PE1103	11	30	75	12	3
P-PE1153	11.5	30	75	12	3
P-PE1203	12	32	75	12	3
P-PE1403	14	40	100	16	3
P-PE1603	16	40	100	16	3
P-PE1803	18	45	100	20	3
P-PE2003	20	45	100	20	3

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

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600+ 切削條件表 P308 Cutting Condition

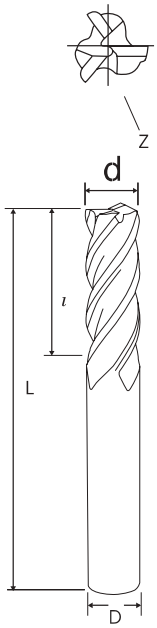
SPEED TIGER

Square series - Flute Angle 45° - 3 flutes

■ 3刃45° 立銑刀

600 PLUS | HRC ▶55 | 45° | AlTiN

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm² Grain Size=0.5μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-MPE0103 AlTiN	1	3	50	4	3
P-MPE0153 AlTiN	1.5	4	50	4	3
P-MPE0203 AlTiN	2	6	50	4	3
P-MPE0253 AlTiN	2.5	8	50	4	3
P-MPE3303 AlTiN	3	8	50	3	3
P-MPE0303 AlTiN	3	8	50	4	3
P-MPE0353 AlTiN	3.5	10	50	4	3
P-MPE0403 AlTiN	4	11	50	4	3
P-PE0103 AlTiN	1	3	50	6	3
P-PE0153 AlTiN	1.5	4	50	6	3
P-PE0203 AlTiN	2	6	50	6	3
P-PE0253 AlTiN	2.5	8	50	6	3
P-PE0303 AlTiN	3	8	50	6	3
P-PE0353 AlTiN	3.5	10	50	6	3
P-PE0403 AlTiN	4	11	50	6	3
P-PE0453 AlTiN	4.5	13	50	6	3
P-PE0503 AlTiN	5	13	50	6	3
P-PE0553 AlTiN	5.5	13	50	6	3
P-PE0603 AlTiN	6	16	50	6	3
P-PE0653 AlTiN	6.5	16	60	8	3
P-PE0703 AlTiN	7	16	60	8	3
P-PE0753 AlTiN	7.5	19	60	8	3
P-PE0803 AlTiN	8	20	60	8	3
P-PE0853 AlTiN	8.5	20	75	10	3
P-PE0903 AlTiN	9	20	75	10	3
P-PE0953 AlTiN	9.5	25	75	10	3
P-PE1003 AlTiN	10	30	75	10	3
P-PE1053 AlTiN	10.5	30	75	12	3
P-PE1103 AlTiN	11	30	75	12	3
P-PE1153 AlTiN	11.5	30	75	12	3
P-PE1203 AlTiN	12	32	75	12	3
P-PE1403 AlTiN	14	40	100	16	3
P-PE1603 AlTiN	16	40	100	16	3
P-PE1803 AlTiN	18	45	100	20	3
P-PE2003 AlTiN	20	45	100	20	3

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

切 削 條件表 P327
Cutting Condition

Fine Pitch Roughing series

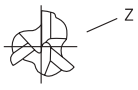
■ 3刃粗精銑刀

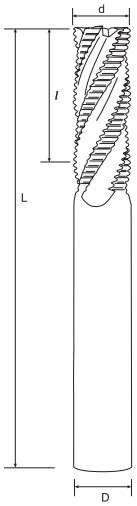
600 Nano | HRC ▶50 | 40° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

3 Flutes - 3刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
NTA0403 AlTiN	4	8	50	6	3
NTA0503 AlTiN	5	13	50	6	3
NTA0603 AlTiN	6	16	50	6	3
NTA0703 AlTiN	7	16	60	8	3
NTA0803 AlTiN	8	19	60	8	3
NTA0903 AlTiN	9	25	75	10	3
NTA1003 AlTiN	10	25	75	10	3
NTA1103 AlTiN	11	30	75	12	3
NTA1203 AlTiN	12	30	75	12	3
NTA1603 AlTiN	16	35	100	16	3
NTA2003 AlTiN	20	45	100	20	3





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

Roughing series

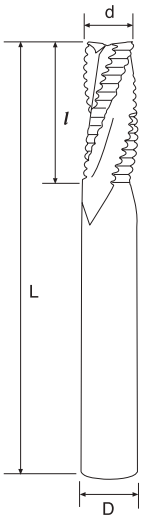
■ 3刃粗銑刀

600 Nano | HRC ▶50 | 25° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

3 Flutes - 3刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
XTA0403 AlTiN	4	8	50	6	3
XTA0503 AlTiN	5	13	50	6	3
XTA0603 AlTiN	6	16	50	6	3
XTA0703 AlTiN	7	16	60	8	3
XTA0803 AlTiN	8	19	60	8	3
XTA0903 AlTiN	9	25	75	10	3
XTA1003 AlTiN	10	25	75	10	3
XTA1103 AlTiN	11	30	75	12	3
XTA1203 AlTiN	12	30	75	12	3
XTA1603 AlTiN	16	35	100	16	3
XTA2003 AlTiN	20	45	100	20	3



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

ST 600+

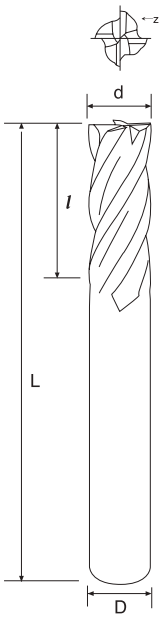
切削條件表 P309
Cutting Condition

Square series - 4 flutes

■ 4刃立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-SSE0104	1	3	50	3	4
P-MSE0104	1	3	50	4	4
P-SSE0154	1.5	4	50	3	4
P-MSE0154	1.5	4	50	4	4
P-SSE0204	2	6	50	3	4
P-MSE0204	2	6	50	4	4
P-SSE0254	2.5	8	50	3	4
P-MSE0254	2.5	8	50	4	4
P-SSE0304	3	8	50	3	4
P-MSE0304	3	8	50	4	4
P-MSE0354	3.5	10	50	4	4
P-MSE0404	4	11	50	4	4
P-SE0104	1	3	50	6	4
P-SE0154	1.5	4	50	6	4
P-SE0204	2	6	50	6	4
P-SE0254	2.5	8	50	6	4
P-SE0304	3	8	50	6	4
P-SE0354	3.5	10	50	6	4
P-SE0404	4	11	50	6	4
P-SE0454	4.5	13	50	6	4
P-SE0504	5	13	50	6	4
P-SE0554	5.5	13	50	6	4
P-SE0604	6	16	50	6	4
P-SE0654	6.5	16	60	8	4
P-SE0704	7	16	60	8	4
P-SE0754	7.5	19	60	8	4
P-SE0804	8	20	60	8	4
P-SE0854	8.5	20	75	10	4
P-SE0904	9	20	75	10	4
P-SE0954	9.5	25	75	10	4
P-SE1004	10	30	75	10	4
P-SE1054	10.5	30	75	12	4
P-SE1104	11	30	75	12	4
P-SE1154	11.5	30	75	12	4
P-SE1204	12	32	75	12	4
P-SE1404	14	40	100	16	4
P-SE1604	16	40	100	16	4
P-SE1804	18	45	100	20	4
P-SE2004	20	45	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P309 Cutting Condition

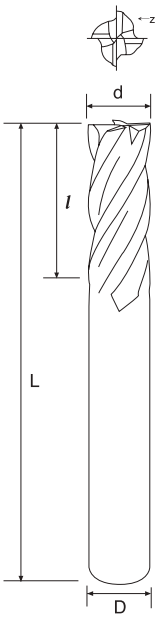
SPEED TIGER

Square series - 4 flutes

■ 4刃立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-SSE0104 AlTiN	1	3	50	3	4
P-MSE0104 AlTiN	1	3	50	4	4
P-SSE0154 AlTiN	1.5	4	50	3	4
P-MSE0154 AlTiN	1.5	4	50	4	4
P-SSE0204 AlTiN	2	6	50	3	4
P-MSE0204 AlTiN	2	6	50	4	4
P-SSE0254 AlTiN	2.5	8	50	3	4
P-MSE0254 AlTiN	2.5	8	50	4	4
P-SSE0304 AlTiN	3	8	50	3	4
P-MSE0304 AlTiN	3	8	50	4	4
P-MSE0354 AlTiN	3.5	10	50	4	4
P-MSE0404 AlTiN	4	11	50	4	4
P-SE0104 AlTiN	1	3	50	6	4
P-SE0154 AlTiN	1.5	4	50	6	4
P-SE0204 AlTiN	2	6	50	6	4
P-SE0254 AlTiN	2.5	8	50	6	4
P-SE0304 AlTiN	3	8	50	6	4
P-SE0354 AlTiN	3.5	10	50	6	4
P-SE0404 AlTiN	4	11	50	6	4
P-SE0454 AlTiN	4.5	13	50	6	4
P-SE0504 AlTiN	5	13	50	6	4
P-SE0554 AlTiN	5.5	13	50	6	4
P-SE0604 AlTiN	6	16	50	6	4
P-SE0654 AlTiN	6.5	16	60	8	4
P-SE0704 AlTiN	7	16	60	8	4
P-SE0754 AlTiN	7.5	19	60	8	4
P-SE0804 AlTiN	8	20	60	8	4
P-SE0854 AlTiN	8.5	20	75	10	4
P-SE0904 AlTiN	9	20	75	10	4
P-SE0954 AlTiN	9.5	25	75	10	4
P-SE1004 AlTiN	10	30	75	10	4
P-SE1054 AlTiN	10.5	30	75	12	4
P-SE1104 AlTiN	11	30	75	12	4
P-SE1154 AlTiN	11.5	30	75	12	4
P-SE1204 AlTiN	12	32	75	12	4
P-SE1404 AlTiN	14	40	100	16	4
P-SE1604 AlTiN	16	40	100	16	4
P-SE1804 AlTiN	18	45	100	20	4
P-SE2004 AlTiN	20	45	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

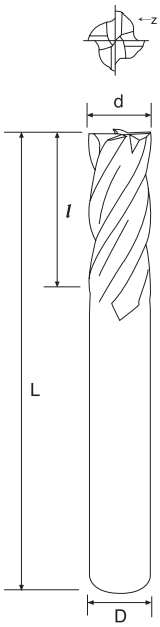
切 削 條件表 P331
Cutting Condition

Square series - 4 flutes

■ 4刃立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
UET0104 nBS	1	3	50	4	4
UET0154 nBS	1.5	4	50	4	4
UET0204 nBS	2	6	50	4	4
UET0254 nBS	2.5	8	50	4	4
UET0304 nBS	3	8	50	4	4
UET0354 nBS	3.5	8	50	4	4
UET0404 nBS	4	11	50	4	4
UET0454 nBS	4.5	13	50	6	4
UET0504 nBS	5	13	50	6	4
UET0554 nBS	5.5	13	50	6	4
UET0604 nBS	6	16	50	6	4
UET0654 nBS	6.5	16	60	8	4
UET0704 nBS	7	17	60	8	4
UET0804 nBS	8	21	60	8	4
UET0814 nBS	8	26	75	8	4
UET0854 nBS	8.5	26	75	10	4
UET0904 nBS	9	26	75	10	4
UET0954 nBS	9.5	26	75	10	4
UET1004 nBS	10	30	75	10	4
UET1104 nBS	11	30	75	12	4
UET1204 nBS	12	32	75	12	4
UET1304 nBS	13	33	75	14	4
UET1404 nBS	14	35	75	14	4
UET1604 nBS	16	46	100	16	4
UET2004 nBS	20	46	100	20	4
UET2504 nBS	25	50	100	25	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

Unit/單位: mm

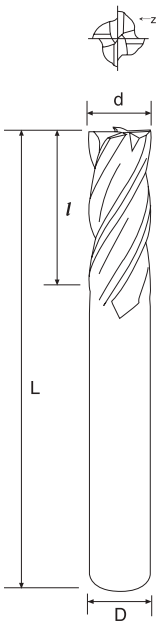
Square series - 4 flutes

■ 4刃立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFUET0104 TiSiN	1	2.5	50	4	4
SFUET0154 TiSiN	1.5	3	50	4	4
SFUET0204 TiSiN	2	5	50	4	4
SFUET0254 TiSiN	2.5	6	50	4	4
SFUET0304 TiSiN	3	7.5	50	4	4
SFUET0354 TiSiN	3.5	8	50	4	4
SFUET0404 TiSiN	4	10	50	4	4
SFUET0454 TiSiN	4.5	10	50	6	4
SFUET0504 TiSiN	5	12	50	6	4
SFUET0554 TiSiN	5.5	12.5	60	6	4
SFUET0604 TiSiN	6	15	60	6	4
SFUET0704 TiSiN	7	20	60	8	4
SFUET0804 TiSiN	8	20	60	8	4
SFUET1004 TiSiN	10	25	75	10	4
SFUET1204 TiSiN	12	30	75	12	4
SFUET1404 TiSiN	14	30	80	16	4
SFUET1604 TiSiN	16	45	100	16	4
SFUET2004 TiSiN	20	50	100	20	4
SFUET2504 TiSiN	25	55	100	25	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

ST 600+

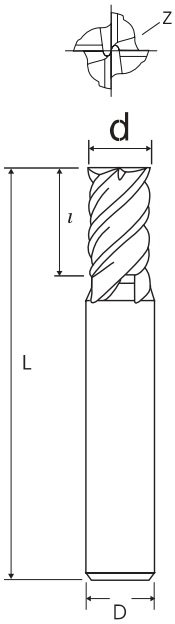
切削條件表 P309
Cutting Condition

Square series - Flute Angle 45° - 4 flutes

■ 4刃45° 立銑刀

600 PLUS | HRC ▶45 | 45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-MPE0104	1	3	50	4	4
P-MPE0154	1.5	4	50	4	4
P-MPE0204	2	6	50	4	4
P-MPE0254	2.5	8	50	4	4
P-MPE3304	3	8	50	3	4
P-MPE0304	3	8	50	4	4
P-MPE0354	3.5	10	50	4	4
P-MPE0404	4	11	50	4	4
P-PE0104	1	3	50	6	4
P-PE0154	1.5	4	50	6	4
P-PE0204	2	6	50	6	4
P-PE0254	2.5	8	50	6	4
P-PE0304	3	8	50	6	4
P-PE0354	3.5	10	50	6	4
P-PE0404	4	11	50	6	4
P-PE0454	4.5	13	50	6	4
P-PE0504	5	13	50	6	4
P-PE0554	5.5	13	50	6	4
P-PE0604	6	16	50	6	4
P-PE0654	6.5	16	60	8	4
P-PE0704	7	16	60	8	4
P-PE0754	7.5	19	60	8	4
P-PE0804	8	20	60	8	4
P-PE0854	8.5	20	75	10	4
P-PE0904	9	20	75	10	4
P-PE0954	9.5	25	75	10	4
P-PE1004	10	30	75	10	4
P-PE1054	10.5	30	75	12	4
P-PE1104	11	30	75	12	4
P-PE1154	11.5	30	75	12	4
P-PE1204	12	32	75	12	4
P-PE1404	14	40	100	16	4
P-PE1604	16	40	100	16	4
P-PE1804	18	45	100	20	4
P-PE2004	20	45	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P309 Cutting Condition

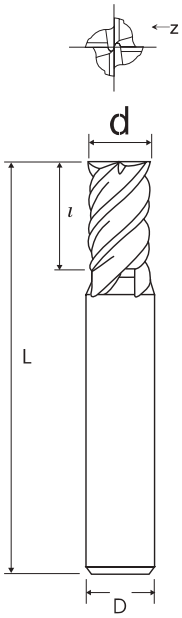
SPEED TIGER

Square series - Flute Angle 45° - 4 flutes

■ 4刃45° 立銑刀

600 PLUS | HRC ▶55 | 45° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-MPE0104 AlTiN	1	3	50	4	4
P-MPE0154 AlTiN	1.5	4	50	4	4
P-MPE0204 AlTiN	2	6	50	4	4
P-MPE0254 AlTiN	2.5	8	50	4	4
P-MPE3304 AlTiN	3	8	50	3	4
P-MPE0304 AlTiN	3	8	50	4	4
P-MPE0354 AlTiN	3.5	10	50	4	4
P-MPE0404 AlTiN	4	11	50	4	4
P-PE0104 AlTiN	1	3	50	6	4
P-PE0154 AlTiN	1.5	4	50	6	4
P-PE0204 AlTiN	2	6	50	6	4
P-PE0254 AlTiN	2.5	8	50	6	4
P-PE0304 AlTiN	3	8	50	6	4
P-PE0354 AlTiN	3.5	10	50	6	4
P-PE0404 AlTiN	4	11	50	6	4
P-PE0454 AlTiN	4.5	13	50	6	4
P-PE0504 AlTiN	5	13	50	6	4
P-PE0554 AlTiN	5.5	13	50	6	4
P-PE0604 AlTiN	6	16	50	6	4
P-PE0654 AlTiN	6.5	16	60	8	4
P-PE0704 AlTiN	7	16	60	8	4
P-PE0754 AlTiN	7.5	19	60	8	4
P-PE0804 AlTiN	8	20	60	8	4
P-PE0854 AlTiN	8.5	20	75	10	4
P-PE0904 AlTiN	9	20	75	10	4
P-PE0954 AlTiN	9.5	25	75	10	4
P-PE1004 AlTiN	10	30	75	10	4
P-PE1054 AlTiN	10.5	30	75	12	4
P-PE1104 AlTiN	11	30	75	12	4
P-PE1154 AlTiN	11.5	30	75	12	4
P-PE1204 AlTiN	12	32	75	12	4
P-PE1404 AlTiN	14	40	100	16	4
P-PE1604 AlTiN	16	40	100	16	4
P-PE1804 AlTiN	18	45	100	20	4
P-PE2004 AlTiN	20	45	100	20	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

切 削 條件表 P337
Cutting Condition

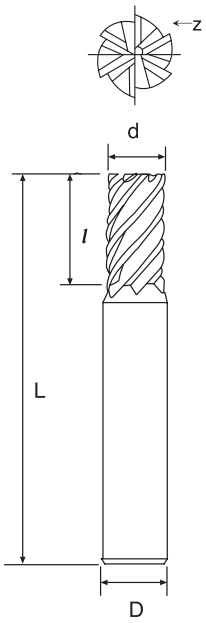
Square series - For Hard Material - Multiple Flute

■ 多刃高硬度用立銑刀

400 Nano | HRC ▶ 60 | 45° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
UVT0204 nBS	2	4	50	4	4
UVT0304 nBS	3	6	50	6	4
UVT0404 nBS	4	8	50	6	4
UVT0506 nBS	5	13	50	6	6
UVT0606 nBS	6	15	50	6	6
UVT0806 nBS	8	20	60	8	6
UVT1006 nBS	10	30	75	10	6
UVT1206 nBS	12	32	75	12	6
UVT1606 nBS	16	40	100	16	6
UVT2008 nBS	20	45	100	20	8
UVT2508 nBS	25	45	100	25	8



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	○		○		

Unit/單位: mm

Square series - Long Shank - 4 flutes

■ 4刃長柄立銑刀

600 Nano | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SLE0604	6	16	75	6	4
MLE0604	6	16	100	6	4
SLE0804	8	20	75	8	4
MLE0804	8	20	100	8	4
SLE1004	10	30	100	10	4
MLE1004	10	30	150	10	4
SLE1204	12	32	100	12	4
MLE1204	12	32	150	12	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

切 削 條件表 P334
Cutting Condition

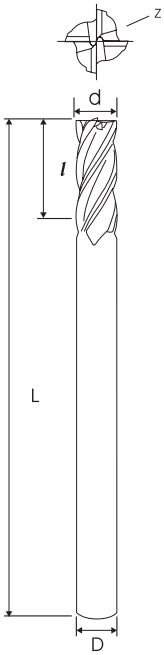
Square series - Long Shank - 4 flutes

■ 4刃長柄立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SLE0604 AlTiN	6	16	75	6	4
MLE0604 AlTiN	6	16	100	6	4
SLE0804 AlTiN	8	20	75	8	4
MLE0804 AlTiN	8	20	100	8	4
SLE1004 AlTiN	10	30	100	10	4
MLE1004 AlTiN	10	30	150	10	4
SLE1204 AlTiN	12	32	100	12	4
MLE1204 AlTiN	12	32	150	12	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

www.speedtiger.com.tw

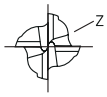
Square series - Long Flute - 4 flutes

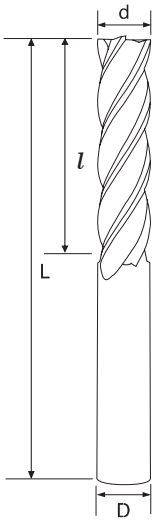
■ 4刃長刃立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
P-LET0104	1	6	50	4	4
P-LET0154	1.5	9	50	4	4
P-LET0204	2	12	50	4	4
P-LET0254	2.5	12	50	4	4
P-LET0304	3	15	60	6	4
P-LET0354	3.5	15	60	6	4
P-LET0404	4	20	75	6	4
P-LET0454	4.5	20	75	6	4
P-LET0504	5	25	75	6	4
P-LET0554	5.5	25	75	6	4
P-LET0604	6	30	75	6	4
P-LET0704	7	30	100	8	4
P-LET0804	8	40	100	8	4
P-LET0904	9	40	100	10	4
P-LET1004	10	40	100	10	4
P-LET1104	11	40	100	12	4
P-LET1204	12	50	100	12	4
P-LET1404	14	50	150	16	4
P-LET1604	16	60	150	16	4
P-LET2004	20	90	200	20	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

ST 600+

切 削 條件表 P310
Cutting Condition

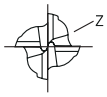
Square series - Long Flute - 4 flutes

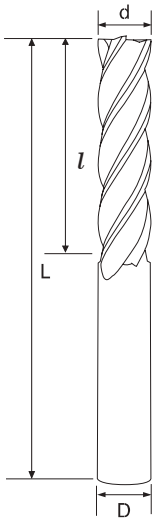
■ 4刃長刃立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
P-LET0104 AlTiN	1	6	50	4	4
P-LET0154 AlTiN	1.5	9	50	4	4
P-LET0204 AlTiN	2	12	50	4	4
P-LET0254 AlTiN	2.5	12	50	4	4
P-LET0304 AlTiN	3	15	60	6	4
P-LET0354 AlTiN	3.5	15	60	6	4
P-LET0404 AlTiN	4	20	75	6	4
P-LET0454 AlTiN	4.5	20	75	6	4
P-LET0504 AlTiN	5	25	75	6	4
P-LET0554 AlTiN	5.5	25	75	6	4
P-LET0604 AlTiN	6	30	75	6	4
P-LET0704 AlTiN	7	30	100	8	4
P-LET0804 AlTiN	8	40	100	8	4
P-LET0904 AlTiN	9	40	100	10	4
P-LET1004 AlTiN	10	40	100	10	4
P-LET1104 AlTiN	11	40	100	12	4
P-LET1204 AlTiN	12	50	100	12	4
P-LET1404 AlTiN	14	50	150	16	4
P-LET1604 AlTiN	16	60	150	16	4
P-LET2004 AlTiN	20	90	200	20	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

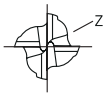
Square series - Long Flute - 4 flutes

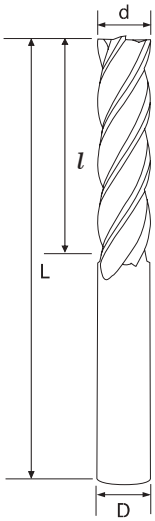
■ 4刃長刃立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
ULET0104 nBS	1	5	50	4	4
ULET0154 nBS	1.5	6	50	4	4
ULET0204 nBS	2	9	50	4	4
ULET0254 nBS	2.5	10	50	4	4
ULET0304 nBS	3	12	50	6	4
ULET0354 nBS	3.5	14	50	6	4
ULET0404 nBS	4	16	60	6	4
ULET0454 nBS	4.5	18	60	6	4
ULET0504 nBS	5	25	75	6	4
ULET0604 nBS	6	25	75	6	4
ULET0704 nBS	7	30	75	8	4
ULET0804 nBS	8	35	100	8	4
ULET1004 nBS	10	40	100	10	4
ULET1204 nBS	12	45	100	12	4
ULET1214 nBS	12	60	150	12	4
ULET1404 nBS	14	45	100	14	4
ULET1604 nBS	16	65	150	16	4
ULET2004 nBS	20	75	150	20	4
ULET2504 nBS	25	80	150	25	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

切 削 條件表 P333
Cutting Condition

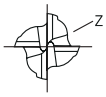
Square series - Long Flute - 4 flute

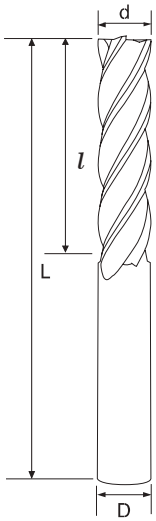
■ 4刃長刃立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFULET0104 TiSiN	1	4	50	4	4
SFULET0154 TiSiN	1.5	6	50	4	4
SFULET0204 TiSiN	2	8	50	4	4
SFULET0304 TiSiN	3	12	60	6	4
SFULET0404 TiSiN	4	16	60	6	4
SFULET0504 TiSiN	5	20	75	6	4
SFULET0604 TiSiN	6	25	75	6	4
SFULET0704 TiSiN	7	30	75	8	4
SFULET0804 TiSiN	8	30	75	8	4
SFULET1004 TiSiN	10	40	100	10	4
SFULET1204 TiSiN	12	45	100	12	4
SFULET1404 TiSiN	14	45	100	16	4
SFULET1604 TiSiN	16	65	150	16	4
SFULET2004 TiSiN	20	75	150	20	4
SFULET2504 TiSiN	25	80	150	25	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

Fine Pitch Roughing series

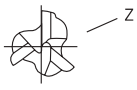
■ 4刃粗精銑刀

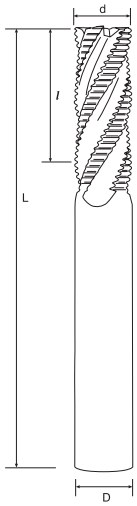
600 Nano | HRC ▶50 | 40° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

4 Flutes - 4刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
NTA0404 AlTiN	4	8	50	6	4
NTA0504 AlTiN	5	13	50	6	4
NTA0604 AlTiN	6	16	50	6	4
NTA0704 AlTiN	7	16	60	8	4
NTA0804 AlTiN	8	19	60	8	4
NTA0904 AlTiN	9	25	75	10	4
NTA1004 AlTiN	10	25	75	10	4
NTA1104 AlTiN	11	30	75	12	4
NTA1204 AlTiN	12	30	75	12	4
NTA1404 AlTiN	14	35	100	16	4
NTA1504 AlTiN	15	35	100	16	4
NTA1604 AlTiN	16	35	100	16	4
NTA2004 AlTiN	20	45	100	20	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

切 削 條件表 P330
Cutting Condition

Roughing series

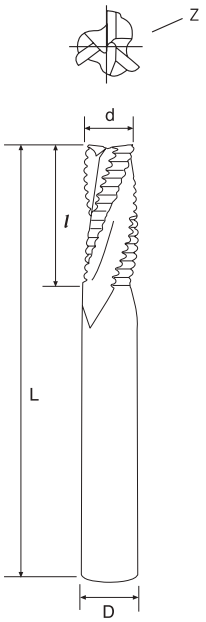
■ 4粗銑刀

600 Nano | HRC ▶50 | 25° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

4 Flutes - 4刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
XTA0404 AlTiN	4	8	50	6	4
XTA0504 AlTiN	5	13	50	6	4
XTA0604 AlTiN	6	16	50	6	4
XTA0704 AlTiN	7	16	60	8	4
XTA0804 AlTiN	8	19	60	8	4
XTA0904 AlTiN	9	25	75	10	4
XTA1004 AlTiN	10	25	75	10	4
XTA1104 AlTiN	11	30	75	12	4
XTA1204 AlTiN	12	30	75	12	4
XTA1604 AlTiN	16	35	100	16	4
XTA2004 AlTiN	20	45	100	20	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

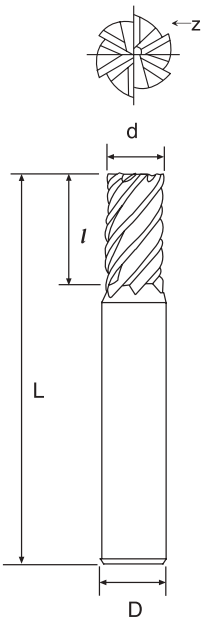
Square series - Long Flute - Multiple Flute

■ 多刃長刃強力立銑刀

400 Nano | HRC ▶60 | 45° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
ULVT0606 nBS	6	25	75	6	6
ULVT0806 nBS	8	30	75	8	6
ULVT1006 nBS	10	40	100	10	6
ULVT1206 nBS	12	45	100	12	6
ULVT1606 nBS	16	65	150	16	6
ULVT2008 nBS	20	75	150	20	8
ULVT2508 nBS	25	80	150	25	8



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	○		○		

切 削 條件表 P338
Cutting Condition

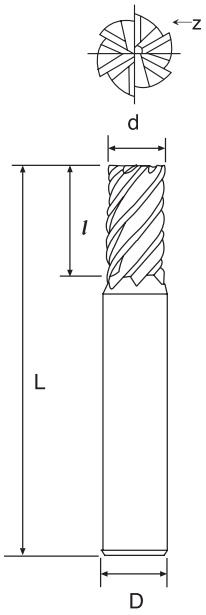
Square series - For Hard Material - Multiple Flute

■ 多刃高硬度用立銑刀

200 Nano | HRC ▶65 | 45° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFUVT0606 TiSiN	6	15	60	6	6
SFUVT0806 TiSiN	8	20	60	8	6
SFUVT1006 TiSiN	10	25	75	10	6
SFUVT1206 TiSiN	12	30	75	12	6
SFUVT1606 TiSiN	16	45	100	16	6
SFUVT2008 TiSiN	20	45	100	20	8
SFUVT2508 TiSiN	25	45	100	25	8



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

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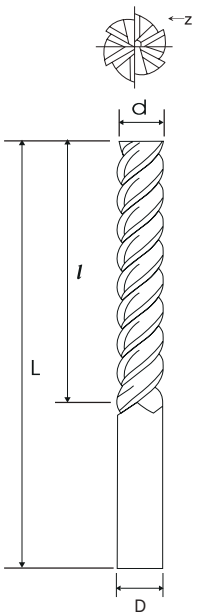
Square series - Long Flute - Multiple Flute

■ 多刃長刃強力立銑刀

200 Nano | HRC ▶65 | 45° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFULVT0606 TiSiN	6	25	75	6	6
SFULVT0806 TiSiN	8	35	100	8	6
SFULVT1006 TiSiN	10	45	100	10	6
SFULVT1206 TiSiN	12	50	100	12	6
SFULVT1606 TiSiN	16	65	150	16	6
SFULVT2008 TiSiN	20	75	150	20	8
SFULVT2508 TiSiN	25	80	150	25	8



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

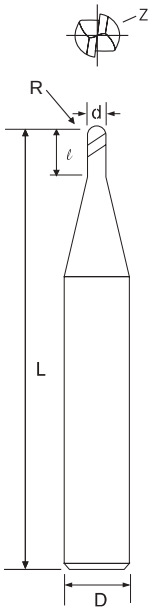
切削條件表 P341
Cutting Condition

Miniature Ball Nose - 2 flutes

■ 2刃微小徑球型立銑刀

600 Nano | HRC ▶40 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
MIB0032	0.3	0.15	0.6	50	4	2
MIB0042	0.4	0.2	0.8	50	4	2
MIB0052	0.5	0.25	1	50	4	2
MIB0062	0.6	0.3	1.2	50	4	2
MIB0072	0.7	0.35	1.4	50	4	2
MIB0082	0.8	0.4	1.6	50	4	2
MIB0092	0.9	0.45	1.8	50	4	2
MIB0102	1	0.5	2	50	4	2
MIB0112	1.1	0.55	2.2	50	4	2
MIB0122	1.2	0.6	2.4	50	4	2
MIB0132	1.3	0.65	2.6	50	4	2
MIB0142	1.4	0.7	2.8	50	4	2
MIB0152	1.5	0.75	3	50	4	2
MIB0162	1.6	0.8	3.2	50	4	2
MIB0172	1.7	0.85	3.4	50	4	2
MIB0182	1.8	0.9	3.6	50	4	2
MIB0192	1.9	0.95	3.8	50	4	2
MIB0202	2	1	4	50	4	2
MIB0212	2.1	1.05	4.2	50	4	2
MIB0222	2.2	1.1	4.4	50	4	2
MIB0232	2.3	1.15	4.6	50	4	2
MIB0242	2.4	1.2	4.8	50	4	2
MIB0252	2.5	1.25	5	50	4	2
MIB0262	2.6	1.3	5.2	50	4	2
MIB0272	2.7	1.35	5.4	50	4	2
MIB0282	2.8	1.4	5.6	50	4	2
MIB0292	2.9	1.45	5.8	50	4	2
MIB0302	3	1.5	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

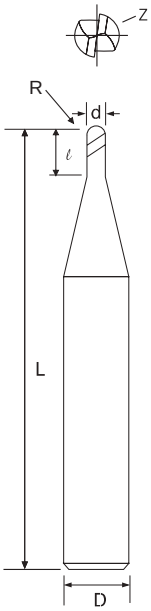
Unit/單位: mm

Miniature Ball Nose - 2 flutes

■ 2刃微小徑球型立銑刀

600 Nano | HRC ▶50 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	ℓ 刃長	L 全長	D 柄徑	Z 刃數
MIB0032 AlTiN	0.3	0.15	0.6	50	4	2
MIB0042 AlTiN	0.4	0.2	0.8	50	4	2
MIB0052 AlTiN	0.5	0.25	1	50	4	2
MIB0062 AlTiN	0.6	0.3	1.2	50	4	2
MIB0072 AlTiN	0.7	0.35	1.4	50	4	2
MIB0082 AlTiN	0.8	0.4	1.6	50	4	2
MIB0092 AlTiN	0.9	0.45	1.8	50	4	2
MIB0102 AlTiN	1	0.5	2	50	4	2
MIB0112 AlTiN	1.1	0.55	2.2	50	4	2
MIB0122 AlTiN	1.2	0.6	2.4	50	4	2
MIB0132 AlTiN	1.3	0.65	2.6	50	4	2
MIB0142 AlTiN	1.4	0.7	2.8	50	4	2
MIB0152 AlTiN	1.5	0.75	3	50	4	2
MIB0162 AlTiN	1.6	0.8	3.2	50	4	2
MIB0172 AlTiN	1.7	0.85	3.4	50	4	2
MIB0182 AlTiN	1.8	0.9	3.6	50	4	2
MIB0192 AlTiN	1.9	0.95	3.8	50	4	2
MIB0202 AlTiN	2	1	4	50	4	2
MIB0212 AlTiN	2.1	1.05	4.2	50	4	2
MIB0222 AlTiN	2.2	1.1	4.4	50	4	2
MIB0232 AlTiN	2.3	1.15	4.6	50	4	2
MIB0242 AlTiN	2.4	1.2	4.8	50	4	2
MIB0252 AlTiN	2.5	1.25	5	50	4	2
MIB0262 AlTiN	2.6	1.3	5.2	50	4	2
MIB0272 AlTiN	2.7	1.35	5.4	50	4	2
MIB0282 AlTiN	2.8	1.4	5.6	50	4	2
MIB0292 AlTiN	2.9	1.45	5.8	50	4	2
MIB0302 AlTiN	3	1.5	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

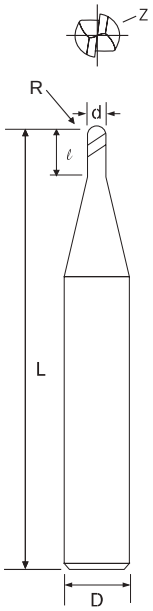
切 削 條件表 P339
Cutting Condition

Miniature Ball Nose - 2 flutes

■ 2刃微小徑球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
UMIB3032 nBS	0.3	0.15	0.6	38	3	2
UMIB3042 nBS	0.4	0.2	0.7	38	3	2
UMIB3052 nBS	0.5	0.25	0.8	38	3	2
UMIB3062 nBS	0.6	0.3	0.9	38	3	2
UMIB3072 nBS	0.7	0.35	1.4	38	3	2
UMIB3082 nBS	0.8	0.4	1.6	38	3	2
UMIB3092 nBS	0.9	0.45	1.8	38	3	2
UMIB3102 nBS	1	0.5	2	38	3	2
UMIB3112 nBS	1.1	0.55	2.2	38	3	2
UMIB3122 nBS	1.2	0.6	2.4	38	3	2
UMIB3132 nBS	1.3	0.65	2.6	38	3	2
UMIB3142 nBS	1.4	0.7	2.8	38	3	2
UMIB3152 nBS	1.5	0.75	3	38	3	2
UMIB3162 nBS	1.6	0.8	3.2	38	3	2
UMIB3172 nBS	1.7	0.85	3.4	38	3	2
UMIB3182 nBS	1.8	0.9	3.6	38	3	2
UMIB3192 nBS	1.9	0.95	3.8	38	3	2
UMIB3202 nBS	2	1	4	38	3	2
UMIB3212 nBS	2.1	1.05	4.2	38	3	2
UMIB3222 nBS	2.2	1.1	4.4	38	3	2
UMIB3232 nBS	2.3	1.15	4.6	38	3	2
UMIB3242 nBS	2.4	1.2	4.8	38	3	2
UMIB3252 nBS	2.5	1.25	5	38	3	2
UMIB3262 nBS	2.6	1.3	5.2	38	3	2
UMIB3272 nBS	2.7	1.35	5.4	38	3	2
UMIB3282 nBS	2.8	1.4	5.6	38	3	2
UMIB3292 nBS	2.9	1.45	5.8	38	3	2
UMIB3302 nBS	3	1.5	6	38	3	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎		○		

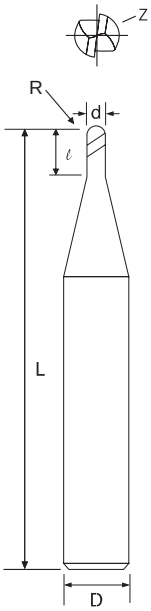
Unit/單位: mm

Miniature Ball Nose - 2 flutes

■ 2刃微小徑球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm



Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	ℓ 刃長	L 全長	D 柄徑	Z 刃數
UMIB0032 nBS	0.3	0.15	0.6	50	4	2
UMIB0042 nBS	0.4	0.2	0.7	50	4	2
UMIB0052 nBS	0.5	0.25	0.8	50	4	2
UMIB0062 nBS	0.6	0.3	0.9	50	4	2
UMIB0072 nBS	0.7	0.35	1.4	50	4	2
UMIB0082 nBS	0.8	0.4	1.6	50	4	2
UMIB0092 nBS	0.9	0.45	1.8	50	4	2
UMIB0102 nBS	1	0.5	2	50	4	2
UMIB0112 nBS	1.1	0.55	2.2	50	4	2
UMIB0122 nBS	1.2	0.6	2.4	50	4	2
UMIB0132 nBS	1.3	0.65	2.6	50	4	2
UMIB0142 nBS	1.4	0.7	2.8	50	4	2
UMIB0152 nBS	1.5	0.75	3	50	4	2
UMIB0162 nBS	1.6	0.8	3.2	50	4	2
UMIB0172 nBS	1.7	0.85	3.4	50	4	2
UMIB0182 nBS	1.8	0.9	3.6	50	4	2
UMIB0192 nBS	1.9	0.95	3.8	50	4	2
UMIB0202 nBS	2	1	4	50	4	2
UMIB0212 nBS	2.1	1.05	4.2	50	4	2
UMIB0222 nBS	2.2	1.1	4.4	50	4	2
UMIB0232 nBS	2.3	1.15	4.6	50	4	2
UMIB0242 nBS	2.4	1.2	4.8	50	4	2
UMIB0252 nBS	2.5	1.25	5	50	4	2
UMIB0262 nBS	2.6	1.3	5.2	50	4	2
UMIB0272 nBS	2.7	1.35	5.4	50	4	2
UMIB0282 nBS	2.8	1.4	5.6	50	4	2
UMIB0292 nBS	2.9	1.45	5.8	50	4	2
UMIB0302 nBS	3	1.5	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎		○		

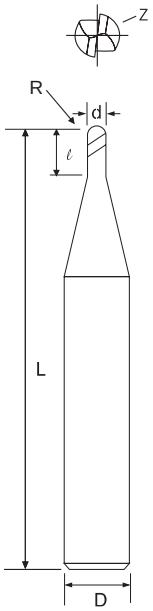
切削條件表 P340
Cutting Condition

Miniature Ball Nose - 2 flutes

■ 2刃微小徑球型立銑刀

200 Nano | HRC ▶60 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm



Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SFUMIB0033 TiSiN	0.3	0.15	0.6	38	3	2
SFUMIB0043 TiSiN	0.4	0.2	0.8	38	3	2
SFUMIB0053 TiSiN	0.5	0.25	1	38	3	2
SFUMIB0063 TiSiN	0.6	0.3	1.2	38	3	2
SFUMIB0073 TiSiN	0.7	0.35	1.4	38	3	2
SFUMIB0083 TiSiN	0.8	0.4	1.6	38	3	2
SFUMIB0103 TiSiN	1	0.5	2	38	3	2
SFUMIB0123 TiSiN	1.2	0.6	2.5	38	3	2
SFUMIB0143 TiSiN	1.4	0.7	3	38	3	2
SFUMIB0153 TiSiN	1.5	0.75	3	38	3	2
SFUMIB0163 TiSiN	1.6	0.8	3.5	38	3	2
SFUMIB0183 TiSiN	1.8	0.9	4	38	3	2
SFUMIB0203 TiSiN	2	1	4	38	3	2
SFUMIB0223 TiSiN	2.2	1.1	4.5	38	3	2
SFUMIB0243 TiSiN	2.4	1.2	5	38	3	2
SFUMIB0253 TiSiN	2.5	1.25	5	38	3	2
SFUMIB0303 TiSiN	3	1.5	6	38	3	2
SFUMIB0034 TiSiN	0.3	0.15	0.6	50	4	2
SFUMIB0044 TiSiN	0.4	0.2	0.8	50	4	2
SFUMIB0054 TiSiN	0.5	0.25	1	50	4	2
SFUMIB0064 TiSiN	0.6	0.3	1.2	50	4	2
SFUMIB0074 TiSiN	0.7	0.35	1.4	50	4	2
SFUMIB0084 TiSiN	0.8	0.4	1.6	50	4	2
SFUMIB0104 TiSiN	1	0.5	2	50	4	2
SFUMIB0124 TiSiN	1.2	0.6	2.5	50	4	2
SFUMIB0144 TiSiN	1.4	0.7	3	50	4	2
SFUMIB0154 TiSiN	1.5	0.75	3	50	4	2
SFUMIB0164 TiSiN	1.6	0.8	3.5	50	4	2
SFUMIB0184 TiSiN	1.8	0.9	4	50	4	2
SFUMIB0204 TiSiN	2	1	4	50	4	2
SFUMIB0224 TiSiN	2.2	1.1	4.5	50	4	2
SFUMIB0244 TiSiN	2.4	1.2	5	50	4	2
SFUMIB0254 TiSiN	2.5	1.25	5	50	4	2
SFUMIB0304 TiSiN	3	1.5	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	○	○		

Unit/單位: mm

600+ 切削條件表 P311 Cutting Condition

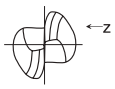
SPEED TIGER

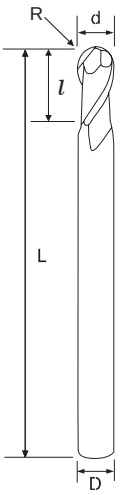
Ball Nose - 2 flutes

■ 2刃球型立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
P-SSB0102	1	0.5	2	50	3	2
P-MSB0102	1	0.5	2	50	4	2
P-SSB0152	1.5	0.75	3	50	3	2
P-MSB0152	1.5	0.75	3	50	4	2
P-SSB0202	2	1	4	50	3	2
P-MSB0202	2	1	4	50	4	2
P-SSB0252	2.5	1.25	5	50	3	2
P-MSB0252	2.5	1.25	5	50	4	2
P-SSB0302	3	1.5	6	50	3	2
P-MSB0302	3	1.5	6	50	4	2
P-MSB0352	3.5	1.75	7	50	4	2
P-MSB0402	4	2	8	50	4	2
P-SB0102	1	0.5	2	50	6	2
P-SB0152	1.5	0.75	3	50	6	2
P-SB0202	2	1	4	50	6	2
P-SB0252	2.5	1.25	5	50	6	2
P-SB0302	3	1.5	6	50	6	2
P-SB0352	3.5	1.75	7	50	6	2
P-SB0402	4	2	8	50	6	2
P-SB0452	4.5	2.25	9	50	6	2
P-SB0502	5	2.5	10	50	6	2
P-SB0552	5.5	2.75	11	50	6	2
P-SB0602	6	3	12	50	6	2
P-SB0702	7	3.5	14	60	8	2
P-SB0802	8	4	16	60	8	2
P-SB0902	9	4.5	18	75	10	2
P-SB1002	10	5	20	75	10	2
P-SB1102	11	5.5	22	75	12	2
P-SB1202	12	6	24	75	12	2
P-SB1402	14	7	28	100	16	2
P-SB1602	16	8	32	100	16	2
P-SB1802	18	9	36	100	20	2
P-SB2002	20	10	40	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

ST 600+

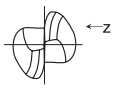
切削條件表 P311
Cutting Condition

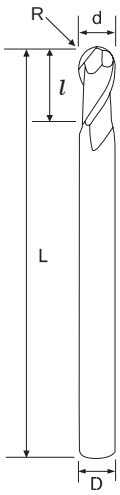
Ball Nose - 2 flutes

■ 2刃球型立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
P-SSB0102 AlTiN	1	0.5	2	50	3	2
P-MSB0102 AlTiN	1	0.5	2	50	4	2
P-SSB0152 AlTiN	1.5	0.75	3	50	3	2
P-MSB0152 AlTiN	1.5	0.75	3	50	4	2
P-SSB0202 AlTiN	2	1	4	50	3	2
P-MSB0202 AlTiN	2	1	4	50	4	2
P-SSB0252 AlTiN	2.5	1.25	5	50	3	2
P-MSB0252 AlTiN	2.5	1.25	5	50	4	2
P-SSB0302 AlTiN	3	1.5	6	50	3	2
P-MSB0302 AlTiN	3	1.5	6	50	4	2
P-MSB0352 AlTiN	3.5	1.75	7	50	4	2
P-MSB0402 AlTiN	4	2	8	50	4	2
P-SB0102 AlTiN	1	0.5	2	50	6	2
P-SB0152 AlTiN	1.5	0.75	3	50	6	2
P-SB0202 AlTiN	2	1	4	50	6	2
P-SB0252 AlTiN	2.5	1.25	5	50	6	2
P-SB0302 AlTiN	3	1.5	6	50	6	2
P-SB0352 AlTiN	3.5	1.75	7	50	6	2
P-SB0402 AlTiN	4	2	8	50	6	2
P-SB0452 AlTiN	4.5	2.25	9	50	6	2
P-SB0502 AlTiN	5	2.5	10	50	6	2
P-SB0552 AlTiN	5.5	2.75	11	50	6	2
P-SB0602 AlTiN	6	3	12	50	6	2
P-SB0702 AlTiN	7	3.5	14	60	8	2
P-SB0802 AlTiN	8	4	16	60	8	2
P-SB0902 AlTiN	9	4.5	18	75	10	2
P-SB1002 AlTiN	10	5	20	75	10	2
P-SB1102 AlTiN	11	5.5	22	75	12	2
P-SB1202 AlTiN	12	6	24	75	12	2
P-SB1402 AlTiN	14	7	28	100	16	2
P-SB1602 AlTiN	16	8	32	100	16	2
P-SB1802 AlTiN	18	9	36	100	20	2
P-SB2002 AlTiN	20	10	40	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

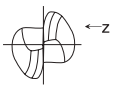
Unit/單位: mm

Ball Nose - 2 flutes

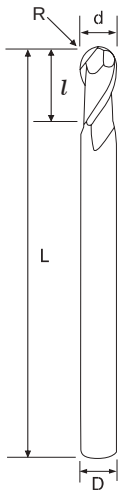
■ 2刃球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L 全長	D 柄徑	Z 刃數
UBT0102 nBS	1	0.5	2	50	4	2
UBT0152 nBS	1.5	0.75	3	50	4	2
UBT0202 nBS	2	1	4	50	4	2
UBT0252 nBS	2.5	1.25	5	50	4	2
UBT0302 nBS	3	1.5	6	50	4	2
UBT0352 nBS	3.5	1.75	7	50	4	2
UBT0402 nBS	4	2	8	50	4	2
UBT0452 nBS	4.5	2.25	9	50	6	2
UBT0502 nBS	5	2.5	10	50	6	2
UBT0552 nBS	5.5	2.75	11	50	6	2
UBT0602 nBS	6	3	12	50	6	2
UBT0702 nBS	7	3.5	14	60	8	2
UBT0802 nBS	8	4	16	60	8	2
UBT0812 nBS	8	4	16	75	8	2
UBT0902 nBS	9	4.5	18	75	10	2
UBT1002 nBS	10	5	20	75	10	2
UBT1202 nBS	12	6	24	75	12	2
UBT1402 nBS	14	7	28	75	14	2
UBT1602 nBS	16	8	32	100	16	2
UBT2002 nBS	20	10	40	150	20	2
UBT2502 nBS	25	12.5	45	150	25	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

切 削 條件表 P350
Cutting Condition

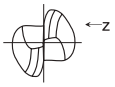
Ball Nose - 2 flutes

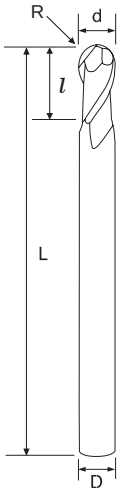
■ 2刃球型立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm

Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFUBT0102 TiSiN	1	0.5	1.5	50	4	2
SFUBT0152 TiSiN	1.5	0.75	2.5	50	4	2
SFUBT0202 TiSiN	2	1	3	50	4	2
SFUBT0252 TiSiN	2.5	1.25	4	50	4	2
SFUBT0302 TiSiN	3	1.5	5	50	4	2
SFUBT0402 TiSiN	4	2	6	50	4	2
SFUBT0502 TiSiN	5	2.5	8	60	6	2
SFUBT0602 TiSiN	6	3	9	60	6	2
SFUBT0702 TiSiN	7	3.5	14	60	8	2
SFUBT0802 TiSiN	8	4	16	60	8	2
SFUBT0902 TiSiN	9	4.5	18	75	10	2
SFUBT1002 TiSiN	10	5	20	75	10	2
SFUBT1202 TiSiN	12	6	24	75	12	2
SFUBT1402 TiSiN	14	7	24	80	16	2
SFUBT1602 TiSiN	16	8	24	100	16	2
SFUBT2002 TiSiN	20	10	30	150	20	2
SFUBT2502 TiSiN	25	12.5	35	150	25	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

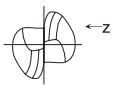
Ball Nose Short Flute - 2 flutes

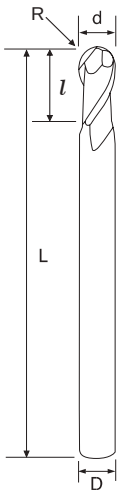
■ 2刃強力短刃球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
UBTSX010 nBS	1	0.5	1	2.5	50	4	2
UBTSX015 nBS	1.5	0.75	1.5	4	50	4	2
UBTSX020 nBS	2	1	2	5	50	4	2
UBTSX025 nBS	2.5	1.25	2.5	6	50	4	2
UBTSX030 nBS	3	1.5	3	8	50	4	2
UBTSX035 nBS	3.5	1.75	3.5	8	50	4	2
UBTSX036 nBS	3	1.5	3	8	50	6	2
UBTSX044 nBS	4	2	4	10	50	4	2
UBTSX045 nBS	4.5	2.25	4.5	11	50	6	2
UBTSX046 nBS	4	2	4	10	50	6	2
UBTSX050 nBS	5	2.5	5	13	50	6	2
UBTSX055 nBS	5.5	2.75	5.5	14	50	6	2
UBTSX060 nBS	6	3	6	15	50	6	2
UBTSX070 nBS	7	3.5	7	16	60	8	2
UBTSX080 nBS	8	4	8	20	60	8	2
UBTSX090 nBS	9	4.5	9	22	75	10	2
UBTSX100 nBS	10	5	10	25	75	10	2
UBTSX120 nBS	12	6	12	30	75	12	2
UBTSX140 nBS	14	7	14	35	75	16	2
UBTSX160 nBS	16	8	16	40	100	16	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

切 削 條件表 P352
Cutting Condition

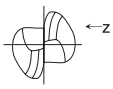
Ball Nose Short Flute - 2 flutes

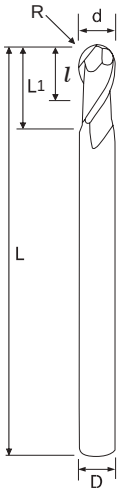
■ 2刃短刃強力球型刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SFUBTSX010 TiSiN	1	0.5	1	2.5	50	4	2
SFUBTSX015 TiSiN	1.5	0.75	1.5	4	50	4	2
SFUBTSX020 TiSiN	2	1	2	5	50	4	2
SFUBTSX025 TiSiN	2.5	1.25	2.5	6	50	4	2
SFUBTSX030 TiSiN	3	1.5	3	8	50	4	2
SFUBTSX630 TiSiN	3	1.5	3	8	50	6	2
SFUBTSX035 TiSiN	3.5	1.75	3.5	8	50	4	2
SFUBTSX040 TiSiN	4	2	4	10	50	4	2
SFUBTSX640 TiSiN	4	2	4	10	50	6	2
SFUBTSX045 TiSiN	4.5	2.25	4.5	11	50	6	2
SFUBTSX050 TiSiN	5	2.5	5	13	50	6	2
SFUBTSX055 TiSiN	5.5	2.75	5.5	14	50	6	2
SFUBTSX060 TiSiN	6	3	6	15	50	6	2
SFUBTSX070 TiSiN	7	3.5	7	16	60	8	2
SFUBTSX080 TiSiN	8	4	8	20	60	8	2
SFUBTSX090 TiSiN	9	4.5	9	22	75	10	2
SFUBTSX100 TiSiN	10	5	10	25	75	10	2
SFUBTSX120 TiSiN	12	6	12	30	75	12	2
SFUBTSX140 TiSiN	14	7	14	35	75	16	2
SFUBTSX160 TiSiN	16	8	16	40	100	16	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

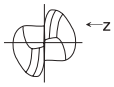
Unit/單位: mm

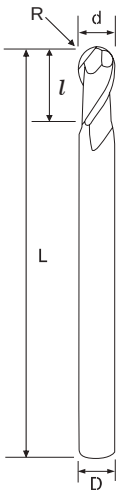
Ball Nose - Long Shank - 2 flutes

■ 2刃長柄球型立銑刀

600 Nano | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SLB0102	1	0.5	2	75	6	2
MLB0102	1	0.5	2	100	6	2
SLB0152	1.5	0.75	3	75	6	2
MLB0152	1.5	0.75	3	100	6	2
SLB0202	2	1	4	75	6	2
MLB0202	2	1	4	100	6	2
SLB0252	2.5	1.25	5	75	6	2
MLB0252	2.5	1.25	5	100	6	2
SLB0302	3	1.5	6	75	6	2
MLB0302	3	1.5	6	100	6	2
MLB0352	3.5	1.75	7	100	6	2
SLB0402	4	2	8	75	6	2
MLB0402	4	2	8	100	6	2
SLB0502	5	2.5	10	75	6	2
MLB0502	5	2.5	10	100	6	2
SLB0602	6	3	12	75	6	2
MLB0602	6	3	12	100	6	2
LLB0602	6	3	12	150	6	2
SLB0802	8	4	16	75	8	2
MLB0802	8	4	16	100	8	2
LLB0802	8	4	16	150	8	2
MLB1002	10	5	20	100	10	2
LLB1002	10	5	20	150	10	2
XLB1002	10	5	20	200	10	2
MLB1202	12	6	24	100	12	2
LLB1202	12	6	24	150	12	2
XLB1202	12	6	24	200	12	2
LLB1602	16	8	32	150	16	2
XLB1602	16	8	32	200	16	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

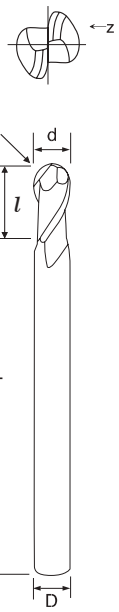
切 削 條件表 P341
Cutting Condition

Ball Nose - Long Shank - 2 flutes

■ 2刃長柄球型立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SLB0102 AlTiN	1	0.5	2	75	6	2
MLB0102 AlTiN	1	0.5	2	100	6	2
SLB0152 AlTiN	1.5	0.75	3	75	6	2
MLB0152 AlTiN	1.5	0.75	3	100	6	2
SLB0202 AlTiN	2	1	4	75	6	2
MLB0202 AlTiN	2	1	4	100	6	2
SLB0252 AlTiN	2.5	1.25	5	75	6	2
MLB0252 AlTiN	2.5	1.25	5	100	6	2
SLB0302 AlTiN	3	1.5	6	75	6	2
MLB0302 AlTiN	3	1.5	6	100	6	2
MLB0352 AlTiN	3.5	1.75	7	100	6	2
SLB0402 AlTiN	4	2	8	75	6	2
MLB0402 AlTiN	4	2	8	100	6	2
SLB0502 AlTiN	5	2.5	10	75	6	2
MLB0502 AlTiN	5	2.5	10	100	6	2
SLB0602 AlTiN	6	3	12	75	6	2
MLB0602 AlTiN	6	3	12	100	6	2
LLB0602 AlTiN	6	3	12	150	6	2
SLB0802 AlTiN	8	4	16	75	8	2
MLB0802 AlTiN	8	4	16	100	8	2
LLB0802 AlTiN	8	4	16	150	8	2
MLB1002 AlTiN	10	5	20	100	10	2
LLB1002 AlTiN	10	5	20	150	10	2
XLB1002 AlTiN	10	5	20	200	10	2
MLB1202 AlTiN	12	6	24	100	12	2
LLB1202 AlTiN	12	6	24	150	12	2
XLB1202 AlTiN	12	6	24	200	12	2
LLB1602 AlTiN	16	8	32	150	16	2
XLB1602 AlTiN	16	8	32	200	16	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

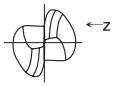
Unit/單位: mm

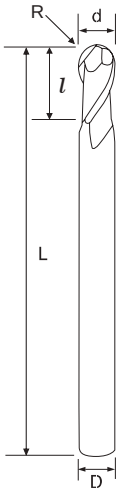
Ball Nose - Long Shank - 2 flutes

■ 2刃長柄球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm





Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
ULBTS0102 nBS	1	0.5	2	75	6	2
ULBTS0152 nBS	1.5	0.75	3	75	6	2
ULBTS0202 nBS	2	1	4	75	6	2
ULBTS0252 nBS	2.5	1.25	5	75	6	2
ULBTS0302 nBS	3	1.5	6	75	6	2
ULBTS0352 nBS	3.5	1.75	7	75	6	2
ULBTS0402 nBS	4	2	8	75	6	2
ULBTS0452 nBS	4.5	2.25	9	75	6	2
ULBTS0502 nBS	5	2.5	10	75	6	2
ULBTS0552 nBS	5.5	2.75	11	75	6	2
ULBTS0602 nBS	6	3	12	75	6	2
ULBTS0702 nBS	7	3.5	14	75	8	2
ULBTS0802 nBS	8	4	16	100	8	2
ULBTS0902 nBS	9	4.5	18	100	10	2
ULBTS1002 nBS	10	5	20	100	10	2
ULBTS1202 nBS	12	6	24	100	12	2
ULBTS1402 nBS	14	7	28	100	14	2
ULBTS1602 nBS	16	8	32	150	16	2
ULBTM0602 nBS	6	3	12	100	6	2
ULBTM0802 nBS	8	4	16	150	8	2
ULBTM1002 nBS	10	5	20	150	10	2
ULBTM1202 nBS	12	6	24	150	12	2
ULBTM1602 nBS	16	8	32	200	16	2
ULBTL0602 nBS	6	3	12	150	6	2
ULBTL2002 nBS	20	10	40	200	20	2
ULBTL2502 nBS	25	12.5	45	200	25	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

切 削 條件表 P354
Cutting Condition

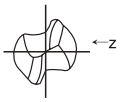
Ball Nose - Long Shank - 2 flutes

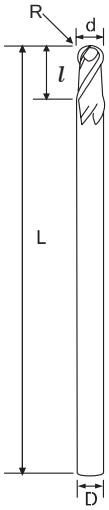
■ 2刃長柄球型立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SFULBT0102 TiSiN	1	0.5	3	75	6	2
SFULBT0202 TiSiN	2	1	4	75	6	2
SFULBT0302 TiSiN	3	1.5	5	75	6	2
SFULBT0402 TiSiN	4	2	6	75	6	2
SFULBT0502 TiSiN	5	2.5	8	75	6	2
SFULBT0602 TiSiN	6	3	9	75	6	2
SFULBT0612 TiSiN	6	3	9	100	6	2
SFULBT0702 TiSiN	7	3.5	14	75	8	2
SFULBT0802 TiSiN	8	4	16	75	8	2
SFULBT0812 TiSiN	8	4	16	100	8	2
SFULBT0902 TiSiN	9	4.5	18	100	10	2
SFULBT1002 TiSiN	10	5	20	100	10	2
SFULBT1012 TiSiN	10	5	20	150	10	2
SFULBT1202 TiSiN	12	6	24	100	12	2
SFULBT1212 TiSiN	12	6	24	150	12	2
SFULBT1402 TiSiN	14	7	28	100	16	2
SFULBT1602 TiSiN	16	8	32	150	16	2
SFULBT1612 TiSiN	16	8	32	200	16	2
SFULBT2002 TiSiN	20	10	40	200	20	2
SFULBT2502 TiSiN	25	12.5	50	200	25	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

600+ 切削條件表 P312 Cutting Condition

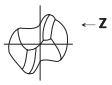
SPEED TIGER

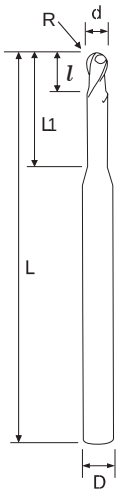
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNBT05022	0.5	0.25	0.75	2	50	4	2
P-LNBT05042	0.5	0.25	0.75	4	50	4	2
P-LNBT05062	0.5	0.25	0.75	6	50	4	2
P-LNBT06022	0.6	0.3	0.9	2	50	4	2
P-LNBT06042	0.6	0.3	0.9	4	50	4	2
P-LNBT06062	0.6	0.3	0.9	6	50	4	2
P-LNBT08042	0.8	0.4	1.2	4	50	4	2
P-LNBT08062	0.8	0.4	1.2	6	50	4	2
P-LNBT08082	0.8	0.4	1.2	8	50	4	2
P-LNBT10062	1	0.5	1.5	6	50	4	2
P-LNBT10082	1	0.5	1.5	8	50	4	2
P-LNBT10102	1	0.5	1.5	10	50	4	2
P-LNBT10122	1	0.5	1.5	12	50	4	2
P-LNBT12062	1.2	0.6	1.8	6	50	4	2
P-LNBT12082	1.2	0.6	1.8	8	50	4	2
P-LNBT12102	1.2	0.6	1.8	10	50	4	2
P-LNBT12122	1.2	0.6	1.8	12	50	4	2
P-LNBT14062	1.4	0.7	2.1	6	50	4	2
P-LNBT14102	1.4	0.7	2.1	10	50	4	2
P-LNBT14162	1.4	0.7	2.1	16	50	4	2
P-LNBT15062	1.5	0.75	2.3	6	50	4	2
P-LNBT15082	1.5	0.75	2.3	8	50	4	2
P-LNBT15102	1.5	0.75	2.3	10	50	4	2
P-LNBT15122	1.5	0.75	2.3	12	50	4	2
P-LNBT15142	1.5	0.75	2.3	14	50	4	2
P-LNBT15162	1.5	0.75	2.3	16	50	4	2
P-LNBT15182	1.5	0.75	2.3	18	50	4	2
P-LNBT15202	1.5	0.75	2.3	20	50	4	2
P-LNBT16062	1.6	0.8	2.4	6	50	4	2
P-LNBT16082	1.6	0.8	2.4	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

ST 600+

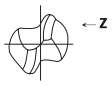
切削條件表 P312
Cutting Condition

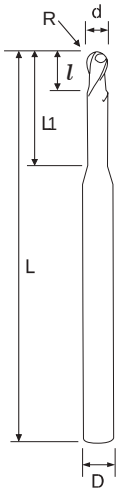
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNBT16102	1.6	0.8	2.4	10	50	4	2
P-LNBT16122	1.6	0.8	2.4	12	50	4	2
P-LNBT16142	1.6	0.8	2.4	14	50	4	2
P-LNBT16162	1.6	0.8	2.4	16	50	4	2
P-LNBT16182	1.6	0.8	2.4	18	50	4	2
P-LNBT16202	1.6	0.8	2.4	20	50	4	2
P-LNBT18082	1.8	0.9	2.7	8	50	4	2
P-LNBT18142	1.8	0.9	2.7	14	50	4	2
P-LNBT18202	1.8	0.9	2.7	20	50	4	2
P-LNBT20082	2	1	3	8	50	4	2
P-LNBT20102	2	1	3	10	50	4	2
P-LNBT20122	2	1	3	12	50	4	2
P-LNBT20142	2	1	3	14	50	4	2
P-LNBT20162	2	1	3	16	50	4	2
P-LNBT20182	2	1	3	18	50	4	2
P-LNBT20202	2	1	3	20	50	4	2
P-LNBT25082	2.5	1.25	4	8	50	4	2
P-LNBT25122	2.5	1.25	4	12	50	4	2
P-LNBT25162	2.5	1.25	4	16	50	4	2
P-LNBT25202	2.5	1.25	4	20	50	4	2
P-LNBT30102	3	1.5	4.5	10	50	6	2
P-LNBT30122	3	1.5	4.5	12	50	6	2
P-LNBT30162	3	1.5	4.5	16	60	6	2
P-LNBT30202	3	1.5	4.5	20	60	6	2
P-LNBT30252	3	1.5	4.5	25	75	6	2
P-LNBT40122	4	2	6	12	50	6	2
P-LNBT40162	4	2	6	16	60	6	2
P-LNBT40202	4	2	6	20	75	6	2
P-LNBT40252	4	2	6	25	75	6	2
P-LNBT40302	4	2	6	30	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P312 Cutting Condition

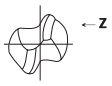
SPEED TIGER

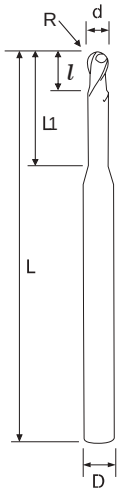
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNBT05022 AlTiN	0.5	0.25	0.75	2	50	4	2
P-LNBT05042 AlTiN	0.5	0.25	0.75	4	50	4	2
P-LNBT05062 AlTiN	0.5	0.25	0.75	6	50	4	2
P-LNBT06022 AlTiN	0.6	0.3	0.9	2	50	4	2
P-LNBT06042 AlTiN	0.6	0.3	0.9	4	50	4	2
P-LNBT06062 AlTiN	0.6	0.3	0.9	6	50	4	2
P-LNBT08042 AlTiN	0.8	0.4	1.2	4	50	4	2
P-LNBT08062 AlTiN	0.8	0.4	1.2	6	50	4	2
P-LNBT08082 AlTiN	0.8	0.4	1.2	8	50	4	2
P-LNBT10062 AlTiN	1	0.5	1.5	6	50	4	2
P-LNBT10082 AlTiN	1	0.5	1.5	8	50	4	2
P-LNBT10102 AlTiN	1	0.5	1.5	10	50	4	2
P-LNBT10122 AlTiN	1	0.5	1.5	12	50	4	2
P-LNBT12062 AlTiN	1.2	0.6	1.8	6	50	4	2
P-LNBT12082 AlTiN	1.2	0.6	1.8	8	50	4	2
P-LNBT12102 AlTiN	1.2	0.6	1.8	10	50	4	2
P-LNBT12122 AlTiN	1.2	0.6	1.8	12	50	4	2
P-LNBT14062 AlTiN	1.4	0.7	2.1	6	50	4	2
P-LNBT14102 AlTiN	1.4	0.7	2.1	10	50	4	2
P-LNBT14162 AlTiN	1.4	0.7	2.1	16	50	4	2
P-LNBT15062 AlTiN	1.5	0.75	2.3	6	50	4	2
P-LNBT15082 AlTiN	1.5	0.75	2.3	8	50	4	2
P-LNBT15102 AlTiN	1.5	0.75	2.3	10	50	4	2
P-LNBT15122 AlTiN	1.5	0.75	2.3	12	50	4	2
P-LNBT15142 AlTiN	1.5	0.75	2.3	14	50	4	2
P-LNBT15162 AlTiN	1.5	0.75	2.3	16	50	4	2
P-LNBT15182 AlTiN	1.5	0.75	2.3	18	50	4	2
P-LNBT15202 AlTiN	1.5	0.75	2.3	20	50	4	2
P-LNBT16062 AlTiN	1.6	0.8	2.4	6	50	4	2
P-LNBT16082 AlTiN	1.6	0.8	2.4	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

ST 600+

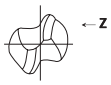
切削條件表 P312
Cutting Condition

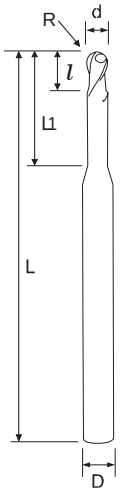
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
P-LNBT16102 AlTiN	1.6	0.8	2.4	10	50	4	2
P-LNBT16122 AlTiN	1.6	0.8	2.4	12	50	4	2
P-LNBT16142 AlTiN	1.6	0.8	2.4	14	50	4	2
P-LNBT16162 AlTiN	1.6	0.8	2.4	16	50	4	2
P-LNBT16182 AlTiN	1.6	0.8	2.4	18	50	4	2
P-LNBT16202 AlTiN	1.6	0.8	2.4	20	50	4	2
P-LNBT18082 AlTiN	1.8	0.9	2.7	8	50	4	2
P-LNBT18142 AlTiN	1.8	0.9	2.7	14	50	4	2
P-LNBT18202 AlTiN	1.8	0.9	2.7	20	50	4	2
P-LNBT20082 AlTiN	2	1	3	8	50	4	2
P-LNBT20102 AlTiN	2	1	3	10	50	4	2
P-LNBT20122 AlTiN	2	1	3	12	50	4	2
P-LNBT20142 AlTiN	2	1	3	14	50	4	2
P-LNBT20162 AlTiN	2	1	3	16	50	4	2
P-LNBT20182 AlTiN	2	1	3	18	50	4	2
P-LNBT20202 AlTiN	2	1	3	20	50	4	2
P-LNBT25082 AlTiN	2.5	1.25	4	8	50	4	2
P-LNBT25122 AlTiN	2.5	1.25	4	12	50	4	2
P-LNBT25162 AlTiN	2.5	1.25	4	16	50	4	2
P-LNBT25202 AlTiN	2.5	1.25	4	20	50	4	2
P-LNBT30102 AlTiN	3	1.5	4.5	10	50	6	2
P-LNBT30122 AlTiN	3	1.5	4.5	12	50	6	2
P-LNBT30162 AlTiN	3	1.5	4.5	16	60	6	2
P-LNBT30202 AlTiN	3	1.5	4.5	20	60	6	2
P-LNBT30252 AlTiN	3	1.5	4.5	25	75	6	2
P-LNBT40122 AlTiN	4	2	6	12	50	6	2
P-LNBT40162 AlTiN	4	2	6	16	60	6	2
P-LNBT40202 AlTiN	4	2	6	20	75	6	2
P-LNBT40252 AlTiN	4	2	6	25	75	6	2
P-LNBT40302 AlTiN	4	2	6	30	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

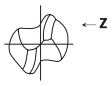
Unit/單位: mm

Ball Nose - Long Neck - 2 flutes

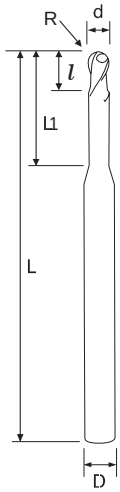
■ 2刃深溝專用長頸球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
ULNBT05022 nBS	0.5	0.25	0.75	2	50	4	2
ULNBT05042 nBS	0.5	0.25	0.75	4	50	4	2
ULNBT05062 nBS	0.5	0.25	0.75	6	50	4	2
ULNBT06022 nBS	0.6	0.3	0.9	2	50	4	2
ULNBT06042 nBS	0.6	0.3	0.9	4	50	4	2
ULNBT06062 nBS	0.6	0.3	0.9	6	50	4	2
ULNBT08042 nBS	0.8	0.4	1.2	4	50	4	2
ULNBT08062 nBS	0.8	0.4	1.2	6	50	4	2
ULNBT08082 nBS	0.8	0.4	1.2	8	50	4	2
ULNBT10062 nBS	1	0.5	1.5	6	50	4	2
ULNBT10082 nBS	1	0.5	1.5	8	50	4	2
ULNBT10102 nBS	1	0.5	1.5	10	50	4	2
ULNBT10122 nBS	1	0.5	1.5	12	50	4	2
ULNBT15062 nBS	1.5	0.75	2.3	6	50	4	2
ULNBT15082 nBS	1.5	0.75	2.3	8	50	4	2
ULNBT15102 nBS	1.5	0.75	2.3	10	50	4	2
ULNBT15122 nBS	1.5	0.75	2.3	12	50	4	2
ULNBT15142 nBS	1.5	0.75	2.3	14	50	4	2
ULNBT15162 nBS	1.5	0.75	2.3	16	50	4	2
ULNBT15182 nBS	1.5	0.75	2.3	18	50	4	2
ULNBT15202 nBS	1.5	0.75	2.3	20	50	4	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎		○		

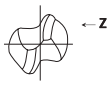
切 削 條件表 P344
Cutting Condition

Ball Nose - Long Neck - 2 flutes

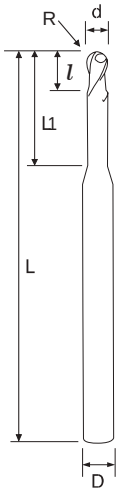
■ 2刃深溝專用長頸球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm



Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
ULNBT20082 nBS	2	1	3	8	50	4	2
ULNBT20102 nBS	2	1	3	10	50	4	2
ULNBT20122 nBS	2	1	3	12	50	4	2
ULNBT20142 nBS	2	1	3	14	50	4	2
ULNBT20162 nBS	2	1	3	16	50	4	2
ULNBT20182 nBS	2	1	3	18	50	4	2
ULNBT20202 nBS	2	1	3	20	50	4	2
ULNBT25082 nBS	2.5	1.25	4	8	50	4	2
ULNBT25122 nBS	2.5	1.25	4	12	50	4	2
ULNBT25162 nBS	2.5	1.25	4	16	50	4	2
ULNBT25202 nBS	2.5	1.25	4	20	50	4	2
ULNBT30102 nBS	3	1.5	4.5	10	50	6	2
ULNBT30122 nBS	3	1.5	4.5	12	50	6	2
ULNBT30162 nBS	3	1.5	4.5	16	60	6	2
ULNBT30202 nBS	3	1.5	4.5	20	60	6	2
ULNBT30252 nBS	3	1.5	4.5	25	75	6	2
ULNBT40122 nBS	4	2	6	12	50	6	2
ULNBT40162 nBS	4	2	6	16	60	6	2
ULNBT40202 nBS	4	2	6	20	75	6	2
ULNBT40252 nBS	4	2	6	25	75	6	2
ULNBT40302 nBS	4	2	6	30	75	6	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎		○		

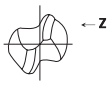
Unit/單位: mm

Ball Nose - Long Neck - 2 flutes

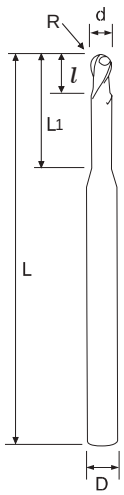
■ 2刃深溝專用長頸球型立銑刀

200 Nano | HRC ▶65 | 35° | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm



Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SFULNBT05022 nACo	0.5	0.25	0.75	2	50	4	2
SFULNBT05042 nACo	0.5	0.25	0.75	4	50	4	2
SFULNBT05062 nACo	0.5	0.25	0.75	6	50	4	2
SFULNBT06022 nACo	0.6	0.3	0.9	2	50	4	2
SFULNBT06042 nACo	0.6	0.3	0.9	4	50	4	2
SFULNBT06062 nACo	0.6	0.3	0.9	6	50	4	2
SFULNBT08042 nACo	0.8	0.4	1.2	4	50	4	2
SFULNBT08062 nACo	0.8	0.4	1.2	6	50	4	2
SFULNBT08082 nACo	0.8	0.4	1.2	8	50	4	2
SFULNBT10062 nACo	1	0.5	1.5	6	50	4	2
SFULNBT10082 nACo	1	0.5	1.5	8	50	4	2
SFULNBT10102 nACo	1	0.5	1.5	10	50	4	2
SFULNBT10122 nACo	1	0.5	1.5	12	50	4	2
SFULNBT15062 nACo	1.5	0.75	2.3	6	50	4	2
SFULNBT15082 nACo	1.5	0.75	2.3	8	50	4	2
SFULNBT15102 nACo	1.5	0.75	2.3	10	50	4	2
SFULNBT15122 nACo	1.5	0.75	2.3	12	50	4	2
SFULNBT15142 nACo	1.5	0.75	2.3	14	50	4	2
SFULNBT15162 nACo	1.5	0.75	2.3	16	50	4	2
SFULNBT15182 nACo	1.5	0.75	2.3	18	50	4	2
SFULNBT15202 nACo	1.5	0.75	2.3	20	50	4	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

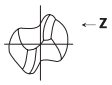
切 削 條件表 P344
Cutting Condition

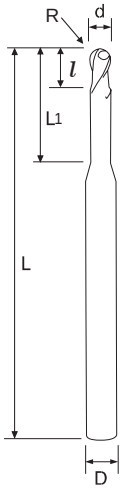
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

200 Nano | HRC ▶65 | 35° | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm





Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SFULNBT20082 nACo	2	1	3	8	50	4	2
SFULNBT20102 nACo	2	1	3	10	50	4	2
SFULNBT20122 nACo	2	1	3	12	50	4	2
SFULNBT20142 nACo	2	1	3	14	50	4	2
SFULNBT20162 nACo	2	1	3	16	50	4	2
SFULNBT20182 nACo	2	1	3	18	50	4	2
SFULNBT20202 nACo	2	1	3	20	50	4	2
SFULNBT25082 nACo	2.5	1.25	4	8	50	4	2
SFULNBT25122 nACo	2.5	1.25	4	12	50	4	2
SFULNBT25162 nACo	2.5	1.25	4	16	50	4	2
SFULNBT30102 nACo	3	1.5	4.5	10	50	6	2
SFULNBT30122 nACo	3	1.5	4.5	12	50	6	2
SFULNBT30162 nACo	3	1.5	4.5	16	60	6	2
SFULNBT30202 nACo	3	1.5	4.5	20	60	6	2
SFULNBT30252 nACo	3	1.5	4.5	25	75	6	2
SFULNBT40122 nACo	4	2	6	12	50	6	2
SFULNBT40162 nACo	4	2	6	16	60	6	2
SFULNBT40202 nACo	4	2	6	20	75	6	2
SFULNBT40252 nACo	4	2	6	25	75	6	2
SFULNBT40302 nACo	4	2	6	30	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

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Unit/單位: mm

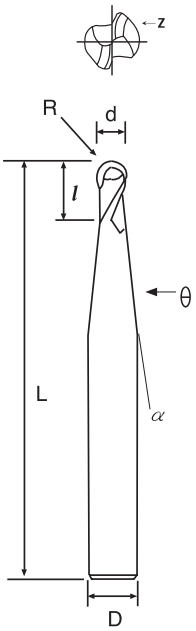
Pencil Neck Ball Nose - 2 flutes

■ 2刃斜度頸球型銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Bevel	Flutes
型號	d 刃徑	R 值	*l* 刃長	L 全長	D 柄徑	θ 斜度	Z 刃數
PBTA0101 AlTiN	1	0.5	2	75	6	1°	2
PBTA0151 AlTiN	1.5	0.75	3	75	6	1°	2
PBTA0201 AlTiN	2	1	4	75	6	1°	2
PBTA0205 AlTiN	2	1	12	100	8	5°	2
PBTA0301 AlTiN	3	1.5	6	75	6	1°	2
PBTA0305 AlTiN	3	1.5	8	100	8	5°	2
PBTA0401 AlTiN	4	2	8	75	6	1°	2
PBTA0405 AlTiN	4	2	10	100	8	5°	2
PBTA0605 AlTiN	6	3	12	100	10	5°	2
PBTA0603 AlTiN	6	3	16	150	12	3°	2
PBTA0805 AlTiN	8	4	16	100	12	5°	2
PBTA0803 AlTiN	8	4	20	150	12	3°	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

切 削 條件表 P347
Cutting Condition

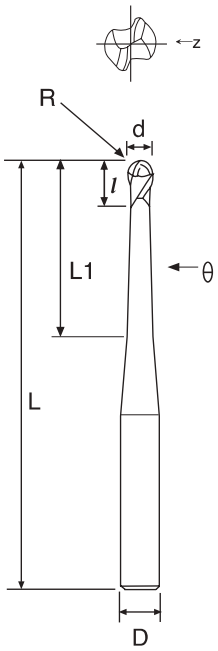
Pencil Neck Ball Nose - 2 flutes

■ 2刃深溝專用斜頸球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Bevel	Flutes
型號	d 刃徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	θ 斜度	Z 刃數
UPBT101520 nBS	1	0.5	2	20	75	6	1.5°	2
UPBT151520 nBS	1.5	0.75	3	20	75	6	1.5°	2
UPBT201025 nBS	2	1	4	25	75	6	1°	2
UPBT251025 nBS	2.5	1.25	5	25	75	6	1°	2
UPBT301030 nBS	3	1.5	6	30	75	6	1°	2
UPBT401035 nBS	4	2	7	35	75	6	1°	2
UPBT402545 nBS	4	2	7	45	150	8	2.5°	2
UPBT502550 nBS	5	2.5	9	50	150	10	2.5°	2
UPBT603038 nBS	6	3	10	38	150	10	3°	2
UPBT803038 nBS	8	4	13	38	150	12	3°	2
UPBT904042 nBS	10	5	16	42	150	16	4°	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

Unit/單位: mm

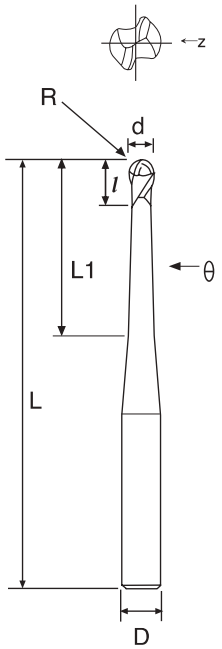
Pencil Neck Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長斜頸球型立銑刀

400 Nano | HRC ▶60 | 35° | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Bevel	Flutes
型號	d 刃徑	R 值	*l* 刃長	L1 有效長	L 全長	D 柄徑	*θ* 斜度	Z 刃數
ULPBT200560 nBS	2	1	3	60	100	6	0.5°	2
ULPBT201060 nBS	2	1	3	60	100	6	1°	2
ULPBT201560 nBS	2	1	3	60	100	6	1.5°	2
ULPBT202057 nBS	2	1	3	57	100	6	2°	2
ULPBT300560 nBS	3	1.5	4	60	100	6	0.5°	2
ULPBT301060 nBS	3	1.5	4	60	100	6	1°	2
ULPBT301557 nBS	3	1.5	4	57	100	6	1.5°	2
ULPBT302043 nBS	3	1.5	4	43	100	6	2°	2
ULPBT400560 nBS	4	2	5	60	100	6	0.5°	2
ULPBT401057 nBS	4	2	5	57	100	6	1°	2
ULPBT401538 nBS	4	2	5	38	100	6	1.5°	2
ULPBT402029 nBS	4	2	5	29	100	6	2°	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

切 削 條件表 P399
Cutting Condition

Taper Ball Nose - 2 flutes

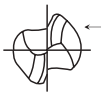
■ 2刃球型斜度立銑刀

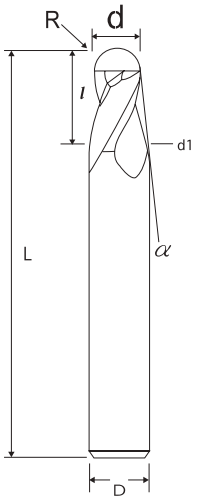
600 Nano | HRC ▶ 55 | 35° | AlTiN

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE 型號	Diameter d 刃徑	Radius R 值	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	d1 大 徑	α	Flutes Z 刃數
TBTA050005 AlTiN	1	0.5	10	50	4	1.17	30"	2
TBTA050010 AlTiN	1	0.5	10	50	4	1.35	1°	2
TBTA050015 AlTiN	1	0.5	10	50	4	1.52	1°30"	2
TBTA050020 AlTiN	1	0.5	10	50	4	1.7	2°	2
TBTA050030 AlTiN	1	0.5	10	50	4	1.87	3°	2
TBTA050040 AlTiN	1	0.5	10	50	4	2.05	4°	2
TBTA050050 AlTiN	1	0.5	10	50	4	2.74	5°	2
TBTA050070 AlTiN	1	0.5	10	50	4	3.44	7°	2
TBTA050100 AlTiN	1	0.5	10	50	4	4.51	10°	2
TBTA075005 AlTiN	1.5	0.75	10	50	4	1.67	30"	2
TBTA075010 AlTiN	1.5	0.75	10	50	4	1.85	1°	2
TBTA075015 AlTiN	1.5	0.75	10	50	4	2.02	1°30"	2
TBTA075020 AlTiN	1.5	0.75	10	50	4	2.2	2°	2
TBTA075030 AlTiN	1.5	0.75	10	50	4	2.37	3°	2
TBTA075040 AlTiN	1.5	0.75	10	50	4	2.55	4°	2
TBTA075050 AlTiN	1.5	0.75	10	50	4	3.24	5°	2
TBTA075070 AlTiN	1.5	0.75	10	50	4	3.94	7°	2
TBTA075100 AlTiN	1.5	0.75	10	50	6	5.02	10°	2
TBTA100005 AlTiN	2	1	13	50	4	2.22	30"	2
TBTA100010 AlTiN	2	1	13	50	4	2.45	1°	2
TBTA100015 AlTiN	2	1	13	50	4	2.68	1°30"	2
TBTA100020 AlTiN	2	1	13	50	4	3.9	2°	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

www.speedtiger.com.tw

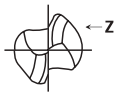
Taper Ball Nose - 2 flutes

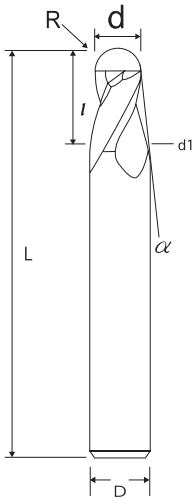
■ 2刃球型斜度立銑刀

600 Nano | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE 型號	Diameter d 刃徑	Radius R 值	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	d1 大 徑	α	Flutes Z 刃數
TBTA100030 AlTiN	2	1	13	50	4	3.13	3°	2
TBTA100040 AlTiN	2	1	13	50	4	3.36	4°	2
TBTA100050 AlTiN	2	1	13	50	6	4.27	5°	2
TBTA100070 AlTiN	2	1	13	50	6	5.17	7°	2
TBTA100100 AlTiN	2	1	13	60	8	6.56	10°	2
TBTA125005 AlTiN	2.5	1.25	15	50	4	2.76	30"	2
TBTA125010 AlTiN	2.5	1.25	15	50	4	3.03	1°	2
TBTA125015 AlTiN	2.5	1.25	15	50	4	3.29	1°30"	2
TBTA125020 AlTiN	2.5	1.25	15	50	4	3.56	2°	2
TBTA125030 AlTiN	2.5	1.25	15	50	4	3.81	3°	2
TBTA125040 AlTiN	2.5	1.25	15	50	6	4.07	4°	2
TBTA125050 AlTiN	2.5	1.25	15	50	6	5.13	5°	2
TBTA125070 AlTiN	2.5	1.25	15	60	6	6.17	7°	2
TBTA125100 AlTiN	2.5	1.25	15	60	8	7.77	10°	2
TBTA150005 AlTiN	3	1.5	20	50	4	3.34	30"	2
TBTA150010 AlTiN	3	1.5	20	50	4	3.6	1°	2
TBTA150015 AlTiN	3	1.5	20	60	6	4.04	1°30"	2
TBTA150020 AlTiN	3	1.5	20	60	6	4.39	2°	2
TBTA150030 AlTiN	3	1.5	20	60	6	5.08	3°	2
TBTA150040 AlTiN	3	1.5	20	60	6	5.78	4°	2
TBTA150050 AlTiN	3	1.5	20	60	8	6.48	5°	2
TBTA150070 AlTiN	3	1.5	20	60	8	7.9	7°	2
TBTA150100 AlTiN	3	1.5	20	75	10	10.04	10°	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

ST 600+

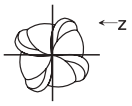
切削條件表 P313
Cutting Condition

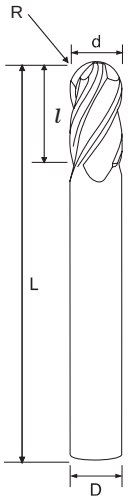
Ball Nose - 4 flutes

■ 4刃球型立銑刀

600 PLUS | HRC ▶45 | 35°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
P-MSB0104	1	0.5	2	50	4	4
P-MSB0154	1.5	0.75	3	50	4	4
P-MSB0204	2	1	4	50	4	4
P-MSB0254	2.5	1.25	5	50	4	4
P-SSB0304	3	1.5	6	50	3	4
P-MSB0304	3	1.5	6	50	4	4
P-MSB0354	3.5	1.75	7	50	4	4
P-MSB0404	4	2	8	50	4	4
P-SB0104	1	0.5	2	50	6	4
P-SB0154	1.5	0.75	3	50	6	4
P-SB0204	2	1	4	50	6	4
P-SB0254	2.5	1.25	5	50	6	4
P-SB0304	3	1.5	6	50	6	4
P-SB0354	3.5	1.75	7	50	6	4
P-SB0404	4	2	8	50	6	4
P-SB0454	4.5	2.25	9	50	6	4
P-SB0504	5	2.5	10	50	6	4
P-SB0554	5.5	2.75	11	50	6	4
P-SB0604	6	3	12	50	6	4
P-SB0704	7	3.5	14	60	8	4
P-SB0804	8	4	16	60	8	4
P-SB0904	9	4.5	18	75	10	4
P-SB1004	10	5	20	75	10	4
P-SB1104	11	5.5	22	75	12	4
P-SB1204	12	6	24	75	12	4
P-SB1404	14	7	28	100	16	4
P-SB1604	16	8	32	100	16	4
P-SB1804	18	9	36	100	20	4
P-SB2004	20	10	40	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P313 Cutting Condition

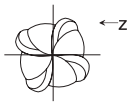
SPEED TIGER

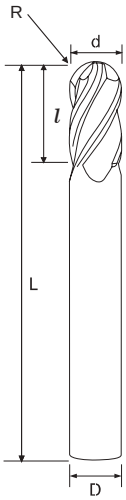
Ball Nose - 4 flutes

■ 4刃球型立銑刀

600 PLUS | HRC ▶55 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
P-MSB0104 AlTiN	1	0.5	2	50	4	4
P-MSB0154 AlTiN	1.5	0.75	3	50	4	4
P-MSB0204 AlTiN	2	1	4	50	4	4
P-MSB0254 AlTiN	2.5	1.25	5	50	4	4
P-SSB0304 AlTiN	3	1.5	6	50	3	4
P-MSB0304 AlTiN	3	1.5	6	50	4	4
P-MSB0354 AlTiN	3.5	1.75	7	50	4	4
P-MSB0404 AlTiN	4	2	8	50	4	4
P-SB0104 AlTiN	1	0.5	2	50	6	4
P-SB0154 AlTiN	1.5	0.75	3	50	6	4
P-SB0204 AlTiN	2	1	4	50	6	4
P-SB0254 AlTiN	2.5	1.25	5	50	6	4
P-SB0304 AlTiN	3	1.5	6	50	6	4
P-SB0354 AlTiN	3.5	1.75	7	50	6	4
P-SB0404 AlTiN	4	2	8	50	6	4
P-SB0454 AlTiN	4.5	2.25	9	50	6	4
P-SB0504 AlTiN	5	2.5	10	50	6	4
P-SB0554 AlTiN	5.5	2.75	11	50	6	4
P-SB0604 AlTiN	6	3	12	50	6	4
P-SB0704 AlTiN	7	3.5	14	60	8	4
P-SB0804 AlTiN	8	4	16	60	8	4
P-SB0904 AlTiN	9	4.5	18	75	10	4
P-SB1004 AlTiN	10	5	20	75	10	4
P-SB1104 AlTiN	11	5.5	22	75	12	4
P-SB1204 AlTiN	12	6	24	75	12	4
P-SB1404 AlTiN	14	7	28	100	16	4
P-SB1604 AlTiN	16	8	32	100	16	4
P-SB1804 AlTiN	18	9	36	100	20	4
P-SB2004 AlTiN	20	10	40	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

切 削 條件表 P355
Cutting Condition

Ball Nose - 4 flutes

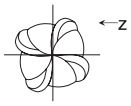
■ 4刃球型立銑刀

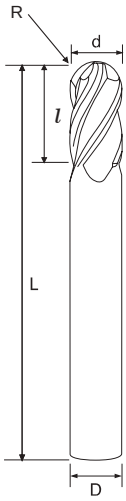
400 Nano | HRC ▶60 | 35° | nBS

● Ultra Fine Micro Grain Carbide

● WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L 全長	D 柄徑	Z 刃數
UBT0104 nBS	1	0.5	2	50	4	4
UBT0204 nBS	2	1	4	50	4	4
UBT0254 nBS	2.5	1.25	5	50	4	4
UBT0304 nBS	3	1.5	6	50	4	4
UBT0404 nBS	4	2	8	50	4	4
UBT0454 nBS	4.5	2.25	9	50	6	4
UBT0504 nBS	5	2.5	10	50	6	4
UBT0604 nBS	6	3	12	50	6	4
UBT0704 nBS	7	3.5	14	60	8	4
UBT0804 nBS	8	4	16	60	8	4
UBT0814 nBS	8	4	16	75	8	4
UBT1004 nBS	10	5	20	75	10	4
UBT1204 nBS	12	6	24	75	12	4
UBT1404 nBS	14	7	28	100	14	4
UBT1604 nBS	16	8	32	100	16	4
UBT2004 nBS	20	10	40	150	20	4
UBT2504 nBS	25	12.5	50	150	25	4
ULBT0604 nBS	6	3	12	75	6	4
ULBT0804 nBS	8	4	16	100	8	4
ULBT1004 nBS	10	5	20	100	10	4
ULBT1204 nBS	12	6	24	100	12	4
ULBT1604 nBS	16	8	32	150	16	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

Unit/單位: mm

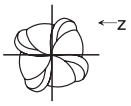
Ball Nose - 4 flutes

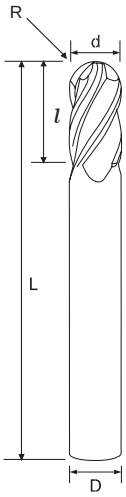
■ 4刃球型立銑刀

200 Nano | HRC ▶65 | 35° | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 值	*l* 刃長	L 全長	D 柄徑	Z 刃數
SFUBT0104 TiSiN	1	0.5	2	50	4	4
SFUBT0154 TiSiN	1.5	0.75	3	50	4	4
SFUBT0204 TiSiN	2	1	4	50	4	4
SFUBT0254 TiSiN	2.5	1.25	5	50	4	4
SFUBT0304 TiSiN	3	1.5	5.5	50	4	4
SFUBT0404 TiSiN	4	2	6	50	4	4
SFUBT0504 TiSiN	5	2.5	9	50	6	4
SFUBT0604 TiSiN	6	3	9	60	6	4
SFUBT0614 TiSiN	6	3	9	75	6	4
SFUBT0804 TiSiN	8	4	16	75	8	4
SFUBT1004 TiSiN	10	5	20	75	10	4
SFUBT1014 TiSiN	10	5	20	100	10	4
SFUBT1204 TiSiN	12	6	24	75	12	4
SFUBT1214 TiSiN	12	6	24	100	12	4
SFUBT1404 TiSiN	14	7	28	100	16	4
SFUBT1604 TiSiN	16	8	32	100	16	4
SFUBT2004 TiSiN	20	10	40	150	20	4
SFUBT2504 TiSiN	25	12.5	50	150	25	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

ST 600+

切 削 條件表 P314
Cutting Condition

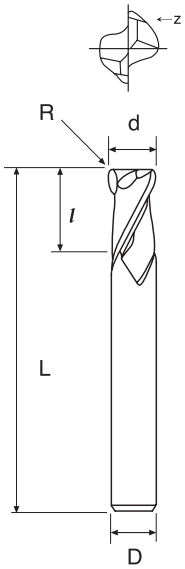
Corner Radius series - 2 flutes

■ 2刃圓鼻立銑刀

600 PLUS | HRC ▶45 | 35° | R

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA010012	1	0.1	3	50	4	2
P-RTA010022	1	0.2	3	50	4	2
P-RTA010032	1	0.3	3	50	4	2
P-RTA015022	1.5	0.2	4	50	4	2
P-RTA015032	1.5	0.3	4	50	4	2
P-RTA020022	2	0.2	6	50	4	2
P-RTA020032	2	0.3	6	50	4	2
P-RTA020052	2	0.5	6	50	4	2
P-RTA025022	2.5	0.2	8	50	4	2
P-RTA030022	3	0.2	8	50	3	2
P-RTA030032	3	0.3	8	50	3	2
P-RTA030052	3	0.5	8	50	3	2
P-RTA030102	3	1	8	50	3	2
P-RTA430022	3	0.2	8	50	4	2
P-RTA430032	3	0.3	8	50	4	2
P-RTA430052	3	0.5	8	50	4	2
P-RTA430102	3	1	8	50	4	2
P-RTA040022	4	0.2	10	50	4	2
P-RTA040032	4	0.3	10	50	4	2
P-RTA040052	4	0.5	10	50	4	2
P-RTA040102	4	1	10	50	4	2
P-RTA040152	4	1.5	10	50	4	2
P-RTA050022	5	0.2	13	50	6	2
P-RTA050032	5	0.3	13	50	6	2
P-RTA050052	5	0.5	13	50	6	2
P-RTA050102	5	1	13	50	6	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

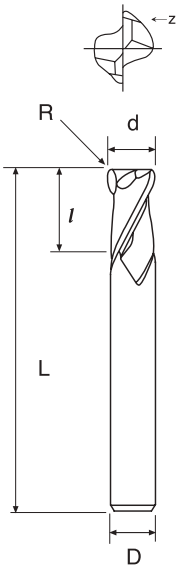
Unit/單位: mm

Corner Radius series - 2 flutes

■ 2刃圓鼻立銑刀

600 PLUS | HRC ▶45 | 35° | R

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA060022	6	0.2	15	50	6	2
P-RTA060032	6	0.3	15	50	6	2
P-RTA060052	6	0.5	15	50	6	2
P-RTA060102	6	1	15	50	6	2
P-RTA060152	6	1.5	15	50	6	2
P-RTA060202	6	2	15	50	6	2
P-RTA080032	8	0.3	20	60	8	2
P-RTA080052	8	0.5	20	60	8	2
P-RTA080102	8	1	20	60	8	2
P-RTA080152	8	1.5	20	60	8	2
P-RTA080202	8	2	20	60	8	2
P-RTA080252	8	2.5	20	60	8	2
P-RTA080302	8	3	20	60	8	2
P-RTA100032	10	0.3	25	75	10	2
P-RTA100052	10	0.5	25	75	10	2
P-RTA100102	10	1	25	75	10	2
P-RTA100152	10	1.5	25	75	10	2
P-RTA100202	10	2	25	75	10	2
P-RTA100252	10	2.5	25	75	10	2
P-RTA100302	10	3	25	75	10	2
P-RTA120032	12	0.3	30	75	12	2
P-RTA120052	12	0.5	30	75	12	2
P-RTA120102	12	1	30	75	12	2
P-RTA120152	12	1.5	30	75	12	2
P-RTA120202	12	2	30	75	12	2
P-RTA120252	12	2.5	30	75	12	2
P-RTA120302	12	3	30	75	12	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

ST 600+

切削條件表 P314
Cutting Condition

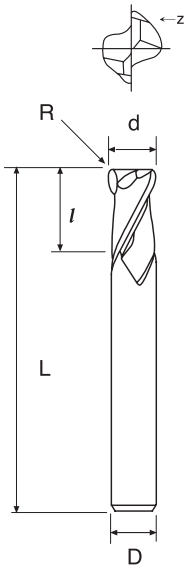
Corner Radius series - 2 flutes

■ 2刃圓鼻立銑刀

600 PLUS | HRC ▶55 | 35° | R | AlTiN

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA010012 AlTiN	1	0.1	3	50	4	2
P-RTA010022 AlTiN	1	0.2	3	50	4	2
P-RTA010032 AlTiN	1	0.3	3	50	4	2
P-RTA015022 AlTiN	1.5	0.2	4	50	4	2
P-RTA015032 AlTiN	1.5	0.3	4	50	4	2
P-RTA020022 AlTiN	2	0.2	6	50	4	2
P-RTA020032 AlTiN	2	0.3	6	50	4	2
P-RTA020052 AlTiN	2	0.5	6	50	4	2
P-RTA025022 AlTiN	2.5	0.2	8	50	4	2
P-RTA030022 AlTiN	3	0.2	8	50	3	2
P-RTA030032 AlTiN	3	0.3	8	50	3	2
P-RTA030052 AlTiN	3	0.5	8	50	3	2
P-RTA030102 AlTiN	3	1	8	50	3	2
P-RTA430022 AlTiN	3	0.2	8	50	4	2
P-RTA430032 AlTiN	3	0.3	8	50	4	2
P-RTA430052 AlTiN	3	0.5	8	50	4	2
P-RTA430102 AlTiN	3	1	8	50	4	2
P-RTA040022 AlTiN	4	0.2	10	50	4	2
P-RTA040032 AlTiN	4	0.3	10	50	4	2
P-RTA040052 AlTiN	4	0.5	10	50	4	2
P-RTA040102 AlTiN	4	1	10	50	4	2
P-RTA040152 AlTiN	4	1.5	10	50	4	2
P-RTA050022 AlTiN	5	0.2	13	50	6	2
P-RTA050032 AlTiN	5	0.3	13	50	6	2
P-RTA050052 AlTiN	5	0.5	13	50	6	2
P-RTA050102 AlTiN	5	1	13	50	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

600+ 切削條件表 P314 Cutting Condition

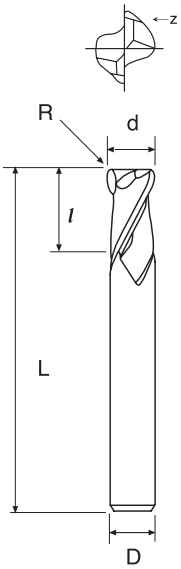
SPEED TIGER

Corner Radius series - 2 flutes

■ 2刃圓鼻立銑刀

600 PLUS | HRC ▶55 | 35° | R | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MOD	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA060022 AlTiN	6	0.2	15	50	6	2
P-RTA060032 AlTiN	6	0.3	15	50	6	2
P-RTA060052 AlTiN	6	0.5	15	50	6	2
P-RTA060102 AlTiN	6	1	15	50	6	2
P-RTA060152 AlTiN	6	1.5	15	50	6	2
P-RTA060202 AlTiN	6	2	15	50	6	2
P-RTA080032 AlTiN	8	0.3	20	60	8	2
P-RTA080052 AlTiN	8	0.5	20	60	8	2
P-RTA080102 AlTiN	8	1	20	60	8	2
P-RTA080152 AlTiN	8	1.5	20	60	8	2
P-RTA080202 AlTiN	8	2	20	60	8	2
P-RTA080252 AlTiN	8	2.5	20	60	8	2
P-RTA080302 AlTiN	8	3	20	60	8	2
P-RTA100032 AlTiN	10	0.3	25	75	10	2
P-RTA100052 AlTiN	10	0.5	25	75	10	2
P-RTA100102 AlTiN	10	1	25	75	10	2
P-RTA100152 AlTiN	10	1.5	25	75	10	2
P-RTA100202 AlTiN	10	2	25	75	10	2
P-RTA100252 AlTiN	10	2.5	25	75	10	2
P-RTA100302 AlTiN	10	3	25	75	10	2
P-RTA120032 AlTiN	12	0.3	30	75	12	2
P-RTA120052 AlTiN	12	0.5	30	75	12	2
P-RTA120102 AlTiN	12	1	30	75	12	2
P-RTA120152 AlTiN	12	1.5	30	75	12	2
P-RTA120202 AlTiN	12	2	30	75	12	2
P-RTA120252 AlTiN	12	2.5	30	75	12	2
P-RTA120302 AlTiN	12	3	30	75	12	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

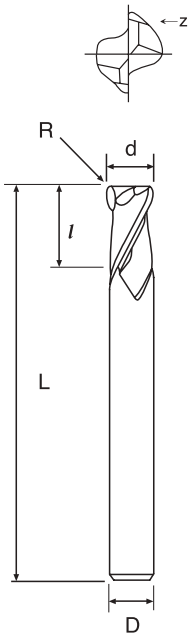
切 削 條件表 P357
Cutting Condition

Corner Radius series - 2 flutes

■ 2刃圓鼻立銑刀

400 Nano | HRC ▶60 | 35° | R | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm



Mode	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
URTA010022 nBS	1	0.2	2	50	4	2
URTA010032 nBS	1	0.3	2	50	4	2
URTA015022 nBS	1.5	0.2	3	50	4	2
URTA015032 nBS	1.5	0.3	3	50	4	2
URTA020022 nBS	2	0.2	5	50	4	2
URTA020032 nBS	2	0.3	5	50	4	2
URTA020052 nBS	2	0.5	5	50	4	2
URTA030022 nBS	3	0.2	8	50	4	2
URTA030032 nBS	3	0.3	8	50	4	2
URTA030052 nBS	3	0.5	8	50	4	2
URTA040022 nBS	4	0.2	10	50	4	2
URTA040032 nBS	4	0.3	10	50	4	2
URTA040052 nBS	4	0.5	10	50	4	2
URTA040102 nBS	4	1	10	50	4	2
URTA050032 nBS	5	0.3	13	50	6	2
URTA050052 nBS	5	0.5	13	50	6	2
URTA050102 nBS	5	1	13	50	6	2
URTA060022 nBS	6	0.2	16	75	6	2
URTA060032 nBS	6	0.3	16	75	6	2
URTA060052 nBS	6	0.5	16	75	6	2
URTA060102 nBS	6	1	16	75	6	2
URTA060202 nBS	6	2	16	75	6	2
URTA080032 nBS	8	0.3	20	75	8	2
URTA080052 nBS	8	0.5	20	75	8	2
URTA080102 nBS	8	1	20	75	8	2
URTA080202 nBS	8	2	20	75	8	2
URTA100052 nBS	10	0.5	25	75	10	2
URTA100102 nBS	10	1	25	75	10	2
URTA100152 nBS	10	1.5	25	75	10	2
URTA100202 nBS	10	2	25	75	10	2
URTA100302 nBS	10	3	25	75	10	2
URTA120052 nBS	12	0.5	30	75	12	2
URTA120102 nBS	12	1	30	75	12	2
URTA120152 nBS	12	1.5	30	75	12	2
URTA120202 nBS	12	2	30	75	12	2
URTA120302 nBS	12	3	30	75	12	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

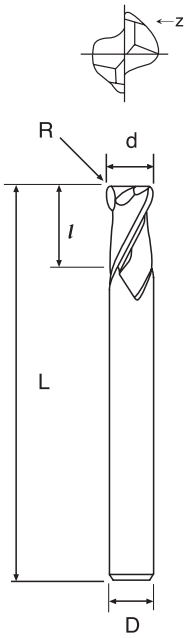
Unit/單位: mm

Corner Radius - Long Shank - 2 flutes

■ 2刃長柄圓鼻立銑刀

600 PLUS | HRC ▶55 | 35° | R | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-LRTA030032 AlTiN	3	0.3	8	75	3	2
P-LRTA030052 AlTiN	3	0.5	8	75	3	2
P-LRTA030102 AlTiN	3	1	8	75	3	2
P-LRTA040032 AlTiN	4	0.3	10	75	4	2
P-LRTA040052 AlTiN	4	0.5	10	75	4	2
P-LRTA040102 AlTiN	4	1	10	75	4	2
P-LRTA040152 AlTiN	4	1.5	10	75	4	2
P-LRTA060032 AlTiN	6	0.3	15	100	6	2
P-LRTA060052 AlTiN	6	0.5	15	100	6	2
P-LRTA060102 AlTiN	6	1	15	100	6	2
P-LRTA060152 AlTiN	6	1.5	15	100	6	2
P-LRTA060202 AlTiN	6	2	15	100	6	2
P-LRTA080032 AlTiN	8	0.3	20	100	8	2
P-LRTA080052 AlTiN	8	0.5	20	100	8	2
P-LRTA080102 AlTiN	8	1	20	100	8	2
P-LRTA080152 AlTiN	8	1.5	20	100	8	2
P-LRTA080202 AlTiN	8	2	20	100	8	2
P-LRTA080252 AlTiN	8	2.5	20	100	8	2
P-LRTA080302 AlTiN	8	3	20	100	8	2
P-LRTA100032 AlTiN	10	0.3	25	100	10	2
P-LRTA100052 AlTiN	10	0.5	25	100	10	2
P-LRTA100102 AlTiN	10	1	25	100	10	2
P-LRTA100152 AlTiN	10	1.5	25	100	10	2
P-LRTA100202 AlTiN	10	2	25	100	10	2
P-LRTA100252 AlTiN	10	2.5	25	100	10	2
P-LRTA100302 AlTiN	10	3	25	100	10	2
P-LRTA120032 AlTiN	12	0.3	30	100	12	2
P-LRTA120052 AlTiN	12	0.5	30	100	12	2
P-LRTA120102 AlTiN	12	1	30	100	12	2
P-LRTA120152 AlTiN	12	1.5	30	100	12	2
P-LRTA120202 AlTiN	12	2	30	100	12	2
P-LRTA120252 AlTiN	12	2.5	30	100	12	2
P-LRTA120302 AlTiN	12	3	30	100	12	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

切 削 條件表 P360
Cutting Condition

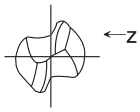
Long Neck & Shank – Corner Radius – 2 flutes

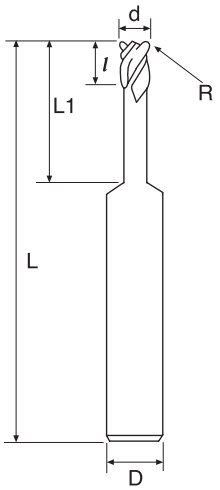
■ 2刃長柄圓鼻立銑刀

200 Nano | HRC ▶65 | 35° | R | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm

Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Shank Diameter	Full Length	Flutes
型號	d 直徑	R 角	l 刃長	L1 有效長	D 柄徑	L 全長	Z 刃數
SFUCRM060022 TiSiN	6	0.2	9	18	6	75	2
SFUCRM060032 TiSiN	6	0.3	9	18	6	75	2
SFUCRM060052 TiSiN	6	0.5	9	18	6	75	2
SFUCRM060102 TiSiN	6	1	9	18	6	75	2
SFUCRM060202 TiSiN	6	2	9	18	6	75	2
SFUCRM080032 TiSiN	8	0.3	12	20	8	100	2
SFUCRM080052 TiSiN	8	0.5	12	20	8	100	2
SFUCRM080102 TiSiN	8	1	12	20	8	100	2
SFUCRM080202 TiSiN	8	2	12	20	8	100	2
SFUCRM100052 TiSiN	10	0.5	15	25	10	100	2
SFUCRM100102 TiSiN	10	1	15	25	10	100	2
SFUCRM100152 TiSiN	10	1.5	15	25	10	100	2
SFUCRM100202 TiSiN	10	2	15	25	10	100	2
SFUCRM100302 TiSiN	10	3	15	25	10	100	2
SFUCRM120052 TiSiN	12	0.5	18	30	12	100	2
SFUCRM120102 TiSiN	12	1	18	30	12	100	2
SFUCRM120152 TiSiN	12	1.5	18	30	12	100	2
SFUCRM120202 TiSiN	12	2	18	30	12	100	2
SFUCRM120302 TiSiN	12	3	18	30	12	100	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

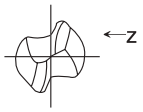
SPEED TIGER

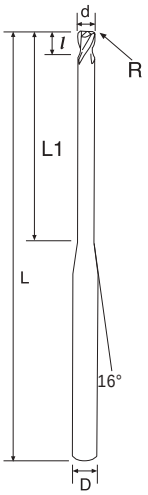
Long Neck Corner Radius - 2 flutes

■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	*l* 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR004012(EL01) nACo	0.4	0.1	0.4	1	50	4	1.26	1.44	1.59	1.72	1.96
SFUCR004012(EL02) nACo	0.4	0.1	0.4	2	50	4	2.39	2.62	2.80	2.96	3.24
SFUCR004012(EL03) nACo	0.4	0.1	0.4	3	50	4	3.49	3.75	3.96	4.14	4.32
SFUCR004012(EL04) nACo	0.4	0.1	0.4	4	50	4	4.57	4.86	5.09	5.29	5.69
SFUCR005012(EL01) nACo	0.5	0.1	0.5	1	50	4	1.26	1.44	1.59	1.72	1.96
SFUCR005012(EL02) nACo	0.5	0.1	0.5	2	50	4	2.39	2.62	2.80	2.96	3.24
SFUCR005012(EL03) nACo	0.5	0.1	0.5	3	50	4	3.49	3.75	3.96	4.14	4.32
SFUCR005012(EL04) nACo	0.5	0.1	0.5	4	50	4	4.57	4.86	5.09	5.29	5.69
SFUCR005012(EL05) nACo	0.5	0.1	0.5	5	50	4	5.64	5.96	6.21	6.43	6.92
SFUCR005012(EL06) nACo	0.5	0.1	0.5	6	50	4	6.70	7.05	7.32	7.57	8.14
SFUCR006012(EL02) nACo	0.6	0.1	0.6	2	50	4	2.39	2.62	2.80	2.96	3.24
SFUCR006012(EL03) nACo	0.6	0.1	0.6	3	50	4	3.49	3.75	3.96	4.14	4.32
SFUCR006012(EL04) nACo	0.6	0.1	0.6	4	50	4	4.57	4.86	5.09	5.29	5.69
SFUCR006012(EL06) nACo	0.6	0.1	0.6	6	50	4	6.70	7.05	7.32	7.57	8.14
SFUCR006012(EL08) nACo	0.6	0.1	0.6	8	50	4	8.81	9.20	9.52	9.85	10.59
SFUCR007012(EL04) nACo	0.7	0.1	0.7	4	50	4	4.57	4.86	5.09	5.29	5.69
SFUCR007012(EL06) nACo	0.7	0.1	0.7	6	50	4	6.70	7.05	7.32	7.57	8.14
SFUCR008012(EL04) nACo	0.8	0.1	0.8	4	50	4	4.57	4.86	5.09	5.29	5.69
SFUCR008012(EL06) nACo	0.8	0.1	0.8	6	50	4	6.70	7.05	7.32	7.57	8.14
SFUCR008022(EL04) nACo	0.8	0.2	0.8	4	50	4	4.57	4.86	5.09	5.29	5.69
SFUCR008022(EL06) nACo	0.8	0.2	0.8	6	50	4	6.70	7.05	7.32	7.57	8.14
SFUCR010012(EL02) nACo	1	0.1	1	2	50	4	2.55	2.73	2.90	3.04	3.31
SFUCR010012(EL04) nACo	1	0.1	1	4	50	4	4.69	4.95	5.16	5.36	5.76
SFUCR010012(EL06) nACo	1	0.1	1	6	50	4	6.80	7.12	7.38	7.63	8.21
SFUCR010012(EL08) nACo	1	0.1	1	8	50	4	8.90	9.26	9.58	9.91	10.65

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

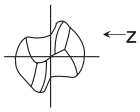
Unit/單位: mm

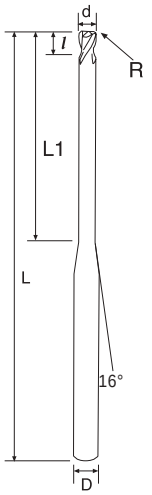
Long Neck Corner Radius - 2 flutes

■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	l 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR010012(EL10) nACo	1	0.1	1	10	50	4	10.99	11.39	11.78	12.19	13.10
SFUCR010012(EL12) nACo	1	0.1	1	12	60	4	13.07	13.52	13.98	14.47	15.55
SFUCR010012(EL16) nACo	1	0.1	1	16	60	4	17.22	17.78	18.38	19.02	20.44
SFUCR010012(EL20) nACo	1	0.1	1	20	60	4	21.35	22.04	22.78	23.57	25.34
SFUCR010022(EL02) nACo	1	0.2	1	2	50	4	2.55	2.73	2.90	3.04	3.31
SFUCR010022(EL04) nACo	1	0.2	1	4	50	4	4.69	4.95	5.16	5.36	5.76
SFUCR010022(EL06) nACo	1	0.2	1	6	50	4	6.80	7.12	7.38	7.63	8.21
SFUCR010022(EL08) nACo	1	0.2	1	8	50	4	8.90	9.26	9.58	9.91	10.65
SFUCR010022(EL10) nACo	1	0.2	1	10	50	4	10.99	11.39	11.78	12.19	13.10
SFUCR010022(EL12) nACo	1	0.2	1	12	60	4	13.07	13.52	13.98	14.47	15.55
SFUCR010022(EL16) nACo	1	0.2	1	16	60	4	17.22	17.78	18.38	19.02	20.44
SFUCR010022(EL20) nACo	1	0.2	1	20	60	4	21.35	22.04	22.78	23.57	25.34
SFUCR010032(EL02) nACo	1	0.3	1	2	50	4	2.55	2.73	2.90	3.04	3.31
SFUCR010032(EL04) nACo	1	0.3	1	4	50	4	4.69	4.95	5.16	5.36	5.76
SFUCR010032(EL06) nACo	1	0.3	1	6	50	4	6.80	7.12	7.38	7.63	8.21
SFUCR010032(EL08) nACo	1	0.3	1	8	50	4	8.90	9.26	9.58	9.91	10.65
SFUCR010032(EL10) nACo	1	0.3	1	10	50	4	10.99	11.39	11.78	12.19	13.10
SFUCR010032(EL12) nACo	1	0.3	1	12	60	4	13.07	13.52	13.98	14.47	15.55
SFUCR010032(EL16) nACo	1	0.3	1	16	60	4	17.22	17.78	18.38	19.02	20.44
SFUCR010032(EL20) nACo	1	0.3	1	20	60	4	21.35	22.04	22.78	23.57	25.34
SFUCR012022(EL06) nACo	1.2	0.2	1.2	6	50	4	6.19	6.40	6.61	6.84	7.36
SFUCR012022(EL12) nACo	1.2	0.2	1.2	12	60	4	12.38	12.78	13.21	13.67	14.70
SFUCR012022(EL20) nACo	1.2	0.2	1.2	20	60	4	20.63	21.30	22.02	22.78	24.49
SFUCR012032(EL06) nACo	1.2	0.3	1.2	6	50	4	6.19	6.40	6.61	6.84	7.36
SFUCR012032(EL12) nACo	1.2	0.3	1.2	12	60	4	12.38	12.78	13.21	13.67	14.70
SFUCR012032(EL20) nACo	1.2	0.3	1.2	20	60	4	20.63	21.30	22.02	22.78	24.49

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

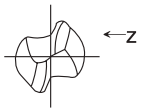
SPEED TIGER

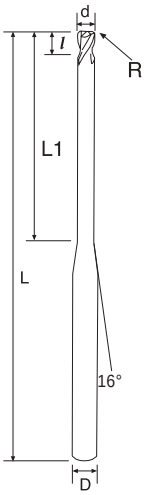
Long Neck Corner Radius - 2 flutes

■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	l 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR015022(EL04) nACo	1.5	0.2	1.5	4	50	4	4.13	4.27	4.41	4.57	4.91
SFUCR015022(EL06) nACo	1.5	0.2	1.5	6	50	4	6.19	6.40	6.61	6.84	7.36
SFUCR015022(EL08) nACo	1.5	0.2	1.5	8	50	4	8.26	8.52	8.81	9.12	9.80
SFUCR015022(EL10) nACo	1.5	0.2	1.5	10	50	4	10.32	10.65	11.01	11.40	12.25
SFUCR015022(EL12) nACo	1.5	0.2	1.5	12	60	4	12.38	12.78	13.21	13.67	14.70
SFUCR015022(EL16) nACo	1.5	0.2	1.5	16	60	4	16.51	17.04	17.62	18.23	19.59
SFUCR015022(EL20) nACo	1.5	0.2	1.5	20	60	4	20.63	21.30	22.02	22.78	*
SFUCR015032(EL04) nACo	1.5	0.3	1.5	4	50	4	4.13	4.27	4.41	4.57	4.91
SFUCR015032(EL06) nACo	1.5	0.3	1.5	6	50	4	6.19	6.40	6.61	6.84	7.36
SFUCR015032(EL08) nACo	1.5	0.3	1.5	8	50	4	8.26	8.52	8.81	9.12	9.80
SFUCR015032(EL10) nACo	1.5	0.3	1.5	10	50	4	10.32	10.65	11.01	11.40	12.25
SFUCR015032(EL12) nACo	1.5	0.3	1.5	12	60	4	12.38	12.78	13.21	13.67	14.70
SFUCR015032(EL16) nACo	1.5	0.3	1.5	16	60	4	16.51	17.04	17.62	18.23	19.59
SFUCR015032(EL20) nACo	1.5	0.3	1.5	20	60	4	20.63	21.30	22.02	22.78	*
SFUCR015052(EL04) nACo	1.5	0.5	1.5	4	50	4	4.13	4.27	4.41	4.57	4.91
SFUCR015052(EL06) nACo	1.5	0.5	1.5	6	50	4	6.19	6.40	6.61	6.84	7.36
SFUCR015052(EL08) nACo	1.5	0.5	1.5	8	50	4	8.26	8.52	8.81	9.12	9.80
SFUCR015052(EL10) nACo	1.5	0.5	1.5	10	50	4	10.32	10.65	11.01	11.40	12.25
SFUCR015052(EL12) nACo	1.5	0.5	1.5	12	60	4	12.38	12.78	13.21	13.67	14.70
SFUCR015052(EL16) nACo	1.5	0.5	1.5	16	60	4	16.51	17.04	17.62	18.23	19.59
SFUCR015052(EL20) nACo	1.5	0.5	1.5	20	60	4	20.63	21.30	22.02	22.78	*
SFUCR020012(EL04) nACo	2	0.1	2	4	50	4	4.17	4.30	4.45	4.60	4.95
SFUCR020012(EL06) nACo	2	0.1	2	6	50	4	6.23	6.43	6.65	6.88	7.40
SFUCR020012(EL08) nACo	2	0.1	2	8	50	4	8.29	8.56	8.85	9.16	9.85
SFUCR020012(EL10) nACo	2	0.1	2	10	50	4	10.35	10.69	11.05	11.44	12.29
SFUCR020012(EL12) nACo	2	0.1	2	12	60	4	12.42	12.82	13.25	13.71	14.74
SFUCR020012(EL16) nACo	2	0.1	2	16	60	4	16.54	17.08	17.65	18.27	*

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

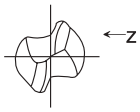
Long Neck Corner Radius - 2 flutes

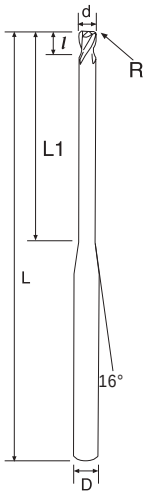
■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	*l* 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR020012(EL20) nACo	2	0.1	2	20	60	4	20.67	21.34	22.06	22.82	*
SFUCR020012(EL26) nACo	2	0.1	2	26	75	4	26.86	27.73	28.66	*	*
SFUCR020022(EL04) nACo	2	0.2	2	4	50	4	4.17	4.30	4.45	4.6	4.95
SFUCR020022(EL06) nACo	2	0.2	2	6	50	4	6.23	6.43	6.65	6.88	7.40
SFUCR020022(EL08) nACo	2	0.2	2	8	50	4	8.29	8.56	8.85	9.16	9.85
SFUCR020022(EL10) nACo	2	0.2	2	10	50	4	10.35	10.69	11.05	11.44	12.29
SFUCR020022(EL12) nACo	2	0.2	2	12	60	4	12.42	12.82	13.25	13.71	14.74
SFUCR020022(EL16) nACo	2	0.2	2	16	60	4	16.54	17.08	17.65	18.27	*
SFUCR020022(EL20) nACo	2	0.2	2	20	60	4	20.67	21.34	22.06	22.82	*
SFUCR020022(EL26) nACo	2	0.2	2	26	75	4	26.86	27.73	28.66	*	*
SFUCR020032(EL04) nACo	2	0.3	2	4	50	4	4.17	4.30	4.45	4.60	4.95
SFUCR020032(EL06) nACo	2	0.3	2	6	50	4	6.23	6.43	6.65	6.88	7.40
SFUCR020032(EL08) nACo	2	0.3	2	8	50	4	8.29	8.56	8.85	9.16	9.85
SFUCR020032(EL10) nACo	2	0.3	2	10	50	4	10.35	10.69	11.05	11.44	12.29
SFUCR020032(EL12) nACo	2	0.3	2	12	60	4	12.42	12.82	13.25	13.71	14.74
SFUCR020032(EL16) nACo	2	0.3	2	16	60	4	16.54	17.08	17.65	18.27	*
SFUCR020032(EL20) nACo	2	0.3	2	20	60	4	20.67	21.34	22.06	22.82	*
SFUCR020032(EL26) nACo	2	0.3	2	26	75	4	26.86	27.73	28.66	*	*
SFUCR020052(EL04) nACo	2	0.5	2	4	50	4	4.17	4.30	4.45	4.60	4.95
SFUCR020052(EL06) nACo	2	0.5	2	6	50	4	6.23	6.43	6.65	6.88	7.40





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

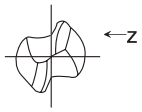
SPEED TIGER

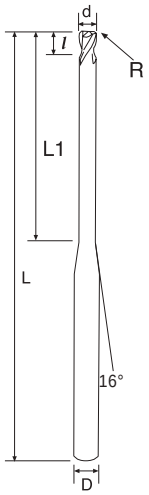
Long Neck Corner Radius - 2 flutes

■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	l 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR020052(EL08) nACo	2	0.5	2	8	50	4	8.29	8.56	8.85	9.16	9.85
SFUCR020052(EL10) nACo	2	0.5	2	10	50	4	10.35	10.69	11.05	11.44	12.29
SFUCR020052(EL12) nACo	2	0.5	2	12	60	4	12.42	12.82	13.25	13.71	14.74
SFUCR020052(EL16) nACo	2	0.5	2	16	60	4	16.54	17.08	17.65	18.27	*
SFUCR020052(EL20) nACo	2	0.5	2	20	60	4	20.67	21.34	22.06	22.82	*
SFUCR020052(EL26) nACo	2	0.5	2	26	75	4	26.86	27.73	28.66	*	*
SFUCR025032(EL10) nACo	2.5	0.3	2.5	10	50	4	10.35	10.69	11.05	11.44	12.29
SFUCR025032(EL20) nACo	2.5	0.3	2.5	20	60	4	20.67	21.34	22.06	*	*
SFUCR025032(EL30) nACo	2.5	0.3	2.5	30	75	4	30.98	31.99	*	*	*
SFUCR025052(EL10) nACo	2.5	0.5	2.5	10	50	4	10.35	10.69	11.05	11.44	12.29
SFUCR025052(EL20) nACo	2.5	0.5	2.5	20	60	4	20.67	21.34	22.06	*	*
SFUCR025052(EL30) nACo	2.5	0.5	2.5	30	75	4	30.98	31.99	*	*	*
SFUCR030012(EL06) nACo	3	0.1	3	6	60	6	6.23	6.43	6.65	6.88	7.40
SFUCR030012(EL16) nACo	3	0.1	3	16	60	6	16.54	17.08	17.65	18.26	19.63
SFUCR030012(EL26) nACo	3	0.1	3	26	75	6	26.85	27.72	28.66	29.65	*
SFUCR030012(EL36) nACo	3	0.1	3	36	75	6	37.17	38.37	39.66	41.04	*
SFUCR030022(EL06) nACo	3	0.2	3	6	60	6	6.23	6.43	6.65	6.88	7.40
SFUCR030022(EL16) nACo	3	0.2	3	16	60	6	16.54	17.08	17.65	18.26	19.63
SFUCR030022(EL26) nACo	3	0.2	3	26	75	6	26.85	27.72	28.66	29.65	*
SFUCR030022(EL36) nACo	3	0.2	3	36	75	6	37.17	38.37	39.66	41.04	*
SFUCR030032(EL06) nACo	3	0.3	3	6	60	6	6.23	6.43	6.65	6.88	7.40
SFUCR030032(EL16) nACo	3	0.3	3	16	60	6	16.54	17.08	17.65	18.26	19.63
SFUCR030032(EL26) nACo	3	0.3	3	26	75	6	26.85	27.72	28.66	29.65	*

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

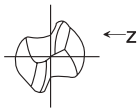
Unit/單位: mm

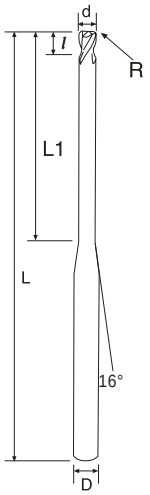
Long Neck Corner Radius - 2 flutes

■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	l 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR030032(EL36) nACo	3	0.3	3	36	75	6	37.17	38.37	39.66	41.04	*
SFUCR030052(EL06) nACo	3	0.5	3	6	60	6	6.23	6.43	6.65	6.88	7.40
SFUCR030052(EL16) nACo	3	0.5	3	16	60	6	16.54	17.08	17.65	18.26	19.63
SFUCR030052(EL26) nACo	3	0.5	3	26	75	6	26.85	27.72	28.66	29.65	*
SFUCR030052(EL36) nACo	3	0.5	3	36	75	6	37.17	38.37	39.66	41.04	*
SFUCR030102(EL06) nACo	3	1	3	6	60	6	6.23	6.43	6.65	6.88	7.40
SFUCR030102(EL16) nACo	3	1	3	16	60	6	16.54	17.08	17.65	18.26	19.63
SFUCR030102(EL26) nACo	3	1	3	26	75	6	26.85	27.72	28.66	29.65	*
SFUCR030102(EL36) nACo	3	1	3	36	75	6	37.17	38.37	39.66	41.04	*
SFUCR040012(EL08) nACo	4	0.1	4	8	60	6	8.47	8.74	9.04	9.35	10.06
SFUCR040012(EL20) nACo	4	0.1	4	20	60	6	20.84	21.52	22.24	23.02	*
SFUCR040012(EL32) nACo	4	0.1	4	32	75	6	33.22	34.30	35.45	*	*
SFUCR040012(EL48) nACo	4	0.1	4	48	100	6	49.72	51.34	*	*	*
SFUCR040032(EL08) nACo	4	0.3	4	8	60	6	8.47	8.74	9.04	9.35	10.06
SFUCR040032(EL20) nACo	4	0.3	4	20	60	6	20.84	21.52	22.24	23.02	*
SFUCR040032(EL32) nACo	4	0.3	4	32	75	6	33.22	34.30	35.45	*	*
SFUCR040032(EL48) nACo	4	0.3	4	48	100	6	49.72	51.34	*	*	*
SFUCR040052(EL08) nACo	4	0.5	4	8	60	6	8.47	8.74	9.04	9.35	10.06
SFUCR040052(EL20) nACo	4	0.5	4	20	60	6	20.84	21.52	22.24	23.02	*
SFUCR040052(EL32) nACo	4	0.5	4	32	75	6	33.22	34.30	35.45	*	*
SFUCR040052(EL48) nACo	4	0.5	4	48	100	6	49.72	51.34	*	*	*
SFUCR040102(EL08) nACo	4	1	4	8	60	6	8.47	8.74	9.04	9.35	10.06

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

Unit/單位: mm

SPEED TIGER

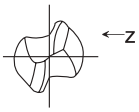
Long Neck Corner Radius - 2 flutes

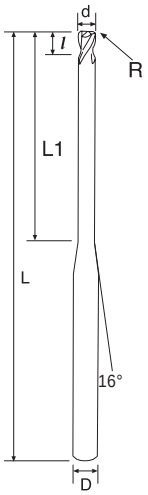
■ 圓鼻2刃長頸立銑刀

200 Nano | HRC ▶65 | 35° | R | nACo

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm

Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Effective Leng by Inclined Angles				
型號	d 刃徑	R 角	l 刃長	L1有效長	L 全長	D 柄徑	0.5°	1°	1.5°	2°	3°
SFUCR040102(EL20) nACo	4	1	4	20	60	6	20.84	21.52	22.24	23.02	*
SFUCR040102(EL32) nACo	4	1	4	32	75	6	33.22	34.30	35.45	*	*
SFUCR040102(EL48) nACo	4	1	4	48	100	6	49.72	51.34	*	*	*
SFUCR050302(EL20) nACo	5	0.3	5	20	75	6	20.84	21.52	*	*	*
SFUCR050302(EL40) nACo	5	0.3	5	40	100	6	41.47	*	*	*	*
SFUCR050502(EL20) nACo	5	0.5	5	20	75	6	20.84	21.52	*	*	*
SFUCR050502(EL40) nACo	5	0.5	5	40	100	6	41.47	*	*	*	*
SFUCR051002(EL20) nACo	5	1	5	20	75	6	20.84	21.52	*	*	*
SFUCR051002(EL40) nACo	5	1	5	40	100	6	41.47	*	*	*	*
SFUCR060012(EL12) nACo	6	0.1	6	12	60	6	*	*	*	*	*
SFUCR060012(EL30) nACo	6	0.1	6	30	100	6	*	*	*	*	*
SFUCR060012(EL60) nACo	6	0.1	6	60	120	6	*	*	*	*	*
SFUCR060032(EL30) nACo	6	0.3	6	30	100	6	*	*	*	*	*
SFUCR060052(EL60) nACo	6	0.5	6	60	120	6	*	*	*	*	*
SFUCR060052(EL12) nACo	6	0.5	6	12	60	6	*	*	*	*	*
SFUCR060052(EL30) nACo	6	0.5	6	30	100	6	*	*	*	*	*
SFUCR060052(EL60) nACo	6	0.5	6	60	120	6	*	*	*	*	*
SFUCR060102(EL12) nACo	6	1	6	12	60	6	*	*	*	*	*
SFUCR060102(EL30) nACo	6	1	6	30	100	6	*	*	*	*	*
SFUCR060102(EL60) nACo	6	1	6	60	120	6	*	*	*	*	*





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

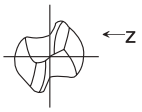
切 削 條件表 P358
Cutting Condition

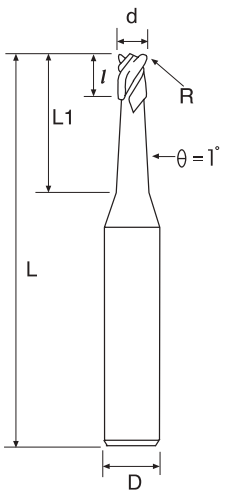
Pencil Neck Corner Radius - 2 flutes

■ 2刃圓鼻斜頸立銑刀

400 Nano | HRC ▶60 | 35° | R | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm2 Grain Size=0.4μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
UCRS010022 nBS	1	0.2	1	3	50	4	2
UCRS015022 nBS	1.5	0.2	1.5	4.5	50	4	2
UCRS015032 nBS	1.5	0.3	1.5	4.5	50	4	2
UCRS020022 nBS	2	0.2	2	6	50	4	2
UCRS020032 nBS	2	0.3	2	6	50	4	2
UCRS020052 nBS	2	0.5	2	6	50	4	2
UCRS030022 nBS	3	0.2	3	9	50	6	2
UCRS030032 nBS	3	0.3	3	9	50	6	2
UCRS030052 nBS	3	0.5	3	9	50	6	2
UCRS030102 nBS	3	1	3	9	50	6	2
UCRS040022 nBS	4	0.2	4	12	50	6	2
UCRS040032 nBS	4	0.3	4	12	50	6	2
UCRS040052 nBS	4	0.5	4	12	50	6	2
UCRS040102 nBS	4	1	4	12	50	6	2
UCRS050032 nBS	5	0.3	5	15	50	6	2
UCRS050052 nBS	5	0.5	5	15	50	6	2
UCRS050102 nBS	5	1	5	15	50	6	2
UCRS060022 nBS	6	0.2	6	18	50	6	2
UCRS060032 nBS	6	0.3	6	18	50	6	2
UCRS060052 nBS	6	0.5	6	18	50	6	2
UCRS060102 nBS	6	1	6	18	50	6	2
UCRS060202 nBS	6	2	6	18	50	6	2
UCRS080032 nBS	8	0.3	8	20	60	8	2
UCRS080052 nBS	8	0.5	8	20	60	8	2
UCRS080102 nBS	8	1	8	20	60	8	2
UCRS080202 nBS	8	2	8	20	60	8	2
UCRS100052 nBS	10	0.5	10	25	75	10	2
UCRS100102 nBS	10	1	10	25	75	10	2
UCRS100152 nBS	10	1.5	10	25	75	10	2
UCRS100202 nBS	10	2	10	25	75	10	2
UCRS100302 nBS	10	3	10	25	75	10	2
UCRS120052 nBS	12	0.5	12	30	75	12	2
UCRS120102 nBS	12	1	12	30	75	12	2
UCRS120152 nBS	12	1.5	12	30	75	12	2
UCRS120202 nBS	12	2	12	30	75	12	2
UCRS120302 nBS	12	3	12	30	75	12	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

Unit/單位: mm

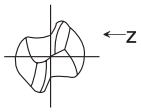
Pencil Neck & Shank – Corner Radius - 2 flutes

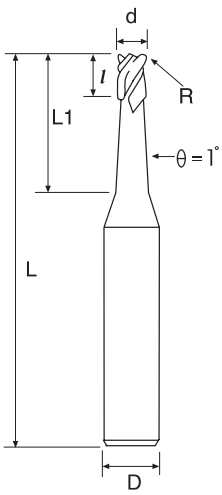
■ 短刃圓鼻2刃斜頸立銑刀

200 Nano | HRC ▶65 | 35° | R | TiSiN

● Super Ultra Fine Micro Grain Carbide

● WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Shank Diameter	Full Length	Flutes
型號	d 直徑	R 角	l 刃長	L1 有效長	D 柄徑	L 全長	Z 刃數
SFUCRS010022 TiSiN	1	0.2	1	3	4	50	2
SFUCRS015022 TiSiN	1.5	0.2	1.5	4.5	4	50	2
SFUCRS015032 TiSiN	1.5	0.3	1.5	4.5	4	50	2
SFUCRS020022 TiSiN	2	0.2	2	6	4	50	2
SFUCRS020032 TiSiN	2	0.3	2	6	4	50	2
SFUCRS020052 TiSiN	2	0.5	2	6	4	50	2
SFUCRS030022 TiSiN	3	0.2	3	9	6	50	2
SFUCRS030032 TiSiN	3	0.3	3	9	6	50	2
SFUCRS030052 TiSiN	3	0.5	3	9	6	50	2
SFUCRS030102 TiSiN	3	1	3	9	6	50	2
SFUCRS040022 TiSiN	4	0.2	4	12	6	50	2
SFUCRS040032 TiSiN	4	0.3	4	12	6	50	2
SFUCRS040052 TiSiN	4	0.5	4	12	6	50	2
SFUCRS040102 TiSiN	4	1	4	12	6	50	2
SFUCRS050032 TiSiN	5	0.3	5	15	6	50	2
SFUCRS050052 TiSiN	5	0.5	5	15	6	50	2
SFUCRS050102 TiSiN	5	1	5	15	6	50	2
SFUCRS060022 TiSiN	6	0.2	6	18	6	50	2
SFUCRS060032 TiSiN	6	0.3	6	18	6	50	2
SFUCRS060052 TiSiN	6	0.5	6	18	6	50	2
SFUCRS060102 TiSiN	6	1	6	18	6	50	2
SFUCRS060202 TiSiN	6	2	6	18	6	50	2
SFUCRS080032 TiSiN	8	0.3	8	20	8	60	2
SFUCRS080052 TiSiN	8	0.5	8	20	8	60	2
SFUCRS080102 TiSiN	8	1	8	20	8	60	2
SFUCRS080202 TiSiN	8	2	8	20	8	60	2
SFUCRS100052 TiSiN	10	0.5	10	25	10	75	2
SFUCRS100102 TiSiN	10	1	10	25	10	75	2
SFUCRS100152 TiSiN	10	1.5	10	25	10	75	2
SFUCRS100202 TiSiN	10	2	10	25	10	75	2
SFUCRS100302 TiSiN	10	3	10	25	10	75	2
SFUCRS120052 TiSiN	12	0.5	12	30	12	75	2
SFUCRS120102 TiSiN	12	1	12	30	12	75	2
SFUCRS120152 TiSiN	12	1.5	12	30	12	75	2
SFUCRS120202 TiSiN	12	2	12	30	12	75	2
SFUCRS120302 TiSiN	12	3	12	30	12	75	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

ST 600+

切削條件表 P315
Cutting Condition

Corner Radius series - 4 flutes

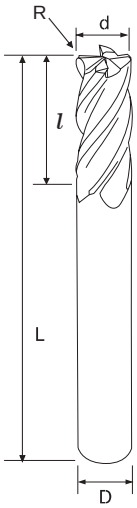
■ 4刃圓鼻立銑刀

600 PLUS | HRC ▶45 | 35° | R

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA020024	2	0.2	6	50	4	4
P-RTA020034	2	0.3	6	50	4	4
P-RTA020054	2	0.5	6	50	4	4
P-RTA025024	2.5	0.2	8	50	4	4
P-RTA030024	3	0.2	8	50	3	4
P-RTA030034	3	0.3	8	50	3	4
P-RTA030054	3	0.5	8	50	3	4
P-RTA030104	3	1	8	50	3	4
P-RTA430024	3	0.2	8	50	4	4
P-RTA430034	3	0.3	8	50	4	4
P-RTA430054	3	0.5	8	50	4	4
P-RTA430104	3	1	8	50	4	4
P-RTA040024	4	0.2	10	50	4	4
P-RTA040034	4	0.3	10	50	4	4
P-RTA040054	4	0.5	10	50	4	4
P-RTA040104	4	1	10	50	4	4
P-RTA040154	4	1.5	10	50	4	4
P-RTA050024	5	0.2	13	50	6	4
P-RTA050034	5	0.3	13	50	6	4
P-RTA050054	5	0.5	13	50	6	4
P-RTA050104	5	1	13	50	6	4
P-RTA060024	6	0.2	15	50	6	4
P-RTA060034	6	0.3	15	50	6	4
P-RTA060054	6	0.5	15	50	6	4



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

600+ 切削條件表 P315 Cutting Condition

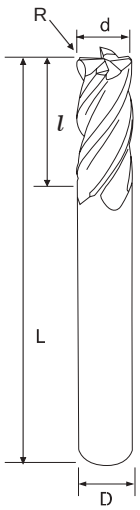
SPEED TIGER

Corner Radius series - 4 flutes

■ 4刃圓鼻立銑刀

600 PLUS | HRC ▶45 | 35° | R

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA060104	6	1	15	50	6	4
P-RTA060154	6	1.5	15	50	6	4
P-RTA060204	6	2	15	50	6	4
P-RTA080034	8	0.3	20	60	8	4
P-RTA080054	8	0.5	20	60	8	4
P-RTA080104	8	1	20	60	8	4
P-RTA080154	8	1.5	20	60	8	4
P-RTA080204	8	2	20	60	8	4
P-RTA080254	8	2.5	20	60	8	4
P-RTA080304	8	3	20	60	8	4
P-RTA100034	10	0.3	25	75	10	4
P-RTA100054	10	0.5	25	75	10	4
P-RTA100104	10	1	25	75	10	4
P-RTA100154	10	1.5	25	75	10	4
P-RTA100204	10	2	25	75	10	4
P-RTA100254	10	2.5	25	75	10	4
P-RTA100304	10	3	25	75	10	4
P-RTA120034	12	0.3	30	75	12	4
P-RTA120054	12	0.5	30	75	12	4
P-RTA120104	12	1	30	75	12	4
P-RTA120154	12	1.5	30	75	12	4
P-RTA120204	12	2	30	75	12	4
P-RTA120254	12	2.5	30	75	12	4
P-RTA120304	12	3	30	75	12	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○						○	○

Unit/單位: mm

ST 600+

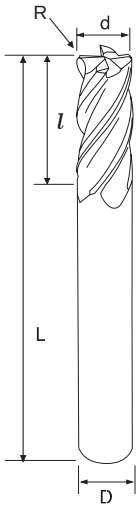
切削條件表 P315
Cutting Condition

Corner Radius series - 4 flutes

■ 4刃圓鼻立銑刀

600 PLUS | HRC ▶55 | 35° | R | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA020024 AlTiN	2	0.2	6	50	4	4
P-RTA020034 AlTiN	2	0.3	6	50	4	4
P-RTA020054 AlTiN	2	0.5	6	50	4	4
P-RTA025024 AlTiN	2.5	0.2	8	50	4	4
P-RTA030024 AlTiN	3	0.2	8	50	3	4
P-RTA030034 AlTiN	3	0.3	8	50	3	4
P-RTA030054 AlTiN	3	0.5	8	50	3	4
P-RTA030104 AlTiN	3	1	8	50	3	4
P-RTA430024 AlTiN	3	0.2	8	50	4	4
P-RTA430034 AlTiN	3	0.3	8	50	4	4
P-RTA430054 AlTiN	3	0.5	8	50	4	4
P-RTA430104 AlTiN	3	1	8	50	4	4
P-RTA040024 AlTiN	4	0.2	10	50	4	4
P-RTA040034 AlTiN	4	0.3	10	50	4	4
P-RTA040054 AlTiN	4	0.5	10	50	4	4
P-RTA040104 AlTiN	4	1	10	50	4	4
P-RTA040154 AlTiN	4	1.5	10	50	4	4
P-RTA050024 AlTiN	5	0.2	13	50	6	4
P-RTA050034 AlTiN	5	0.3	13	50	6	4
P-RTA050054 AlTiN	5	0.5	13	50	6	4
P-RTA050104 AlTiN	5	1	13	50	6	4
P-RTA060024 AlTiN	6	0.2	15	50	6	4
P-RTA060034 AlTiN	6	0.3	15	50	6	4
P-RTA060054 AlTiN	6	0.5	15	50	6	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

600+ 切削條件表 P315 Cutting Condition

SPEED TIGER

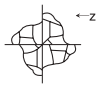
Corner Radius series - 4 flutes

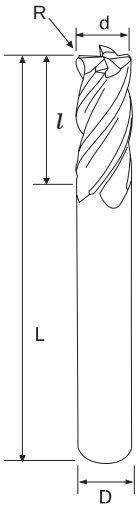
■ 4刃圓鼻立銑刀

600 PLUS | HRC ▶55 | 35° | R | AlTiN

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm





MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-RTA060104 AlTiN	6	1	15	50	6	4
P-RTA060154 AlTiN	6	1.5	15	50	6	4
P-RTA060204 AlTiN	6	2	15	50	6	4
P-RTA080034 AlTiN	8	0.3	20	60	8	4
P-RTA080054 AlTiN	8	0.5	20	60	8	4
P-RTA080104 AlTiN	8	1	20	60	8	4
P-RTA080154 AlTiN	8	1.5	20	60	8	4
P-RTA080204 AlTiN	8	2	20	60	8	4
P-RTA080254 AlTiN	8	2.5	20	60	8	4
P-RTA080304 AlTiN	8	3	20	60	8	4
P-RTA100034 AlTiN	10	0.3	25	75	10	4
P-RTA100054 AlTiN	10	0.5	25	75	10	4
P-RTA100104 AlTiN	10	1	25	75	10	4
P-RTA100154 AlTiN	10	1.5	25	75	10	4
P-RTA100204 AlTiN	10	2	25	75	10	4
P-RTA100254 AlTiN	10	2.5	25	75	10	4
P-RTA100304 AlTiN	10	3	25	75	10	4
P-RTA120034 AlTiN	12	0.3	30	75	12	4
P-RTA120054 AlTiN	12	0.5	30	75	12	4
P-RTA120104 AlTiN	12	1	30	75	12	4
P-RTA120154 AlTiN	12	1.5	30	75	12	4
P-RTA120204 AlTiN	12	2	30	75	12	4
P-RTA120254 AlTiN	12	2.5	30	75	12	4
P-RTA120304 AlTiN	12	3	30	75	12	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

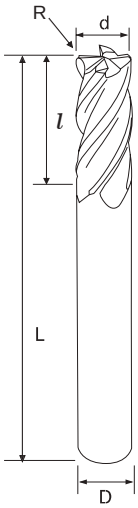
切 削 條件表 P363
Cutting Condition

Corner Radius series - 4 flutes

■ 4刃圓鼻立銑刀

400 Nano | HRC ▶60 | 35° | R | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



Mode	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
URTA03034 nBS	3	0.3	8	50	3	4
URTA03054 nBS	3	0.5	8	50	3	4
URTA03104 nBS	3	1	8	50	3	4
URTA04024 nBS	4	0.2	10	50	4	4
URTA04034 nBS	4	0.3	10	50	4	4
URTA04054 nBS	4	0.5	10	50	4	4
URTA04104 nBS	4	1	10	50	4	4
URTA05034 nBS	5	0.3	13	75	6	4
URTA05054 nBS	5	0.5	13	75	6	4
URTA05104 nBS	5	1	13	75	6	4
URTA06024 nBS	6	0.2	16	75	6	4
URTA06034 nBS	6	0.3	16	75	6	4
URTA06054 nBS	6	0.5	16	75	6	4
URTA06104 nBS	6	1	16	75	6	4
URTA06204 nBS	6	2	16	75	6	4
URTA08034 nBS	8	0.3	20	75	8	4
URTA08054 nBS	8	0.5	20	75	8	4
URTA08104 nBS	8	1	20	75	8	4
URTA08204 nBS	8	2	20	75	8	4
URTA10054 nBS	10	0.5	25	75	10	4
URTA10104 nBS	10	1	25	75	10	4
URTA10154 nBS	10	1.5	25	75	10	4
URTA10204 nBS	10	2	25	75	10	4
URTA10304 nBS	10	3	25	75	10	4
URTA12054 nBS	12	0.5	30	75	12	4
URTA12104 nBS	12	1	30	75	12	4
URTA12154 nBS	12	1.5	30	75	12	4
URTA12204 nBS	12	2	30	75	12	4
URTA12304 nBS	12	3	30	75	12	4

HRC ▶40
HRC ▶45
HRC ▶50
HRC ▶55
HRC ▶60
HRC ▶65

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

Unit/單位: mm

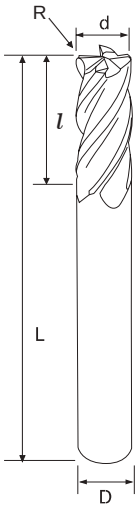
Corner Radius series - 4 flutes

■ 4刃圓鼻立銑刀

200 Nano | HRC ▶65 | 35° | R | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
SFURTA06034 TiSiN	6	0.3	16	75	6	4
SFURTA06054 TiSiN	6	0.5	16	75	6	4
SFURTA06104 TiSiN	6	1	16	75	6	4
SFURTA06204 TiSiN	6	2	16	75	6	4
SFURTA08034 TiSiN	8	0.3	20	75	8	4
SFURTA08054 TiSiN	8	0.5	20	75	8	4
SFURTA08104 TiSiN	8	1	20	75	8	4
SFURTA08204 TiSiN	8	2	20	75	8	4
SFURTA10054 TiSiN	10	0.5	25	75	10	4
SFURTA10104 TiSiN	10	1	25	75	10	4
SFURTA10154 TiSiN	10	1.5	25	75	10	4
SFURTA10204 TiSiN	10	2	25	75	10	4
SFURTA10304 TiSiN	10	3	25	75	10	4
SFURTA12054 TiSiN	12	0.5	30	75	12	4
SFURTA12104 TiSiN	12	1	30	75	12	4
SFURTA12154 TiSiN	12	1.5	30	75	12	4
SFURTA12204 TiSiN	12	2	30	75	12	4
SFURTA12304 TiSiN	12	3	30	75	12	4



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

ST 600+

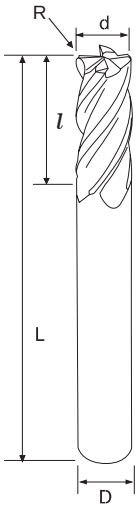
切削條件表 P315
Cutting Condition

Corner Radius - Long Shank - 4 flutes

■ 4刃長柄圓鼻立銑刀

600 PLUS | HRC ▶55 | 35° | R | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
P-LRTA030034 AlTiN	3	0.3	8	75	3	4
P-LRTA030054 AlTiN	3	0.5	8	75	3	4
P-LRTA030104 AlTiN	3	1	8	75	3	4
P-LRTA040034 AlTiN	4	0.3	10	75	4	4
P-LRTA040054 AlTiN	4	0.5	10	75	4	4
P-LRTA040104 AlTiN	4	1	10	75	4	4
P-LRTA040154 AlTiN	4	1.5	10	75	4	4
P-LRTA060034 AlTiN	6	0.3	15	100	6	4
P-LRTA060054 AlTiN	6	0.5	15	100	6	4
P-LRTA060104 AlTiN	6	1	15	100	6	4
P-LRTA060154 AlTiN	6	1.5	15	100	6	4
P-LRTA060204 AlTiN	6	2	15	100	6	4
P-LRTA080034 AlTiN	8	0.3	20	100	8	4
P-LRTA080054 AlTiN	8	0.5	20	100	8	4
P-LRTA080104 AlTiN	8	1	20	100	8	4
P-LRTA080154 AlTiN	8	1.5	20	100	8	4
P-LRTA080204 AlTiN	8	2	20	100	8	4
P-LRTA080254 AlTiN	8	2.5	20	100	8	4
P-LRTA080304 AlTiN	8	3	20	100	8	4
P-LRTA100034 AlTiN	10	0.3	25	100	10	4
P-LRTA100054 AlTiN	10	0.5	25	100	10	4
P-LRTA100104 AlTiN	10	1	25	100	10	4
P-LRTA100154 AlTiN	10	1.5	25	100	10	4
P-LRTA100204 AlTiN	10	2	25	100	10	4
P-LRTA100254 AlTiN	10	2.5	25	100	10	4
P-LRTA100304 AlTiN	10	3	25	100	10	4
P-LRTA120034 AlTiN	12	0.3	30	100	12	4
P-LRTA120054 AlTiN	12	0.5	30	100	12	4
P-LRTA120104 AlTiN	12	1	30	100	12	4
P-LRTA120154 AlTiN	12	1.5	30	100	12	4
P-LRTA120204 AlTiN	12	2	30	100	12	4
P-LRTA120254 AlTiN	12	2.5	30	100	12	4
P-LRTA120304 AlTiN	12	3	30	100	12	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Unit/單位: mm

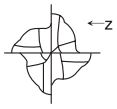
Corner Radius - Long Neck - 4 flutes

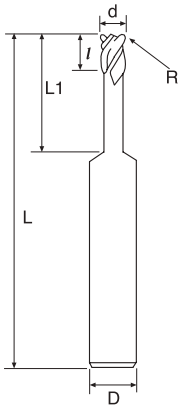
■ 長頸圓鼻4刃立銑刀

400 Nano | HRC ▶ 60 | 35° | R | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	*l* 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
UCR06034 nBS	6	0.3	7	16	75	6	4
UCR06054 nBS	6	0.5	7	16	75	6	4
UCR06104 nBS	6	1	7	16	75	6	4
UCR08034 nBS	8	0.3	9	20	100	8	4
UCR08054 nBS	8	0.5	9	20	100	8	4
UCR08104 nBS	8	1	9	20	100	8	4
UCR10054 nBS	10	0.5	10	25	100	10	4
UCR10104 nBS	10	1	10	25	100	10	4
UCR10154 nBS	10	1.5	10	25	100	10	4
UCR10204 nBS	10	2	10	25	100	10	4
UCR12054 nBS	12	0.5	12	30	100	12	4
UCR12104 nBS	12	1	12	30	100	12	4
UCR12154 nBS	12	1.5	12	30	100	12	4
UCR12204 nBS	12	2	12	30	100	12	4





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

切 削 條件表 P366
Cutting Condition

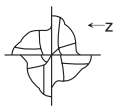
Corner Radius - Long Neck - 4 flutes

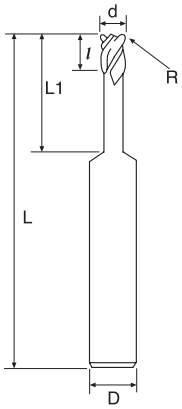
■ 長頸圓鼻4刃立銑刀

200 Nano | HRC ▶65 | 35° | R | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

Mode 型號	Diameter d 直徑	Corner Radius R 角	Flute Length *l* 刃長	Efficient Length L1 有效長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
SFUCRM060024 TiSiN	6	0.2	9	18	75	6	4
SFUCRM060034 TiSiN	6	0.3	9	18	75	6	4
SFUCRM060054 TiSiN	6	0.5	9	18	75	6	4
SFUCRM060104 TiSiN	6	1	9	18	75	6	4
SFUCRM060204 TiSiN	6	2	9	18	75	6	4
SFUCRM080034 TiSiN	8	0.3	12	20	100	8	4
SFUCRM080054 TiSiN	8	0.5	12	20	100	8	4
SFUCRM080104 TiSiN	8	1	12	20	100	8	4
SFUCRM080204 TiSiN	8	2	12	20	100	8	4
SFUCRM100054 TiSiN	10	0.5	15	25	100	10	4
SFUCRM100104 TiSiN	10	1	15	25	100	10	4
SFUCRM100154 TiSiN	10	1.5	15	25	100	10	4
SFUCRM100204 TiSiN	10	2	15	25	100	10	4
SFUCRM100304 TiSiN	10	3	15	25	100	10	4
SFUCRM120054 TiSiN	12	0.5	18	30	100	12	4
SFUCRM120104 TiSiN	12	1	18	30	100	12	4
SFUCRM120154 TiSiN	12	1.5	18	30	100	12	4
SFUCRM120204 TiSiN	12	2	18	30	100	12	4
SFUCRM120304 TiSiN	12	3	18	30	100	12	4





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

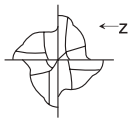
Unit/單位: mm

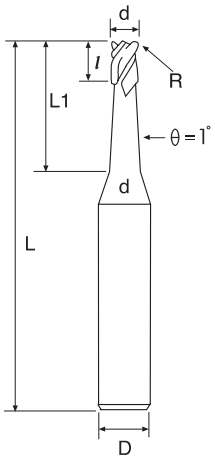
Pencil Neck Corner Radius - 4 flutes

■ 4刃圓鼻斜頸立銑刀

400 Nano | HRC ▶60 | 35° | R | nBS

- Ultra Fine Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
UCRS020024 nBS	2	0.2	2	6	50	4	4
UCRS020034 nBS	2	0.3	2	6	50	4	4
UCRS020054 nBS	2	0.5	2	6	50	4	4
UCRS030024 nBS	3	0.2	3	9	50	6	4
UCRS030034 nBS	3	0.3	3	9	50	6	4
UCRS030054 nBS	3	0.5	3	9	50	6	4
UCRS030104 nBS	3	1	3	9	50	6	4
UCRS040024 nBS	4	0.2	4	12	50	6	4
UCRS040034 nBS	4	0.3	4	12	50	6	4
UCRS040054 nBS	4	0.5	4	12	50	6	4
UCRS040104 nBS	4	1	4	12	50	6	4
UCRS050034 nBS	5	0.3	5	15	50	6	4
UCRS050054 nBS	5	0.5	5	15	50	6	4
UCRS050104 nBS	5	1	5	15	50	6	4
UCRS060024 nBS	6	0.2	6	18	50	6	4
UCRS060034 nBS	6	0.3	6	18	50	6	4
UCRS060054 nBS	6	0.5	6	18	50	6	4
UCRS060104 nBS	6	1	6	18	50	6	4
UCRS060204 nBS	6	2	6	18	50	6	4
UCRS080034 nBS	8	0.3	8	20	60	8	4
UCRS080054 nBS	8	0.5	8	20	60	8	4
UCRS080104 nBS	8	1	8	20	60	8	4
UCRS080204 nBS	8	2	8	20	60	8	4
UCRS100054 nBS	10	0.5	10	25	75	10	4
UCRS100104 nBS	10	1	10	25	75	10	4
UCRS100154 nBS	10	1.5	10	25	75	10	4
UCRS100204 nBS	10	2	10	25	75	10	4
UCRS100304 nBS	10	3	10	25	75	10	4
UCRS120054 nBS	12	0.5	12	30	75	12	4
UCRS120104 nBS	12	1	12	30	75	12	4
UCRS120154 nBS	12	1.5	12	30	75	12	4
UCRS120204 nBS	12	2	12	30	75	12	4
UCRS120304 nBS	12	3	12	30	75	12	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	○	○		

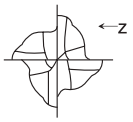
切 削 條件表 P368
Cutting Condition

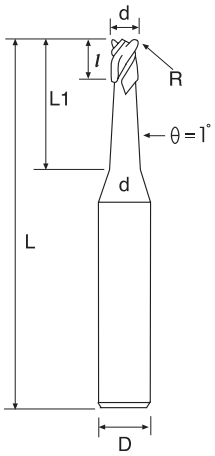
Pencil Neck Corner Radius - Short Flute - 4 flutes

■ 短刃圓鼻4刃斜頸立銑刀

200 Nano | HRC ▶65 | 35° | R | TiSiN

- Super Ultra Fine Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm





Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SFUCRS020024 TiSiN	2	0.2	2	6	50	4	4
SFUCRS020034 TiSiN	2	0.3	2	6	50	4	4
SFUCRS020054 TiSiN	2	0.5	2	6	50	4	4
SFUCRS030024 TiSiN	3	0.2	3	9	50	6	4
SFUCRS030034 TiSiN	3	0.3	3	9	50	6	4
SFUCRS030054 TiSiN	3	0.5	3	9	50	6	4
SFUCRS030104 TiSiN	3	1	3	9	50	6	4
SFUCRS040024 TiSiN	4	0.2	4	12	50	6	4
SFUCRS040034 TiSiN	4	0.3	4	12	50	6	4
SFUCRS040054 TiSiN	4	0.5	4	12	50	6	4
SFUCRS040104 TiSiN	4	1	4	12	50	6	4
SFUCRS050034 TiSiN	5	0.3	5	15	50	6	4
SFUCRS050054 TiSiN	5	0.5	5	15	50	6	4
SFUCRS050104 TiSiN	5	1	5	15	50	6	4
SFUCRS060024 TiSiN	6	0.2	6	18	50	6	4
SFUCRS060034 TiSiN	6	0.3	6	18	50	6	4
SFUCRS060054 TiSiN	6	0.5	6	18	50	6	4
SFUCRS060104 TiSiN	6	1	6	18	50	6	4
SFUCRS060204 TiSiN	6	2	6	18	50	6	4
SFUCRS080034 TiSiN	8	0.3	8	20	60	8	4
SFUCRS080054 TiSiN	8	0.5	8	20	60	8	4
SFUCRS080104 TiSiN	8	1	8	20	60	8	4
SFUCRS080204 TiSiN	8	2	8	20	60	8	4
SFUCRS100054 TiSiN	10	0.5	10	25	75	10	4
SFUCRS100104 TiSiN	10	1	10	25	75	10	4
SFUCRS100154 TiSiN	10	1.5	10	25	75	10	4
SFUCRS100204 TiSiN	10	2	10	25	75	10	4
SFUCRS100304 TiSiN	10	3	10	25	75	10	4
SFUCRS120054 TiSiN	12	0.5	12	30	75	12	4
SFUCRS120104 TiSiN	12	1	12	30	75	12	4
SFUCRS120154 TiSiN	12	1.5	12	30	75	12	4
SFUCRS120204 TiSiN	12	2	12	30	75	12	4
SFUCRS120304 TiSiN	12	3	12	30	75	12	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	◎	◎	◎	○		

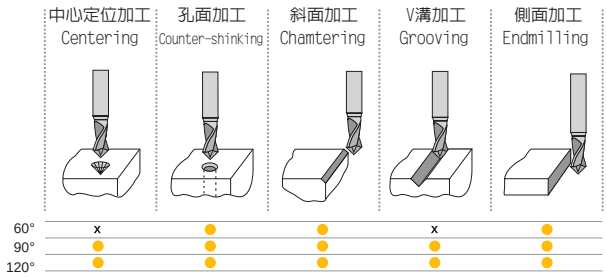
Unit/單位: mm

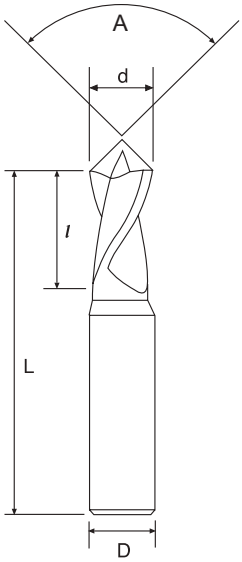
Multi - function end mill series - 2 flutes

■ 2刃多功能立銑刀

600 Nano | HRC ▶50 | 35° | AlTiN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm





MODE	Diameter	Flute Length	Full Length	Shank Diameter	Tip Angle	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	A 前端角	Z 刃數
CDM060030 AlTiN	3	6	50	4	60°	2
CDM090030 AlTiN	3	6	50	4	90°	2
CDM120030 AlTiN	3	6	50	4	120°	2
CDM060040 AlTiN	4	8	50	6	60°	2
CDM090040 AlTiN	4	8	50	6	90°	2
CDM120040 AlTiN	4	8	50	6	120°	2
CDM060050 AlTiN	5	10	50	6	60°	2
CDM090050 AlTiN	5	10	50	6	90°	2
CDM120050 AlTiN	5	10	50	6	120°	2
CDM060060 AlTiN	6	12	60	8	60°	2
CDM090060 AlTiN	6	12	60	8	90°	2
CDM120060 AlTiN	6	12	60	8	120°	2
CDM060080 AlTiN	8	16	75	10	60°	2
CDM090080 AlTiN	8	16	75	10	90°	2
CDM120080 AlTiN	8	16	75	10	120°	2
CDM060100 AlTiN	10	20	75	12	60°	2
CDM090100 AlTiN	10	20	75	12	90°	2
CDM120100 AlTiN	10	20	75	12	120°	2
CDM060120 AlTiN	12	25	75	12	60°	2
CDM090120 AlTiN	12	25	75	12	90°	2
CDM120120 AlTiN	12	25	75	12	120°	2
CDM060140 AlTiN	14	28	80	14	60°	2
CDM090140 AlTiN	14	28	80	14	90°	2
CDM120140 AlTiN	14	28	80	14	120°	2
CDM060160 AlTiN	16	32	100	16	60°	2
CDM090160 AlTiN	16	32	100	16	90°	2
CDM120160 AlTiN	16	32	100	16	120°	2
CDM060200 AlTiN	20	35	100	20	60°	2
CDM090200 AlTiN	20	35	100	20	90°	2
CDM120200 AlTiN	20	35	100	20	120°	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○			○		

Non - Ferrous
Series

Square series - For Wood & Plastic & Aluminum - 1 flute

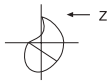
■ 1刃鋁、塑膠、木工用立銑刀

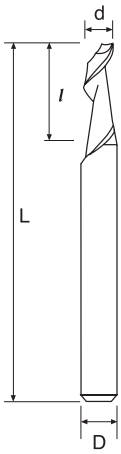
600 Nano 30°

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AP0100	1	4	50	3	1
AP0150	1.5	6	50	3	1
AP0200	2	8	50	2	1
AP0201	2	8	60	2	1
AP0202	2	8	50	3	1
AP0250	2.5	8	50	3	1
AP0251	2.5	8	60	3	1
AP0300	3	10	50	3	1
AP0301	3	10	60	3	1
AP0302	3	10	80	6	1
AP0310	3.17	12.7	60	6.35	1
AP0400	4	12	60	4	1
AP0401	4	20	70	4	1
AP0402	4	30	80	4	1
AP0403	4	12	60	6	1
AP0470	4.765	15.9	70	6.35	1
AP0500	5	16	70	5	1
AP0501	5	30	80	5	1
AP0600	6	16	60	6	1
AP0601	6	25	75	6	1
AP0602	6	30	75	6	1
AP0604	6	38	100	6	1
AP0630	6.35	15.8	70	6.35	1
AP0800	8	22	75	8	1
AP0801	8	38	100	8	1
AP1000	10	30	80	10	1
AP1200	12	30	100	12	1





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	◎

Unit/單位: mm

SPEED TIGER

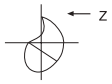
Square series - For Wood & Plastic & Aluminum - 1 flute

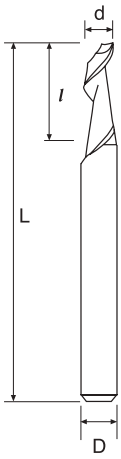
■ 1刃鋁、塑膠、木工用立銑刀

600 Nano | 30° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AP0100 TB	1	4	50	3	1
AP0150 TB	1.5	6	50	3	1
AP0200 TB	2	8	50	2	1
AP0201 TB	2	8	60	2	1
AP0202 TB	2	8	50	3	1
AP0250 TB	2.5	8	50	3	1
AP0251 TB	2.5	8	60	3	1
AP0300 TB	3	10	50	3	1
AP0301 TB	3	10	60	3	1
AP0302 TB	3	10	80	6	1
AP0310 TB	3.17	12.7	60	6.35	1
AP0400 TB	4	12	60	4	1
AP0401 TB	4	20	70	4	1
AP0402 TB	4	30	80	4	1
AP0403 TB	4	12	60	6	1
AP0470 TB	4.765	15.9	70	6.35	1
AP0500 TB	5	16	70	5	1
AP0501 TB	5	30	80	5	1
AP0600 TB	6	16	60	6	1
AP0601 TB	6	25	75	6	1
AP0602 TB	6	30	75	6	1
AP0604 TB	6	38	100	6	1
AP0630 TB	6.35	15.8	70	6.35	1
AP0800 TB	8	22	75	8	1
AP0801 TB	8	38	100	8	1
AP1000 TB	10	30	80	10	1
AP1200 TB	12	30	100	12	1





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	◎

Square Series - For Aluminum - 2 flutes

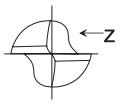
■ 2刃鋁合金專用立銑刀

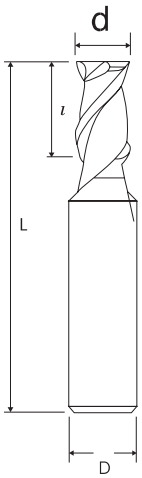
600 Nano 55°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

切 削 條件表 **P402**
Cutting Condition

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	ℓ 刃長	L 全長	D 柄徑	Z 刃數
AE50302	3	9	50	6	2
AE50402	4	12	50	6	2
AE50502	5	15	50	6	2
AE50602	6	18	50	6	2
AE50802	8	20	60	8	2
AE51002	10	30	75	10	2
AE51202	12	32	75	12	2
AE51602	16	45	100	16	2
AE52002	20	45	100	20	2





切 削 條件表 **P404**
Cutting Condition

Long flute - 長刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	ℓ 刃長	L 全長	D 柄徑	Z 刃數
AEL50302	3	12	60	6	2
AEL50402	4	16	60	6	2
AEL50502	5	20	60	6	2
AEL50602	6	25	75	6	2
AEL50802	8	32	75	8	2
AEL51002	10	45	100	10	2
AEL51202	12	45	100	12	2
AEL51602	16	65	150	16	2
AEL52002	20	75	150	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

SPEED TIGER

Square series - For Aluminum -Long flute - 2 flutes

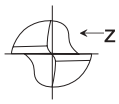
■ 2刃長刃鋁合金專用立銑刀

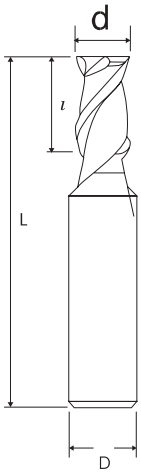
600 Nano | 55° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

切 削 條件表 **P402**
Cutting Condition

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AE50302 TB	3	9	50	6	2
AE50402 TB	4	12	50	6	2
AE50502 TB	5	15	50	6	2
AE50602 TB	6	18	50	6	2
AE50802 TB	8	20	60	8	2
AE51002 TB	10	30	75	10	2
AE51202 TB	12	32	75	12	2
AE51602 TB	16	45	100	16	2
AE52002 TB	20	45	100	20	2





切 削 條件表 **P404**
Cutting Condition

Long flute - 長刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AEL50302 TB	3	12	60	6	2
AEL50402 TB	4	16	60	6	2
AEL50502 TB	5	20	60	6	2
AEL50602 TB	6	25	75	6	2
AEL50802 TB	8	32	75	8	2
AEL51002 TB	10	45	100	10	2
AEL51202 TB	12	45	100	12	2
AEL51602 TB	16	65	150	16	2
AEL52002 TB	20	75	150	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

切 削 條件表 P403
Cutting Condition

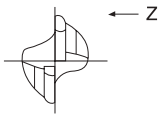
Square series - For Copper - 2 flutes

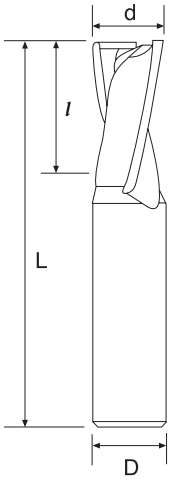
■ 2刃銅合金專用立銑刀

600 Nano 25°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
CE0102	1.0	3	50	4	2
CE0152	1.5	4	50	4	2
CE0202	2.0	6	50	4	2
CE0302	3.0	9	50	6	2
CE0402	4.0	12	50	6	2
CE0502	5.0	15	50	6	2
CE0602	6.0	15	50	6	2
CE0802	8.0	20	60	8	2
CE1002	10.0	30	75	10	2
CE1202	12.0	32	75	12	2
CE1602	16.0	45	100	16	2
CE2002	20.0	45	100	20	2





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	○

Unit/單位: mm

Square series - For Copper - 2 flutes

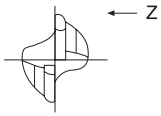
■ 2刃銅合金專用立銑刀

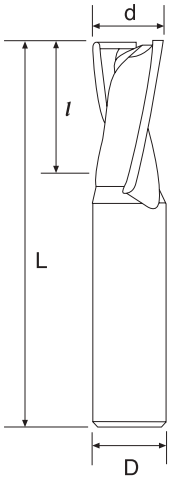
600 Nano | 25° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
CE0102 TB	1	3	50	4	2
CE0152 TB	1.5	4	50	4	2
CE0202 TB	2	6	50	4	2
CE0302 TB	3	9	50	6	2
CE0402 TB	4	12	50	6	2
CE0502 TB	5	15	50	6	2
CE0602 TB	6	15	50	6	2
CE0802 TB	8	20	60	8	2
CE1002 TB	10	30	75	10	2
CE1202 TB	12	32	75	12	2
CE1602 TB	16	45	100	16	2
CE2002 TB	20	45	100	20	2

- 亦適用於鋁合金 Also suitable for Aluminum
- 容許公差 Tolerance for Dia : 0 ~ -0.03mm





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	○

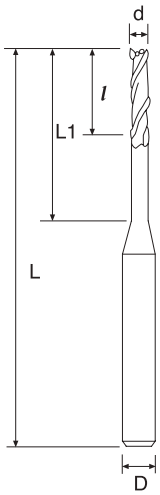
切 削 條件表 P320
Cutting Condition

Square series - Long Neck - For Copper - 2 flutes

■ 2刃銅合金深溝專用長頸立銑刀

600 Nano | 25° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Neck Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	頸徑	Z 刃數
CEL1004 TB	1	2	4	50	4	0.95	2
CEL1006 TB	1	2	6	50	4	0.95	2
CEL1010 TB	1	2	10	50	4	0.95	2
CEL1012 TB	1	2	12	50	4	0.95	2
CEL1016 TB	1	2	16	50	4	0.95	2
CEL1506 TB	1.5	3	6	50	4	1.45	2
CEL1510 TB	1.5	3	10	50	4	1.45	2
CEL1512 TB	1.5	3	12	50	4	1.45	2
CEL1516 TB	1.5	3	16	50	4	1.45	2
CEL2008 TB	2	4	8	50	4	1.92	2
CEL2012 TB	2	4	12	50	4	1.92	2
CEL2014 TB	2	4	14	50	4	1.92	2
CEL2020 TB	2	4	20	50	4	1.92	2
CEL3012 TB	3	6	12	50	6	2.9	2
CEL3016 TB	3	6	16	50	6	2.9	2
CEL3020 TB	3	6	20	60	6	2.9	2
CEL3025 TB	3	6	25	75	6	2.9	2
CEL4010 TB	4	8	10	60	6	3.88	2
CEL4012 TB	4	8	12	60	6	3.88	2
CEL4016 TB	4	8	16	60	6	3.88	2
CEL4020 TB	4	8	20	60	6	3.88	2
CEL4025 TB	4	8	25	75	6	3.88	2

HRC ▶40
HRC ▶45
HRC ▶50
HRC ▶55
HRC ▶60
HRC ▶65

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	○

Unit/單位: mm

Specular Square series - For Aluminium - 2flutes

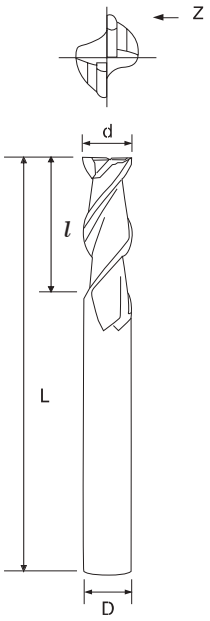
■ 2刃全鏡面鋁用立銑刀

600 Nano

45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AET0052	0.5	1.5	50	4	2
AET0062	0.6	1.5	50	4	2
AET0082	0.8	2	50	4	2
AET0102	1	3	50	6	2
AET0122	1.2	4	50	6	2
AET0152	1.5	4	50	6	2
AET0182	1.8	5	50	6	2
AET0202	2	6	50	6	2
AET0302	3	8	50	6	2
AET0402	4	10	50	6	2
AET0502	5	13	50	6	2
AET0602	6	15	50	6	2
AET0802	8	20	60	8	2
AET1002	10	25	75	10	2
AET1202	12	30	75	12	2
AET1602	16	42	100	16	2
AET2002	20	52	100	20	2
AET2502	25	62	125	25	2



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

切 削 條件表 P402
Cutting Condition

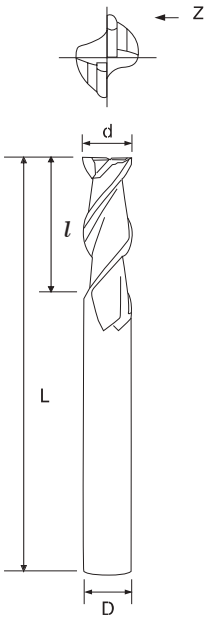
Specular Square series - For Aluminum - 2 flutes

■ 2刃全鏡面鋁用立銑刀

600 Nano | 45° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AET0052 TB	0.5	1.5	50	4	2
AET0062 TB	0.6	1.5	50	4	2
AET0082 TB	0.8	2	50	4	2
AET0102 TB	1	3	50	6	2
AET0122 TB	1.2	4	50	6	2
AET0152 TB	1.5	4	50	6	2
AET0182 TB	1.8	5	50	6	2
AET0202 TB	2	6	50	6	2
AET0302 TB	3	8	50	6	2
AET0402 TB	4	10	50	6	2
AET0502 TB	5	13	50	6	2
AET0602 TB	6	15	50	6	2
AET0802 TB	8	20	60	8	2
AET1002 TB	10	25	75	10	2
AET1202 TB	12	30	75	12	2
AET1602 TB	16	42	100	16	2
AET2002 TB	20	52	100	20	2
AET2502 TB	25	62	125	25	2



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

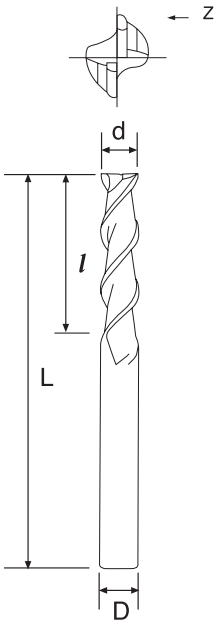
Specular Square series - Long Flute - For Aluminum - 2 flutes

■ 2刃長刃全鏡面鋁用立銑刀

600 Nano | 45° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
ALET0602 TB	6	30	75	6	2
ALET0802 TB	8	40	100	8	2
ALET1002 TB	10	42	100	10	2
ALET1202 TB	12	52	100	12	2
ALET1602 TB	16	72	150	16	2
ALET2002 TB	20	92	150	20	2
ALET2502 TB	25	112	175	25	2



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Square Series - For Aluminum - 3 flutes

■ 3刃鋁合金專用立銑刀

600 Nano 55°

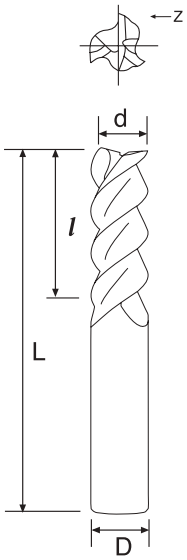
- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

切 削 條件表 **P405**
Cutting Condition

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AE50303	3	9	50	6	3
AE50403	4	12	50	6	3
AE50503	5	15	50	6	3
AE50603	6	18	50	6	3
AE50803	8	20	60	8	3
AE51003	10	30	75	10	3
AE51203	12	32	75	12	3
AE51603	16	45	100	16	3
AE52003	20	45	100	20	3

切 削 條件表 **P406**
Cutting Condition

Long Flute - 長刃



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AEL50303	3	12	60	6	3
AEL50403	4	16	60	6	3
AEL50503	5	20	60	6	3
AEL50603	6	25	75	6	3
AEL50803	8	32	75	8	3
AEL51003	10	45	100	10	3
AEL51203	12	45	100	12	3
AEL51603	16	65	150	16	3
AEL52003	20	75	150	20	3

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

SPEED TIGER

Square Series - For Aluminum - 3 flutes

■ 3刃鋁合金專用立銑刀

600 Nano | 55° | TB

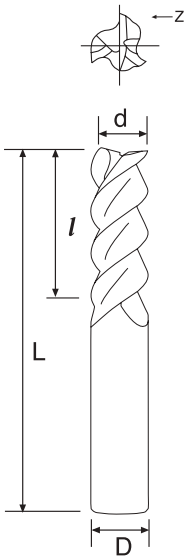
- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

切 削 條件表 **P405**
Cutting Condition

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AE50303 TB	3	9	50	6	3
AE50403 TB	4	12	50	6	3
AE50503 TB	5	15	50	6	3
AE50603 TB	6	18	50	6	3
AE50803 TB	8	20	60	8	3
AE51003 TB	10	30	75	10	3
AE51203 TB	12	32	75	12	3
AE51603 TB	16	45	100	16	3
AE52003 TB	20	45	100	20	3

切 削 條件表 **P406**
Cutting Condition

Long Flute - 長刃



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AEL50303 TB	3	12	60	6	3
AEL50403 TB	4	16	60	6	3
AEL50503 TB	5	20	60	6	3
AEL50603 TB	6	25	75	6	3
AEL50803 TB	8	32	75	8	3
AEL51003 TB	10	45	100	10	3
AEL51203 TB	12	45	100	12	3
AEL51603 TB	16	65	150	16	3
AEL52003 TB	20	75	150	20	3

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

切 削 條件表 P405
Cutting Condition

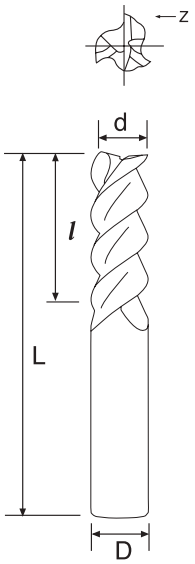
Specular Square series - For Aluminum - 3 flutes

■ 3刃全鏡面鋁用立銑刀

600 Nano 45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AET0103	1	3	50	4	3
AET0123	1.2	4	50	4	3
AET0153	1.5	4	50	4	3
AET0183	1.8	5	50	4	3
AET0203	2	6	50	4	3
AET0303	3	8	50	6	3
AET0403	4	10	50	6	3
AET0503	5	13	50	6	3
AET0603	6	15	50	6	3
AET0803	8	20	60	8	3
AET1003	10	25	75	10	3
AET1203	12	30	75	12	3
AET1603	16	42	100	16	3
AET2003	20	52	100	20	3
AET2503	25	62	125	25	3



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

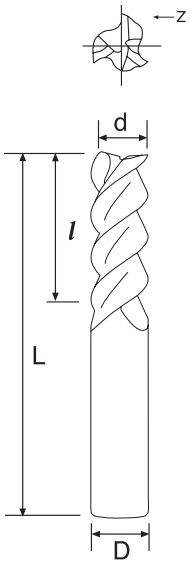
Specular Square series - For Aluminum - 3 flutes

■ 3刃全鏡面鋁用立銑刀

600 Nano | 45° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AET0103 TB	1	3	50	4	3
AET0123 TB	1.2	4	50	4	3
AET0153 TB	1.5	4	50	4	3
AET0183 TB	1.8	5	50	4	3
AET0203 TB	2	6	50	4	3
AET0303 TB	3	8	50	6	3
AET0403 TB	4	10	50	6	3
AET0503 TB	5	13	50	6	3
AET0603 TB	6	15	50	6	3
AET0803 TB	8	20	60	8	3
AET1003 TB	10	25	75	10	3
AET1203 TB	12	30	75	12	3
AET1603 TB	16	42	100	16	3
AET2003 TB	20	52	100	20	3
AET2503 TB	25	62	125	25	3



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

切 削 條件表 P406
Cutting Condition

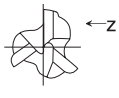
Specular Square series - Long Flutes - Long Shank - For Aluminum - 3 flutes

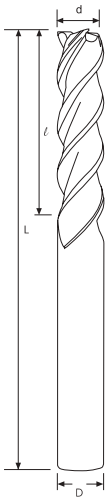
600 Nano | 45° | TB

■ 3刃全鏡面長柄長刃鋁用立銑刀

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Shank Diameter	Full Length	Flutes
型號	d 刃徑	ℓ 刃長	D 柄徑	L 全長	Z 刃數
ALET0603 TB	6	30	6	75	3
ALET0803 TB	8	40	8	100	3
ALET1003 TB	10	42	10	100	3
ALET1203 TB	12	52	12	100	3
ALET1603 TB	16	72	16	150	3
ALET2003 TB	20	92	20	150	3
ALET2503 TB	25	112	25	175	3





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

Roughing series - For Aluminum - 3 flutes

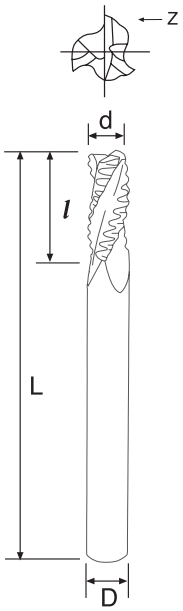
■ 3刃鋁用粗銑刀

600 Nano

45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
ANT0403	4	8	50	6	3
ANT0503	5	13	50	6	3
ANT0603	6	15	50	6	3
ANT0653	6.5	16	60	8	3
ANT0703	7	16	60	8	3
ANT0753	7.5	20	60	8	3
ANT0803	8	20	60	8	3
ANT0853	8.5	20	75	10	3
ANT0903	9	20	75	10	3
ANT0953	9.5	22	75	10	3
ANT1003	10	25	75	10	3
ANT1103	11	30	75	12	3
ANT1203	12	30	75	12	3
ANT1303	13	30	75	14	3
ANT1403	14	32	75	16	3
ANT1503	15	32	75	16	3
ANT1603	16	35	100	16	3
ANT1703	17	35	100	20	3
ANT1803	18	35	100	20	3
ANT2003	20	45	100	20	3
ANT2503	25	50	105	25	3



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

切 削 條件表 P373
Cutting Condition

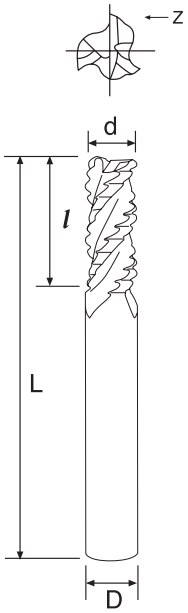
Roughing series - For Aluminum - 3 flutes

■ 3刃鋁用粗銑刀

600 Nano | 45° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
ANT0403 TB	4	8	50	6	3
ANT0503 TB	5	13	50	6	3
ANT0603 TB	6	15	50	6	3
ANT0653 TB	6.5	16	60	8	3
ANT0703 TB	7	16	60	8	3
ANT0753 TB	7.5	20	60	8	3
ANT0803 TB	8	20	60	8	3
ANT0853 TB	8.5	20	75	10	3
ANT0903 TB	9	20	75	10	3
ANT0953 TB	9.5	22	75	10	3
ANT1003 TB	10	25	75	10	3
ANT1103 TB	11	30	75	12	3
ANT1203 TB	12	30	75	12	3
ANT1303 TB	13	30	75	14	3
ANT1403 TB	14	32	75	16	3
ANT1503 TB	15	32	75	16	3
ANT1603 TB	16	35	100	16	3
ANT1803 TB	18	35	100	20	3
ANT2003 TB	20	45	100	20	3
ANT2503 TB	25	50	105	25	3



- High efficient • Excellent chip removal • Low vibration
- 高能率加工 • 切削排出性優良 • 加工時振動少

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

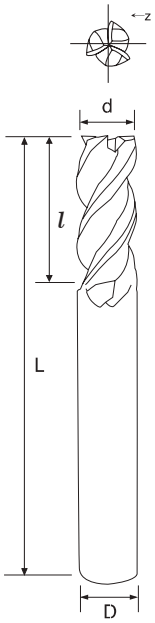
Wave Shape-Corner Radius

■ 波浪鋁用刀

600 Nano 45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
WAE0803	8	19	60	8	3
WAE1003	10	22	75	10	3
WAE1203	12	26	75	12	3
WAE1603	16	32	100	16	3
WAE2003	20	38	100	20	3



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

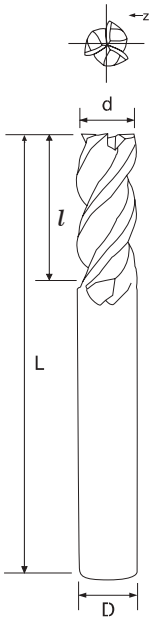
Wave Shape-Square series - 3 flutes

■ 波浪鋁用刀

600 Nano | 45° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
WAE0803 TB	8	19	60	8	3
WAE1003 TB	10	22	75	10	3
WAE1203 TB	12	26	75	12	3
WAE1603 TB	16	32	100	16	3
WAE2003 TB	20	38	100	20	3



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

Ball Nose - for Copper & Aluminum - 2 flutes

■ 2刃銅鋁合金專用球型立銑刀

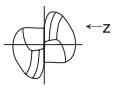
600 Nano

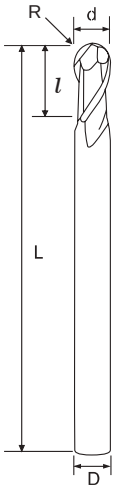
25°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
ACB0102	1	0.5	2	50	4	2
ACB0152	1.5	0.75	3	50	4	2
ACB0202	2	1	4	50	4	2
ACB0252	2.5	1.25	5	50	4	2
ACB0302	3	1.5	6	50	4	2
ACB0352	3.5	1.75	7	50	4	2
ACB0402	4	2	8	50	4	2
ACB0452	4.5	2.25	9	50	6	2
ACB0502	5	2.5	10	50	6	2
ACB0552	5.5	2.75	11	50	6	2
ACB0602	6	3	12	50	6	2
ACB0802	8	4	16	60	8	2
ACB1002	10	5	20	75	10	2
ACB1202	12	6	24	75	12	2

• Tolerance for Ball radius : ±0.01mm R容許差





Application 適用材質 :

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	◎

切 削 條件表 P341
Cutting Condition

Ball Nose - For Aluminum & Copper - 2 flutes

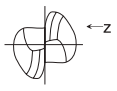
■ 2刃銅鋁球型立銑刀

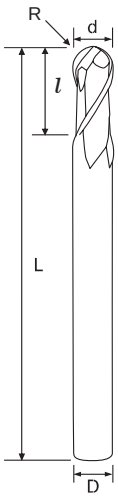
600 Nano | 25° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
ACB0102 TB	1	0.5	2	50	4	2
ACB0152 TB	1.5	0.75	3	50	4	2
ACB0202 TB	2	1	4	50	4	2
ACB0252 TB	2.5	1.25	5	50	4	2
ACB0302 TB	3	1.5	6	50	4	2
ACB0352 TB	3.5	1.75	7	50	4	2
ACB0402 TB	4	2	8	50	4	2
ACB0452 TB	4.5	2.25	9	50	6	2
ACB0502 TB	5	2.5	10	50	6	2
ACB0552 TB	5.5	2.75	11	50	6	2
ACB0602 TB	6	3	12	50	6	2
ACB0802 TB	8	4	16	60	8	2
ACB1002 TB	10	5	20	75	10	2
ACB1202 TB	12	6	24	75	12	2

• Tolerance for Ball radius : ±0.01mm R容許差





Application 適用材質 :

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	◎

Unit/單位: mm

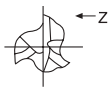
High Speed Square series - For Aluminum - 3 flutes

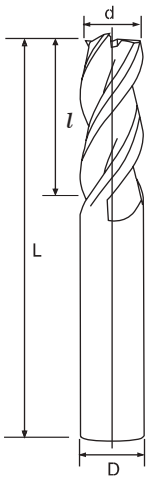
■ 3刃超高速鋁用立銑刀

600 Nano | 40° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AA0203 TB	2	6	50	4	3
AA0303 TB	3	8	50	6	3
AA0403 TB	4	11	50	6	3
AA0503 TB	5	13	60	6	3
AAS0603 TB	6	13	50	6	3
AA0603 TB	6	18	60	6	3
AA0703 TB	7	16	75	8	3
AAS0803 TB	8	19	75	8	3
AA0803 TB	8	25	75	8	3
AA1003 TB	10	30	75	10	3
AAS1203 TB	12	26	75	12	3
AA1203 TB	12	33	75	12	3
AA1603 TB	16	32	100	16	3
AA2003 TB	20	38	105	20	3





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

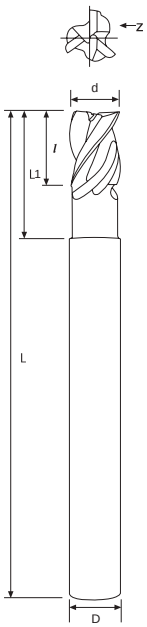
Square Series - Long Neck - For Aluminum - Super High Speed - 3 flutes

■ 3刃超高速鋁用長頸立銑刀

600 Nano | 40° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Neck Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	頸徑	Z 刃數
AAL0206 TB	2	3	6	50	4	1.94	3
AAL0309 TB	3	4.5	9	50	6	2.85	3
AAL0412 TB	4	6	12	50	6	3.8	3
AAL0515 TB	5	7.5	15	60	6	4.8	3
AAL0618 TB	6	9	18	60	6	5.8	3
AAL0824 TB	8	12	24	75	8	7.8	3
AAL1030 TB	10	22	30	75	10	9.8	3
AAL1236 TB	12	26	36	75	12	11.8	3
AAL1648 TB	16	32	48	100	16	15.8	3
AAL2055 TB	20	38	55	110	20	19.8	3



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

www.speedtiger.com.tw

High Feed U-Type Aluminum

■ 3刃超高速鋁用立銑刀

600 Nano 50°

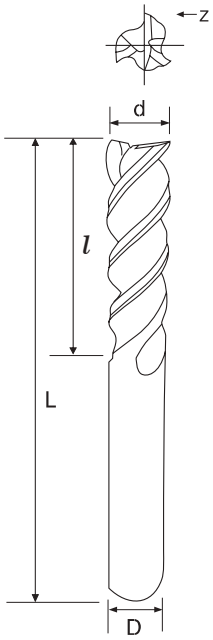
- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

切 削 條件表 P372
Cutting Condition

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AUE0253	2.5	8	50	6	3
AUE0303	3	9	50	6	3
AUE0403	4	12	50	6	3
AUE0503	5	15	50	6	3
AUE0603	6	18	50	6	3
AUE0803	8	20	60	8	3
AUE1003	10	30	75	10	3
AUE1203	12	32	75	12	3
AUE1603	16	45	100	16	3
AUE2003	20	45	100	20	3

Long Flute - 長刃

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AUEL0603	6	30	75	6	3
AUEL0803	8	40	100	8	3
AUEL1003	10	42	100	10	3
AUEL1203	12	52	100	12	3

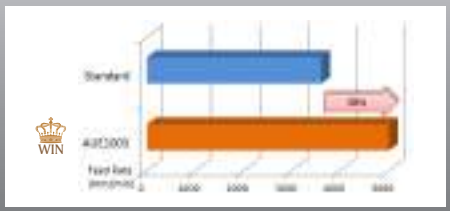


※Special U-Type design:
Material removal rate (MRR) and surface finishes are greatly improved due to effective chip removal at high rate

※Strong tooth with double relief angles:
Excellent production rates become 100% possible due to the Improvement of tooth hardness.

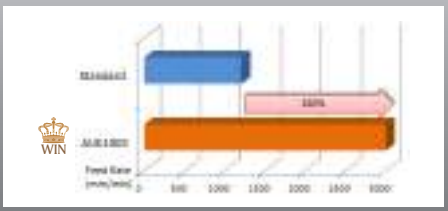
※Sharp aluminum alloy tooth design Applicable for roughing and finishing

Feed Rate Comparsion (Side Milling)



Work piece material: Aluminum alloy expanding material 6061
Speed: 15000 min-1, Depth of Cut: AP=2.0D, AE=0.5D

Feed Rate Comparsion (Slotting)



Work piece material: Aluminum alloy expanding material 6061
Speed: 10000 min-1, Depth of Cut: AP=2.0D, AE=1.0D

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

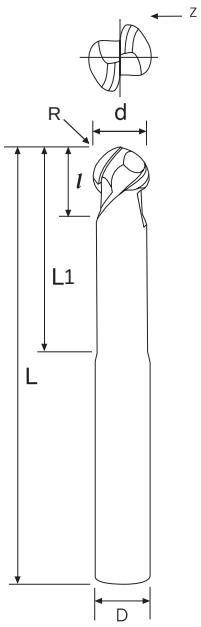
Ball Nose Series - For Aluminum & Copper High Speed - 2 flutes

■ 2刃銅鋁用高速球型立銑刀

400 Nano | 50° | TB

- Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm2 Grain Size=0.4μm

MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
AUB020 TB	2	1	1.5	8	50	6	2
AUB025 TB	2.5	1.25	2	10	50	6	2
AUB030 TB	3	1.5	2.5	12	50	6	2
AUB040 TB	4	2	3.5	16	50	6	2
AUB050 TB	5	2.5	4.5	20	60	6	2
AUB060 TB	6	3	5.5	25	60	6	2
AUB080 TB	8	4	7	30	75	8	2
AUB100 TB	10	5	8.5	35	75	10	2
AUB120 TB	12	6	10.5	40	75	12	2
AUB160 TB	16	8	14	50	100	16	2
AUB200 TB	20	10	17	50	100	20	2



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	◎

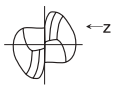
Unit/單位: mm

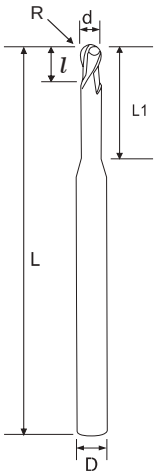
Ball Nose - Long Neck - For Aluminum & Copper - High Speed - 2 flutes

■ 2刃高速長頸銅鋁球型立銑刀

600 Nano | 25° | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Neck Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	頸徑	Z 刃數
ACBL1004 TB	1	0.5	2	4	50	4	0.95	2
ACBL1006 TB	1	0.5	2	6	50	4	0.95	2
ACBL1010 TB	1	0.5	2	10	50	4	0.95	2
ACBL1012 TB	1	0.5	2	12	50	4	0.95	2
ACBL1016 TB	1	0.5	2	16	50	4	0.95	2
ACBL1506 TB	1.5	0.75	3	6	50	4	1.45	2
ACBL1510 TB	1.5	0.75	3	10	50	4	1.45	2
ACBL1512 TB	1.5	0.75	3	12	50	4	1.45	2
ACBL1516 TB	1.5	0.75	3	16	50	4	1.45	2
ACBL2008 TB	2	1.0	4	8	50	4	1.92	2
ACBL2012 TB	2	1.0	4	12	50	4	1.92	2
ACBL2014 TB	2	1.0	4	14	50	4	1.92	2
ACBL2020 TB	2	1.0	4	20	50	4	1.92	2
ACBL3012 TB	3	1.5	6	12	50	6	2.9	2
ACBL3016 TB	3	1.5	6	16	50	6	2.9	2
ACBL3020 TB	3	1.5	6	20	60	6	2.9	2
ACBL3025 TB	3	1.5	6	25	75	6	2.9	2
ACBL4010 TB	4	2	8	10	60	6	3.88	2
ACBL4012 TB	4	2	8	12	60	6	3.88	2
ACBL4016 TB	4	2	8	16	60	6	3.88	2
ACBL4020 TB	4	2	8	20	60	6	3.88	2
ACBL4025 TB	4	2	8	25	75	6	3.88	2

• Tolerance for Ball radius : ±0.01mm R容許差

Application 適用材質 :

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

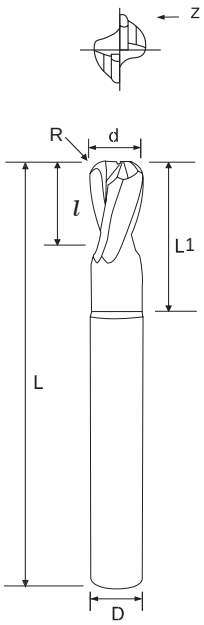
carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							◎	◎

Corner radius - For Aluminum - High speed - 2 flutes

■ 2刃鋁用高速圓鼻立銑刀

600 Nano | 40° | R | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
CMF020022 TB	2	0.2	3	6	40	3	2
CMF025022 TB	2.5	0.2	3	6	40	3	2
CMF030022 TB	3	0.2	4	8	40	3	2
CMF040022 TB	4	0.2	5	12	50	4	2
CMF050022 TB	5	0.2	8	14	50	5	2
CMF060022 TB	6	0.2	8	18	65	6	2
CMF080022 TB	8	0.2	10	22	70	8	2
CMF080042 TB	8	0.4	10	22	70	8	2
CMF080302 TB	8	3	10	22	70	8	2
CMF100022 TB	10	0.2	14	28	80	10	2
CMF100042 TB	10	0.4	14	28	80	10	2
CMF100302 TB	10	3	14	28	80	10	2
CMF120022 TB	12	0.2	16	35	90	12	2
CMF120042 TB	12	0.4	16	35	90	12	2
CMF120252 TB	12	2.5	16	35	90	12	2
CMF120302 TB	12	3	16	35	90	12	2
CMF120402 TB	12	4	16	35	90	12	2
CMF160022 TB	16	0.2	20	40	90	16	2
CMF160042 TB	16	0.4	20	40	90	16	2
CMF160252 TB	16	2.5	20	40	90	16	2
CMF160302 TB	16	3	20	40	90	16	2
CMF160402 TB	16	4	20	40	90	16	2
CMF200022 TB	20	0.2	25	50	100	20	2
CMF200042 TB	20	0.4	25	50	100	20	2
CMF200252 TB	20	2.5	25	50	100	20	2
CMF200302 TB	20	3	25	50	100	20	2
CMF200402 TB	20	4	25	50	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

SPEED TIGER

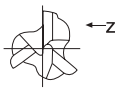
Corner radius - For Aluminum - High speed - 3 flutes

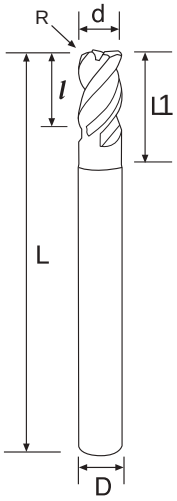
■ 3刃鋁用高速圓鼻立銑刀

600 Nano | 40° | R | TB

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	R	Flute Length	Efficient Length	Full Length	Shank Diameter	Neck Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L1 有效長	L 全長	D 柄徑	A 頸徑	Z 刃數
CA-AA03005009 TB	3	0.5	4.5	9	50	6	2.7	3
CA-AA04005012 TB	4	0.5	6	12	50	6	3.6	3
CA-AA04010012 TB	4	1	6	12	50	6	3.6	3
CA-AA05005015 TB	5	0.5	7.5	15	60	6	4.5	3
CA-AA06003015 TB	6	0.3	9	15	60	6	5.4	3
CA-AA06005015 TB	6	0.5	9	15	60	6	5.4	3
CA-AA06010015 TB	6	1	9	15	60	6	5.4	3
CA-AA08005020 TB	8	0.5	12	20	75	8	7.2	3
CA-AA08010020 TB	8	1	12	20	75	8	7.2	3
CA-AA10005025 TB	10	0.5	15	25	75	10	9	3
CA-AA10010025 TB	10	1	15	25	75	10	9	3
CA-AA12005030 TB	12	0.5	18	30	100	12	11	3
CA-AA12010030 TB	12	1	18	30	100	12	11	3
CA-AA16005040 TB	16	0.5	24	40	105	16	15	3
CA-AA16010040 TB	16	1	24	40	105	16	15	3
CA-AA16030040 TB	16	3	24	40	105	16	15	3
CA-AA20005050 TB	20	0.5	30	50	125	20	19	3
CA-AA20010050 TB	20	1	30	50	125	20	19	3
CA-AA20030050 TB	20	3	30	50	125	20	19	3





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

切 削 條件表 P370
Cutting Condition

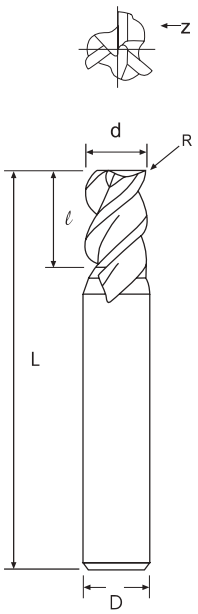
Corner radius - For Aluminum - Super High Speed - 3 flutes

600 Nano | 40° | R | TB

■ 3刃超高速鋁用圓鼻立銑刀

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	R	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	ℓ 刃長	L 全長	D 柄徑	Z 刃數
CR-AA030020 TB	3	0.2	8	50	6	3
CR-AA030030 TB	3	0.3	8	50	6	3
CR-AA030050 TB	3	0.5	8	50	6	3
CR-AA040020 TB	4	0.2	11	50	6	3
CR-AA040030 TB	4	0.3	11	50	6	3
CR-AA040050 TB	4	0.5	11	50	6	3
CR-AA040100 TB	4	1	11	50	6	3
CR-AA050020 TB	5	0.2	13	50	6	3
CR-AA050050 TB	5	0.5	13	50	6	3
CR-AA050100 TB	5	1	13	50	6	3
CR-AA060020 TB	6	0.2	13	50	6	3
CR-AA060030 TB	6	0.3	13	50	6	3
CR-AA060050 TB	6	0.5	13	50	6	3
CR-AA060100 TB	6	1	13	50	6	3
CR-AA080025 TB	8	0.25	19	75	8	3
CR-AA080030 TB	8	0.3	19	75	8	3
CR-AA080050 TB	8	0.5	19	75	8	3
CR-AA080075 TB	8	0.75	19	75	8	3
CR-AA080100 TB	8	1	19	75	8	3
CR-AA080120 TB	8	1.2	19	75	8	3
CR-AA080150 TB	8	1.5	19	75	8	3
CR-AA080200 TB	8	2	19	75	8	3
CR-AA100025 TB	10	0.25	22	75	10	3
CR-AA100030 TB	10	0.3	22	75	10	3

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Unit/單位: mm

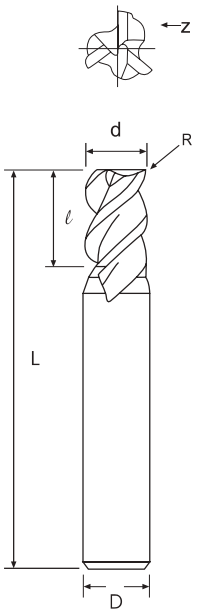
Corner radius - For Aluminum - Super High Speed - 3 flutes

600 Nano | 40° | R | TB

■ 3刃超高速鋁用圓鼻立銑刀

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	R	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	ℓ 刃長	L 全長	D 柄徑	Z 刃數
CR-AA100040 TB	10	0.4	22	75	10	3
CR-AA100050 TB	10	0.5	22	75	10	3
CR-AA100075 TB	10	0.75	22	75	10	3
CR-AA100080 TB	10	0.8	22	75	10	3
CR-AA100100 TB	10	1	22	75	10	3
CR-AA100120 TB	10	1.2	22	75	10	3
CR-AA100150 TB	10	1.5	22	75	10	3
CR-AA100200 TB	10	2	22	75	10	3
CR-AA100250 TB	10	2.5	22	75	10	3
CR-AA100300 TB	10	3	22	75	10	3
CR-AA120050 TB	12	0.5	26	75	12	3
CR-AA120100 TB	12	1	26	75	12	3
CR-AA120150 TB	12	1.5	26	75	12	3
CR-AA120200 TB	12	2	26	75	12	3
CR-AA120300 TB	12	3	26	75	12	3
CR-AA160100 TB	16	1	32	100	16	3
CR-AA160150 TB	16	1.5	32	100	16	3
CR-AA160200 TB	16	2	32	100	16	3
CR-AA160300 TB	16	3	32	100	16	3
CR-AA200100 TB	20	1	38	105	20	3
CR-AA200150 TB	20	1.5	38	105	20	3
CR-AA200200 TB	20	2	38	105	20	3
CR-AA200300 TB	20	3	38	105	20	3

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
							○	◎

Function Series

RS Coaing

- 從精切到粗銑 From Finishing and Roughing
- 從乾式到濕式 From Wet and Dry Cutting
- 從不銹鋼、鈦合金到鑄鐵、模具鋼
  From Stainless Steels, Titanium Alloy, Cast Iron, Mold Steels
- 得簡化 Get Simplification
- 得萬用 Get Universal
- 得效率 Get Efficiency
- 得金錢 Get Reducing Cost

RS Series

Technical Data

Details 產品特點

瞭解RS塗層 Feature of RS coating

- 抗熱 Oxidation start temperature : 1,000℃
- 硬度 Hardness: 2,800HV
- 摩擦係數 Coefficient of friction : 0.4
- 薄膜厚度 Thickness (μ) : 3~ 4 μ
  顏色 Color:銀色 Silver
- 乾、濕式切削，加工軟材為一般AlTiN的2至3倍壽命。
  Dry and Wet Coolant , Cutting performance of soft material improved by 2~3 times than Altin Coating

CrSiN與CrN差別在何？Difference between CrSiN and CrN

- CrSiN:含Si能夠細化CrN晶粒，甚至可達奈米等級，除具CrN一切優點外更可提高其硬度至30~40GPa，且耐熱溫度可達到1,000度。
  CrSiN Coating can improve the CrN grain to be reached NANO grade. Excepting the all advantage of CrN coating, it drastically improves the hardness to 30~40GPa and Oxidation start temperature:1,000℃
- CrN:含Cr對鐵金屬的親和性相當低，大都不與鐵材產生反應，其真正潤滑性使鍍膜擁有不沾粘之特性且具備低摩擦係數，唯美中不足其硬度僅有17~20GPa且其耐熱溫度僅為700度。
  CrN coating with Cr element has low affinity with Fe material. It exhibits lower friction than that of conventional coating. But the Hardness only 17~20GPa and the Oxidation Start Temperature 700℃.

Rs塗層應用在哪？Application of RS

- 乾式加工 Dry Cutting
- 濕式加工 Wet Cutting
- 一般加工 General Cutting
- 高速加工 High Speed Cutting
- 鑄鐵、不鏽鋼、鈦合金、炭素鋼、銅、鋁...等幾乎包含所有被加工材
  Cast Iron, Stainless, Titanium Alloy, Carbon Steel, Copper, Aluminium

Rs塗層優點 Advantage of RS

- 大幅增加刀具、模具之使用壽命 Improve the tooling and mold life
- 增加製造良率 Improve productivity and product quality
- 提高工件表面品質 Better Surface finish
- 增加脫模性 Mold Release forces
- 提高切削條件 Improved Cutting Condition

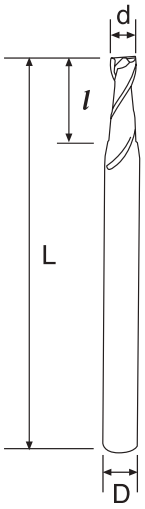
切削條件表 P324
Cutting Condition

Miniature Square series - 2 flutes

■ 2刃微小徑立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUMIE 0022	0.2	0.4	50	4	2
SUMIE 0032	0.3	0.6	50	4	2
SUMIE 0042	0.4	0.8	50	4	2
SUMIE 0052	0.5	1	50	4	2
SUMIE 0062	0.6	1.2	50	4	2
SUMIE 0072	0.7	1.4	50	4	2
SUMIE 0082	0.8	1.6	50	4	2
SUMIE 0092	0.9	1.8	50	4	2
SUMIE 0102	1	3	50	4	2
SUMIE 0112	1.1	3	50	4	2
SUMIE 0122	1.2	3	50	4	2
SUMIE 0132	1.3	3	50	4	2
SUMIE 0142	1.4	3	50	4	2
SUMIE 0152	1.5	4	50	4	2
SUMIE 0162	1.6	4	50	4	2
SUMIE 0172	1.7	4	50	4	2
SUMIE 0182	1.8	4	50	4	2
SUMIE 0192	1.9	4	50	4	2
SUMIE 0202	2	6	50	4	2
SUMIE 0212	2.1	6	50	4	2
SUMIE 0222	2.2	6	50	4	2
SUMIE 0232	2.3	6	50	4	2
SUMIE 0242	2.4	6	50	4	2
SUMIE 0252	2.5	8	50	4	2
SUMIE 0262	2.6	8	50	4	2
SUMIE 0272	2.7	8	50	4	2
SUMIE 0282	2.8	8	50	4	2
SUMIE 0292	2.9	8	50	4	2
SUMIE 0302	3	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○	○	○		◎	○	○

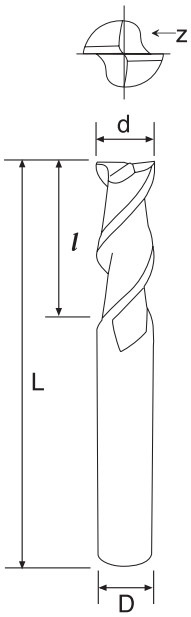
Unit/單位: mm

Square series - Flute angle 45°- 2 flutes

■ 2刃45° 立銑刀

500 Nano | HRC ▶50 | 45° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUPE0102	1	3	50	6	2
SUPE3102	1	3	50	3	2
SUPE4102	1	3	50	4	2
SUPE0152	1.5	4	50	6	2
SUPE3152	1.5	4	50	3	2
SUPE4152	1.5	4	50	4	2
SUPE0202	2	6	50	6	2
SUPE3202	2	6	50	3	2
SUPE4202	2	6	50	4	2
SUPE0252	2.5	8	50	6	2
SUPE3252	2.5	8	50	3	2
SUPE4252	2.5	8	50	4	2
SUPE0302	3	8	50	6	2
SUPE3302	3	8	50	3	2
SUPE4302	3	8	50	4	2
SUPE0352	3.5	10	50	6	2
SUPE4352	3.5	10	50	4	2
SUPE0402	4	11	50	6	2
SUPE4402	4	11	50	4	2
SUPE0452	4.5	13	50	6	2
SUPE0502	5	13	50	6	2
SUPE0552	5.5	13	50	6	2
SUPE0602	6	16	50	6	2
SUPE0652	6.5	16	60	8	2
SUPE0702	7	16	60	8	2
SUPE0752	7.5	19	60	8	2
SUPE0802	8	20	60	8	2
SUPE0852	8.5	20	75	10	2
SUPE0902	9	20	75	10	2
SUPE0952	9.5	25	75	10	2
SUPE1002	10	25	75	10	2
SUPE1052	10.5	25	75	12	2
SUPE1102	11	30	75	12	2
SUPE1152	11.5	30	75	12	2
SUPE1202	12	32	75	12	2
SUPE1402	14	40	100	16	2
SUPE1602	16	40	100	16	2
SUPE1802	18	45	100	20	2
SUPE2002	20	45	100	20	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

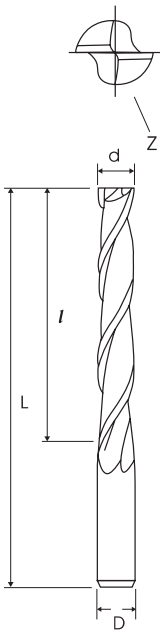
切 削 條件表 P323
Cutting Condition

Square series - Long Flute - 2 flutes

■ 2刃長刃立銑刀

500 Nano | HRC ▶ 50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SULET 0102	1	7	50	4	2
SULET 0152	1.5	9	50	4	2
SULET 0202	2	12	50	4	2
SULET 0252	2.5	12	50	4	2
SULET 0302	3	15	60	6	2
SULET 0352	3.5	15	60	6	2
SULET 0402	4	20	75	6	2
SULET 0452	4.5	20	75	6	2
SULET 0502	5	25	75	6	2
SULET 0552	5.5	25	75	6	2
SULET 0602	6	30	75	6	2
SULET 0702	7	30	100	8	2
SULET 0802	8	40	100	8	2
SULET 0902	9	40	100	10	2
SULET 1002	10	40	100	10	2
SULET 1102	11	40	100	12	2
SULET 1202	12	50	100	12	2
SULET 1402	14	50	150	16	2
SULET 1602	16	60	150	16	2
SULET 2002	20	90	200	20	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

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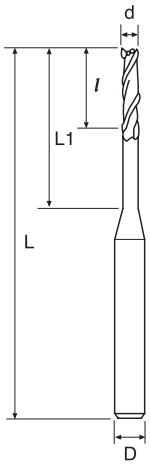
Unit/單位: mm

Square series - Long Neck - 2flutes

■ 2刃深溝專用長頸立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SULNT 05022	0.5	0.75	2	50	4	2
SULNT 05042	0.5	0.75	4	50	4	2
SULNT 05062	0.5	0.75	6	50	4	2
SULNT 06022	0.6	0.9	2	50	4	2
SULNT 06042	0.6	0.9	4	50	4	2
SULNT 06062	0.6	0.9	6	50	4	2
SULNT 07042	0.7	1.1	4	50	4	2
SULNT 07062	0.7	1.1	6	50	4	2
SULNT 08042	0.8	1.2	4	50	4	2
SULNT 08062	0.8	1.2	6	50	4	2
SULNT 08082	0.8	1.2	8	50	4	2
SULNT 09062	0.9	1.4	6	50	4	2
SULNT 09082	0.9	1.4	8	50	4	2
SULNT 09102	0.9	1.4	10	50	4	2
SULNT 10062	1	1.5	6	50	4	2
SULNT 10082	1	1.5	8	50	4	2
SULNT 10102	1	1.5	10	50	4	2
SULNT 10122	1	1.5	12	50	4	2
SULNT 10162	1	1.5	16	50	4	2
SULNT 12062	1.2	1.8	6	50	4	2
SULNT 12082	1.2	1.8	8	50	4	2
SULNT 12102	1.2	1.8	10	50	4	2
SULNT 12122	1.2	1.8	12	50	4	2
SULNT 14062	1.4	2.1	6	50	4	2
SULNT 14102	1.4	2.1	10	50	4	2
SULNT 14162	1.4	2.1	16	50	4	2
SULNT 15062	1.5	2.3	6	50	4	2
SULNT 15082	1.5	2.3	8	50	4	2
SULNT 15102	1.5	2.3	10	50	4	2
SULNT 15122	1.5	2.3	12	50	4	2
SULNT 15142	1.5	2.3	14	50	4	2
SULNT 15162	1.5	2.3	16	50	4	2
SULNT 15182	1.5	2.3	18	50	4	2
SULNT 15202	1.5	2.3	20	50	4	2
SULNT 16062	1.6	2.4	6	50	4	2
SULNT 16082	1.6	2.4	8	50	4	2
SULNT 16102	1.6	2.4	10	50	4	2
SULNT 16122	1.6	2.4	12	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

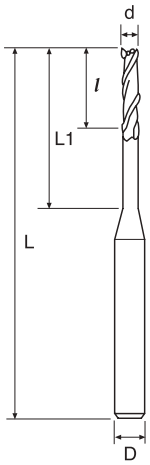
切 削 條件表 P320
Cutting Condition

Square series - Long Neck - 2flutes

■ 2刃深溝專用長頸立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SULNT 16142	1.6	2.4	14	50	4	2
SULNT 16162	1.6	2.4	16	50	4	2
SULNT 16182	1.6	2.4	18	50	4	2
SULNT 18082	1.8	2.7	8	50	4	2
SULNT 18142	1.8	2.7	14	50	4	2
SULNT 18202	1.8	2.7	20	50	4	2
SULNT 20062	2	3	6	50	4	2
SULNT 20082	2	3	8	50	4	2
SULNT 20102	2	3	10	50	4	2
SULNT 20122	2	3	12	50	4	2
SULNT 20142	2	3	14	50	4	2
SULNT 20162	2	3	16	50	4	2
SULNT 20182	2	3	18	50	4	2
SULNT 20202	2	3	20	50	4	2
SULNT 25082	2.5	4	8	50	4	2
SULNT 25102	2.5	4	10	50	4	2
SULNT 25122	2.5	4	12	50	4	2
SULNT 25142	2.5	4	14	50	4	2
SULNT 25162	2.5	4	16	50	4	2
SULNT 25202	2.5	4	20	50	4	2
SULNT 30082	3	4.5	8	50	6	2
SULNT 30102	3	4.5	10	50	6	2
SULNT 30122	3	4.5	12	50	6	2
SULNT 30162	3	4.5	16	60	6	2
SULNT 30202	3	4.5	20	60	6	2
SULNT 30252	3	4.5	25	75	6	2
SULNT 35122	3.5	6	12	50	6	2
SULNT 35162	3.5	6	16	60	6	2
SULNT 35202	3.5	6	20	75	6	2
SULNT 35252	3.5	6	25	75	6	2
SULNT 35302	3.5	6	30	75	6	2
SULNT 40122	4	6	12	50	6	2
SULNT 40162	4	6	16	60	6	2
SULNT 40202	4	6	20	75	6	2
SULNT 40252	4	6	25	75	6	2
SULNT 40302	4	6	30	75	6	2
SULNT 40352	4	6	35	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

Unit/單位: mm

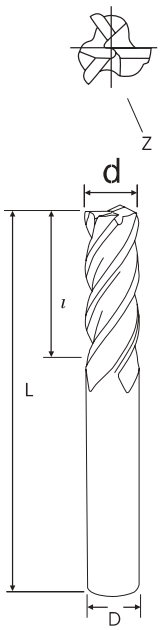
Square series - Flute Angle 45° - 3 flutes

■ 3刃45° 立銑刀

500 Nano | HRC ▶50 | 45° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm² Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUPE0103	1	3	50	6	3
SUPE4103	1	3	50	4	3
SUPE0153	1.5	4	50	6	3
SUPE4153	1.5	4	50	4	3
SUPE0203	2	6	50	6	3
SUPE4203	2	6	50	4	3
SUPE0253	2.5	8	50	6	3
SUPE4253	2.5	8	50	4	3
SUPE0303	3	8	50	6	3
SUPE3303	3	8	50	3	3
SUPE4303	3	8	50	4	3
SUPE0353	3.5	10	50	6	3
SUPE4353	3.5	10	50	4	3
SUPE0403	4	11	50	6	3
SUPE4403	4	11	50	4	3
SUPE0453	4.5	13	50	6	3
SUPE0503	5	13	50	6	3
SUPE0553	5.5	13	50	6	3



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○	○			◎	○	○

切 削 條件表 P326
Cutting Condition

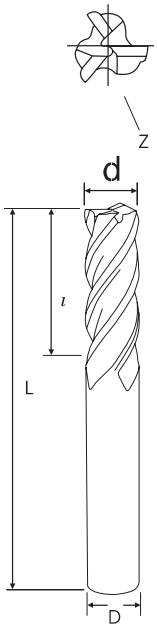
Square series - Flute Angle 45° - 3 flutes

■ 3刃45° 立銑刀

500 Nano | HRC ▶50 | 45° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm² Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUPE0603	6	16	50	6	3
SUPE0653	6.5	16	60	8	3
SUPE0703	7	16	60	8	3
SUPE0753	7.5	19	60	8	3
SUPE0803	8	20	60	8	3
SUPE0853	8.5	20	75	10	3
SUPE0903	9	20	75	10	3
SUPE0953	9.5	25	75	10	3
SUPE1003	10	30	75	10	3
SUPE1053	10.5	30	75	12	3
SUPE1103	11	30	75	12	3
SUPE1153	11.5	30	75	12	3
SUPE1203	12	32	75	12	3
SUPE1403	14	40	100	16	3
SUPE1603	16	40	100	16	3
SUPE1803	18	45	100	20	3
SUPE2003	20	45	100	20	3



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○	○			◎	○	○

Unit/單位: mm

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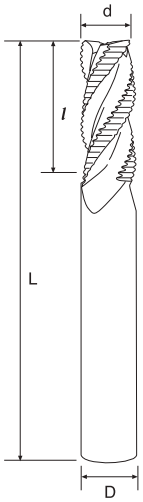
Fine Pitch Roughing series

■ 3刃粗精銑刀

500 Nano | HRC ▶50 | 40° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUNTA 0403	4	8	50	6	3
SUNTA 0503	5	13	50	6	3
SUNTA 0603	6	16	50	6	3
SUNTA 0703	7	16	60	8	3
SUNTA 0803	8	19	60	8	3
SUNTA 0903	9	25	75	10	3
SUNTA 1003	10	25	75	10	3
SUNTA 1103	11	30	75	12	3
SUNTA 1203	12	30	75	12	3
SUNTA 1603	16	35	100	16	3
SUNTA 2003	20	45	100	20	3



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○		○		◎	○	○

切 削 條件表 P329
Cutting Condition

Roughing series

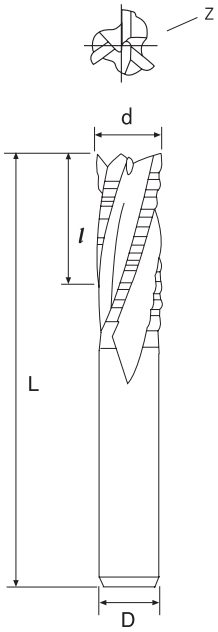
■ 3刃粗銑刀

500 Nano | HRC ▶ 50 | 25° | RS

● Micro Grain Carbide

● WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUXTA 0403	4	8	50	6	3
SUXTA 0503	5	13	50	6	3
SUXTA 0603	6	16	50	6	3
SUXTA 0703	7	16	60	8	3
SUXTA 0803	8	19	60	8	3
SUXTA 0903	9	25	75	10	3
SUXTA 1003	10	25	75	10	3
SUXTA 1103	11	30	75	12	3
SUXTA 1203	12	30	75	12	3
SUXTA 1603	16	35	100	16	3
SUXTA 2003	20	45	100	20	3



Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○		○		◎	○	○

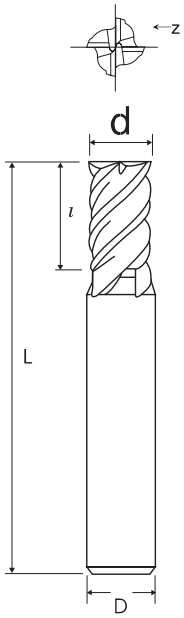
Unit/單位: mm

Square series - Flute angle 45°- 4 flutes

■ 4刃45° 立銑刀

500 Nano | HRC ▶50 | 45° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUPE0104	1	3	50	6	4
SUPE4104	1	3	50	4	4
SUPE0154	1.5	4	50	6	4
SUPE4154	1.5	4	50	4	4
SUPE0204	2	6	50	6	4
SUPE4204	2	6	50	4	4
SUPE0254	2.5	8	50	6	4
SUPE4254	2.5	8	50	4	4
SUPE0304	3	8	50	6	4
SUPE3304	3	8	50	3	4
SUPE4304	3	8	50	4	4
SUPE0354	3.5	10	50	6	4
SUPE4354	3.5	10	50	4	4
SUPE0404	4	11	50	6	4
SUPE4404	4	11	50	4	4
SUPE0454	4.5	13	50	6	4
SUPE0504	5	13	50	6	4
SUPE0554	5.5	13	50	6	4
SUPE0604	6	16	50	6	4
SUPE0654	6.5	16	60	8	4
SUPE0704	7	16	60	8	4
SUPE0754	7.5	19	60	8	4
SUPE0804	8	20	60	8	4
SUPE0854	8.5	20	75	10	4
SUPE0904	9	20	75	10	4
SUPE0954	9.5	25	75	10	4
SUPE1004	10	30	75	10	4
SUPE1054	10.5	30	75	12	4
SUPE1104	11	30	75	12	4
SUPE1154	11.5	30	75	12	4
SUPE1204	12	32	75	12	4
SUPE1404	14	40	100	16	4
SUPE1604	16	40	100	16	4
SUPE1804	18	45	100	20	4
SUPE2004	20	45	100	20	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

切 削 條件表 P333
Cutting Condition

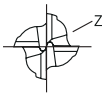
Square series - Long Flute - 4 flutes

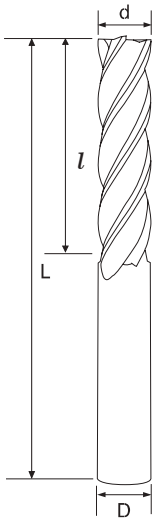
■ 4刃長刃立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm² Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SULET 0104	1	6	50	4	4
SULET 0154	1.5	9	50	4	4
SULET 0204	2	12	50	4	4
SULET 0254	2.5	12	50	4	4
SULET 0304	3	15	60	6	4
SULET 0354	3.5	15	60	6	4
SULET 0404	4	20	75	6	4
SULET 0454	4.5	20	75	6	4
SULET 0504	5	25	75	6	4
SULET 0554	5.5	25	75	6	4
SULET 0604	6	30	75	6	4
SULET 0704	7	30	100	8	4
SULET 0804	8	40	100	8	4
SULET 0904	9	40	100	10	4
SULET 1004	10	40	100	10	4
SULET 1104	11	40	100	12	4
SULET 1204	12	50	100	12	4
SULET 1404	14	50	150	16	4
SULET 1604	16	60	150	16	4
SULET 2004	20	90	200	20	4





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

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Unit/單位: mm

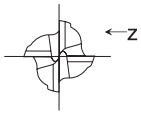
Square series - Long Flute - Flute angle 45°- 4 flutes

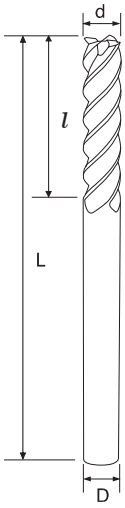
■ 4刃45° 長刃立銑刀

500 Nano | HRC ▶50 | 45° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SULPE0104	1	4	60	6	4
SULPE0154	1.5	6	60	6	4
SULPE0204	2	8	60	6	4
SULPE0254	2.5	10	60	6	4
SULPE0304	3	12	60	6	4
SULPE0404	4	16	60	6	4
SULPE0504	5	21	60	6	4
SULPE0604	6	26	75	6	4
SULPE0804	8	31	75	8	4
SULPE1004	10	35	100	10	4
SULPE1204	12	40	100	12	4
SULPE1604	16	61	150	16	4
SULPE2004	20	76	150	20	4





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

切 削 條件表 P328
Cutting Condition

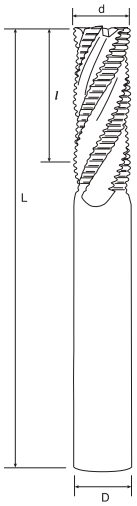
Fine Pitch Roughing series

■ 4刃粗精銑刀

500 Nano | HRC ▶ 50 | 40° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUNTA 0504	5	13	50	6	4
SUNTA 0604	6	16	50	6	4
SUNTA 0704	7	16	60	8	4
SUNTA 0804	8	19	60	8	4
SUNTA 0904	9	25	75	10	4
SUNTA 1004	10	25	75	10	4
SUNTA 1104	11	30	75	12	4
SUNTA 1204	12	30	75	12	4
SUNTA 1404	14	35	100	16	4
SUNTA 1504	15	35	100	16	4
SUNTA 1604	16	35	100	16	4
SUNTA 2004	20	45	100	20	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○	○			◎	○	○

Unit/單位: mm

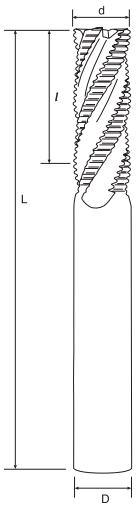
Roughing series

■ 4刃粗銑刀

500 Nano | HRC ▶50 | 25° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
SUXTA 0504	5	13	50	6	4
SUXTA 0604	6	16	50	6	4
SUXTA 0704	7	16	60	8	4
SUXTA 0804	8	19	60	8	4
SUXTA 0904	9	25	75	10	4
SUXTA 1004	10	25	75	10	4
SUXTA 1104	11	30	75	12	4
SUXTA 1204	12	30	75	12	4
SUXTA 1604	16	35	100	16	4
SUXTA 2004	20	45	100	20	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○	○			◎	○	○

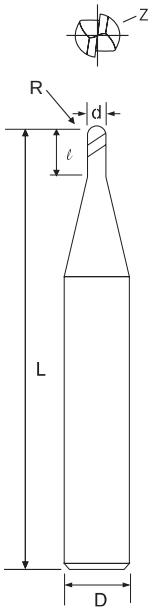
切削條件表 P341
Cutting Condition

Miniature Ball Nose - 2 flutes

■ 2刃微小徑球型立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	ℓ 刃長	L 全長	D 柄徑	Z 刃數
SUMIB0032	0.3	0.15	0.6	50	4	2
SUMIB0042	0.4	0.2	0.7	50	4	2
SUMIB0052	0.5	0.25	0.8	50	4	2
SUMIB0062	0.6	0.3	0.9	50	4	2
SUMIB0072	0.7	0.35	1.4	50	4	2
SUMIB0082	0.8	0.4	1.6	50	4	2
SUMIB0092	0.9	0.45	1.8	50	4	2
SUMIB0102	1.0	0.5	2	50	4	2
SUMIB0112	1.1	0.55	2.2	50	4	2
SUMIB0122	1.2	0.6	2.4	50	4	2
SUMIB0132	1.3	0.65	2.6	50	4	2
SUMIB0142	1.4	0.7	2.8	50	4	2
SUMIB0152	1.5	0.75	3	50	4	2
SUMIB0162	1.6	0.8	3.2	50	4	2
SUMIB0172	1.7	0.85	3.4	50	4	2
SUMIB0182	1.8	0.9	3.6	50	4	2
SUMIB0192	1.9	0.95	3.8	50	4	2
SUMIB0202	2.0	1	4	50	4	2
SUMIB0212	2.1	1.05	4.2	50	4	2
SUMIB0222	2.2	1.1	4.4	50	4	2
SUMIB0232	2.3	1.15	4.6	50	4	2
SUMIB0242	2.4	1.2	4.8	50	4	2
SUMIB0252	2.5	1.25	5	50	4	2
SUMIB0262	2.6	1.3	5.2	50	4	2
SUMIB0272	2.7	1.35	5.4	50	4	2
SUMIB0282	2.8	1.4	5.6	50	4	2
SUMIB0292	2.9	1.45	5.8	50	4	2
SUMIB0302	3.0	1.5	6	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

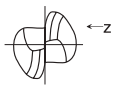
Unit/單位: mm

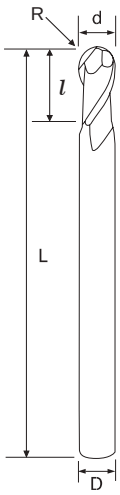
Ball Nose - 2 flutes

■ 2刃球型立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SUBT0102	1	0.5	2	50	6	2
SUBT3102	1	0.5	2	50	3	2
SUBT4102	1	0.5	2	50	4	2
SUBT0152	1.5	0.75	3	50	6	2
SUBT3152	1.5	0.75	3	50	3	2
SUBT4152	1.5	0.75	3	50	4	2
SUBT0202	2	1	4	50	6	2
SUBT3202	2	1	4	50	3	2
SUBT4202	2	1	4	50	4	2
SUBT0252	2.5	1.25	5	50	6	2
SUBT3252	2.5	1.25	5	50	3	2
SUBT4252	2.5	1.25	5	50	4	2
SUBT0302	3	1.5	6	50	6	2
SUBT3302	3	1.5	6	50	3	2
SUBT4302	3	1.5	6	50	4	2
SUBT0352	3.5	1.75	7	50	6	2
SUBT4352	3.5	1.75	7	50	4	2
SUBT0402	4	2	8	50	6	2
SUBT4402	4	2	8	50	4	2
SUBT0452	4.5	2.25	9	50	6	2
SUBT0502	5	2.5	10	50	6	2
SUBT0552	5.5	2.75	11	50	6	2
SUBT0602	6	3	12	50	6	2
SUBT0702	7	3.5	14	60	8	2
SUBT0802	8	4	16	60	8	2
SUBT0902	9	4.5	18	75	10	2
SUBT1002	10	5	20	75	10	2
SUBT1102	11	5.5	22	75	12	2
SUBT1202	12	6	24	75	12	2
SUBT1402	14	7	28	100	16	2
SUBT1602	16	8	32	100	16	2
SUBT1802	18	9	36	100	20	2
SUBT2002	20	10	40	100	20	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

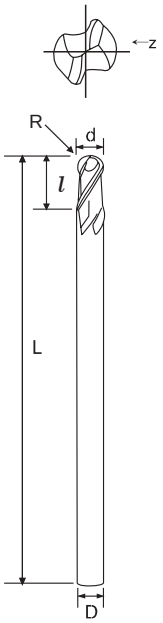
切 削 條件表 P341
Cutting Condition

Ball Nose - Long Shank - 2 flutes

■ 2刃長柄球型立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm



MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SULBTS0102	1	0.5	2	75	6	2
SULBTM0102	1	0.5	2	100	6	2
SULBTS0152	1.5	0.75	3	75	6	2
SULBTM0152	1.5	0.75	3	100	6	2
SULBTS0202	2	1	4	75	6	2
SULBTM0202	2	1	4	100	6	2
SULBTS0252	2.5	1.25	5	75	6	2
SULBTM0252	2.5	1.25	5	100	6	2
SULBTS0302	3	1.5	6	75	6	2
SULBTM0302	3	1.5	6	100	6	2
SULBTM0352	3.5	1.75	7	100	6	2
SULBTS0402	4	2	8	75	6	2
SULBTM0402	4	2	8	100	6	2
SULBTS0502	5	2.5	10	75	6	2
SULBTM0502	5	2.5	10	100	6	2
SULBTS0602	6	3	12	75	6	2
SULBTM0602	6	3	12	100	6	2
SULBTL0602	6	3	12	150	6	2
SULBTS0802	8	4	16	75	8	2
SULBTM0802	8	4	16	100	8	2
SULBTL0802	8	4	16	150	8	2
SULBTM1002	10	5	20	100	10	2
SULBTL1002	10	5	20	150	10	2
SULBTX1002	10	5	20	200	10	2
SULBTM1202	12	6	24	100	12	2
SULBTL1202	12	6	24	150	12	2
SULBTX1202	12	6	24	200	12	2
SULBTL1602	16	8	32	150	16	2
SULBTX1602	16	8	32	200	16	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

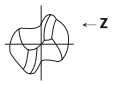
Unit/單位: mm

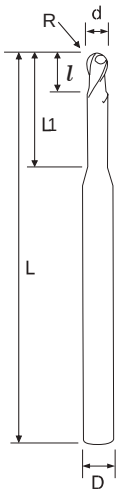
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SULNBT05022	0.5	0.25	0.75	2	50	4	2
SULNBT05042	0.5	0.25	0.75	4	50	4	2
SULNBT05062	0.5	0.25	0.75	6	50	4	2
SULNBT06022	0.6	0.3	0.9	2	50	4	2
SULNBT06042	0.6	0.3	0.9	4	50	4	2
SULNBT06062	0.6	0.3	0.9	6	50	4	2
SULNBT08042	0.8	0.4	1.2	4	50	4	2
SULNBT08062	0.8	0.4	1.2	6	50	4	2
SULNBT08082	0.8	0.4	1.2	8	50	4	2
SULNBT10062	1	0.5	1.5	6	50	4	2
SULNBT10082	1	0.5	1.5	8	50	4	2
SULNBT10102	1	0.5	1.5	10	50	4	2
SULNBT10122	1	0.5	1.5	12	50	4	2
SULNBT12062	1.2	0.6	1.8	6	50	4	2
SULNBT12082	1.2	0.6	1.8	8	50	4	2
SULNBT12102	1.2	0.6	1.8	10	50	4	2
SULNBT12122	1.2	0.6	1.8	12	50	4	2
SULNBT14062	1.4	0.7	2.1	6	50	4	2
SULNBT14102	1.4	0.7	2.1	10	50	4	2
SULNBT14162	1.4	0.7	2.1	16	50	4	2
SULNBT15062	1.5	0.75	2.3	6	50	4	2
SULNBT15082	1.5	0.75	2.3	8	50	4	2
SULNBT15102	1.5	0.75	2.3	10	50	4	2
SULNBT15122	1.5	0.75	2.3	12	50	4	2
SULNBT15142	1.5	0.75	2.3	14	50	4	2
SULNBT15162	1.5	0.75	2.3	16	50	4	2
SULNBT15182	1.5	0.75	2.3	18	50	4	2
SULNBT15202	1.5	0.75	2.3	20	50	4	2
SULNBT16062	1.6	0.8	2.4	6	50	4	2
SULNBT16082	1.6	0.8	2.4	8	50	4	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

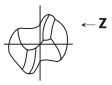
切 削 條件表 P346
Cutting Condition

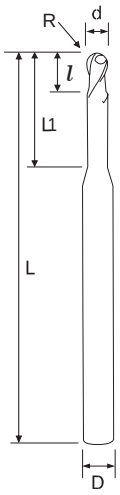
Ball Nose - Long Neck - 2 flutes

■ 2刃深溝專用長頸球型立銑刀

500 Nano | HRC ▶ 50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm





MODE	Diameter	Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
SULNBT16102	1.6	0.8	2.4	10	50	4	2
SULNBT16122	1.6	0.8	2.4	12	50	4	2
SULNBT16142	1.6	0.8	2.4	14	50	4	2
SULNBT16162	1.6	0.8	2.4	16	50	4	2
SULNBT16182	1.6	0.8	2.4	18	50	4	2
SULNBT16202	1.6	0.8	2.4	20	50	4	2
SULNBT18082	1.8	0.9	2.7	8	50	4	2
SULNBT18142	1.8	0.9	2.7	14	50	4	2
SULNBT18202	1.8	0.9	2.7	20	50	4	2
SULNBT20082	2	1	3	8	50	4	2
SULNBT20102	2	1	3	10	50	4	2
SULNBT20122	2	1	3	12	50	4	2
SULNBT20142	2	1	3	14	50	4	2
SULNBT20162	2	1	3	16	50	4	2
SULNBT20182	2	1	3	18	50	4	2
SULNBT20202	2	1	3	20	50	4	2
SULNBT25082	2.5	1.25	4	8	50	4	2
SULNBT25122	2.5	1.25	4	12	50	4	2
SULNBT25162	2.5	1.25	4	16	50	4	2
SULNBT25202	2.5	1.25	4	20	50	4	2
SULNBT30102	3	1.5	4.5	10	50	6	2
SULNBT30122	3	1.5	4.5	12	50	6	2
SULNBT30162	3	1.5	4.5	16	60	6	2
SULNBT30202	3	1.5	4.5	20	60	6	2
SULNBT30252	3	1.5	4.5	25	75	6	2
SULNBT40122	4	2	6	12	50	6	2
SULNBT40162	4	2	6	16	60	6	2
SULNBT40202	4	2	6	20	75	6	2
SULNBT40252	4	2	6	25	75	6	2
SULNBT40302	4	2	6	30	75	6	2

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

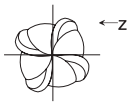
Unit/單位: mm

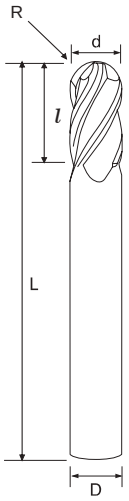
Ball Nose - 4 flutes

■ 4刃球型立銑刀

500 Nano | HRC ▶50 | 35° | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm^2 Grain Size=0.5μm





MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SUBT0104	1	0.5	2	50	6	4
SUBT4104	1	0.5	2	50	4	4
SUBT0154	1.5	0.75	3	50	6	4
SUBT4154	1.5	0.75	3	50	4	4
SUBT0204	2	1	4	50	6	4
SUBT4204	2	1	4	50	4	4
SUBT0254	2.5	1.25	5	50	6	4
SUBT4254	2.5	1.25	5	50	4	4
SUBT0304	3	1.5	6	50	6	4
SUBT3304	3	1.5	6	50	3	4
SUBT4304	3	1.5	6	50	4	4
SUBT0354	3.5	1.75	7	50	6	4
SUBT4354	3.5	1.75	7	50	4	4
SUBT0404	4	2	8	50	6	4
SUBT4404	4	2	8	50	4	4
SUBT0454	4.5	2.25	9	50	6	4
SUBT0504	5	2.5	10	50	6	4
SUBT0554	5.5	2.75	11	50	6	4
SUBT0604	6	3	12	50	6	4
SUBT0704	7	3.5	14	60	8	4
SUBT0804	8	4	16	60	8	4
SUBT0904	9	4.5	18	75	10	4
SUBT1004	10	5	20	75	10	4
SUBT1104	11	5.5	22	75	12	4
SUBT1204	12	6	24	75	12	4
SUBT1404	14	7	28	100	16	4
SUBT1604	16	8	32	100	16	4
SUBT1804	18	9	36	100	20	4
SUBT2004	20	10	40	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

切 削 條件表 P361
Cutting Condition

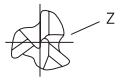
Corner Radius series - 3 flutes

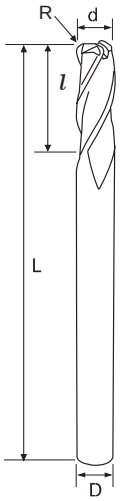
■ 3刃圓鼻立銑刀

500 Nano | HRC ▶50 | 30° | R | RS

● Micro Grain Carbide

● WC=88 Co=12 HRA=92.4 Rupture=3950N/mm² Grain Size=0.5μm





MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
SURTA0200203	2	0.2	6	50	4	3
SURTA0200253	2	0.25	6	50	4	3
SURTA0200303	2	0.3	6	50	4	3
SURTA0200503	2	0.5	6	50	4	3
SURTA0300203	3	0.2	10	50	3	3
SURTA0300303	3	0.3	10	50	3	3
SURTA0300503	3	0.5	10	50	3	3
SURTA0301003	3	1	10	50	3	3
SURTA4300203	3	0.2	10	50	4	3
SURTA4300253	3	0.25	10	50	4	3
SURTA4300303	3	0.3	10	50	4	3
SURTA4300503	3	0.5	10	50	4	3
SURTA4300753	3	0.75	10	50	4	3
SURTA4301003	3	1	10	50	4	3
SURTA0400203	4	0.2	13	60	4	3
SURTA0400253	4	0.25	13	60	4	3
SURTA0400303	4	0.3	13	60	4	3
SURTA0400503	4	0.5	13	60	4	3
SURTA0400753	4	0.75	13	60	4	3
SURTA0401003	4	1	13	60	4	3
SURTA0500203	5	0.2	15	60	5	3
SURTA0500253	5	0.25	15	60	5	3
SURTA0500303	5	0.3	15	60	5	3
SURTA0500503	5	0.5	15	60	5	3
SURTA0500753	5	0.75	15	60	5	3
SURTA0501003	5	1	15	60	5	3
SURTA0600203	6	0.2	16	70	6	3
SURTA0600253	6	0.25	16	70	6	3
SURTA0600303	6	0.3	16	70	6	3

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

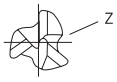
Unit/單位: mm

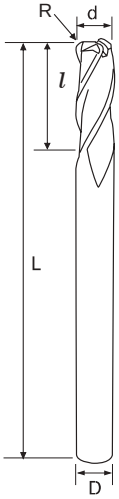
Corner Radius series - 3 flutes

■ 3刃圓鼻立銑刀

500 Nano | HRC ▶50 | 30° | R | RS

- Micro Grain Carbide
- WC=88 Co=12 HRA=92.4 Rupture=3950N/mm² Grain Size=0.5μm





MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
SURTA0600503	6	0.5	16	70	6	3
SURTA0600753	6	0.75	16	70	6	3
SURTA0601003	6	1	16	70	6	3
SURTA0601253	6	1.25	16	70	6	3
SURTA0601503	6	1.5	16	70	6	3
SURTA0800253	8	0.25	23	70	8	3
SURTA0800303	8	0.3	23	70	8	3
SURTA0800503	8	0.5	23	70	8	3
SURTA0800753	8	0.75	23	70	8	3
SURTA0801003	8	1	23	70	8	3
SURTA0801253	8	1.25	23	70	8	3
SURTA0801503	8	1.5	23	70	8	3
SURTA0802003	8	2	23	70	8	3
SURTA1000253	10	0.25	25	80	10	3
SURTA1000303	10	0.3	25	80	10	3
SURTA1000503	10	0.5	25	80	10	3
SURTA1000753	10	0.75	25	80	10	3
SURTA1001003	10	1	25	80	10	3
SURTA1001253	10	1.25	25	80	10	3
SURTA1001503	10	1.5	25	80	10	3
SURTA1002003	10	2	25	80	10	3
SURTA1002503	10	2.5	25	80	10	3
SURTA1200303	12	0.3	30	80	12	3
SURTA1200503	12	0.5	30	80	12	3
SURTA1201003	12	1	30	80	12	3
SURTA1201253	12	1.25	30	80	12	3
SURTA1201503	12	1.5	30	80	12	3
SURTA1202003	12	2	30	80	12	3
SURTA1202503	12	2.5	30	80	12	3
SURTA1203003	12	3	30	80	12	3

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			◎	○	○

Oil Jet End Mill Series

Oil Jet End Mill Series Technical Data

中心出水銑刀系列

Details 產品特點

1. Less cutting heat on cutter edge due to strengthen cool purpose by oil jet function.
2. Increase lubrication and excellent chip removal.
3. CrSiN coating , improve efficiency and function.
4. Special design cutter, better surface finish.

中心出水，加強冷卻效果，使刃口溫度更低。
增加潤滑性，排屑性更加。
CrSiN奈米鍍層，效能、性能更上一層樓。
特殊刀具設計，被切削面更光滑細緻。

Application 適用材料

Cast Iron, Stainless, Titanium Alloy, Carbon Steel, Copper, Aluminium.

鑄鐵、不鏽鋼、鈦合金、炭素鋼、銅、鋁...等幾乎包含所有被加工材。

RS coating advantage RS塗層優點

1. Improve the tooling and mold life.
2. Improve productivity and product quality.
3. Better Surface finish.
4. Mold Release forces.
5. Cutting Condition improved.

大幅增加刀具、模具之使用壽命。
增加製造良率。
提高工件表面品質。
增加脫膜性。
提高切削條件。

矽塗層高性能刀具的推廣與應用，不僅嚴格保證塗層的質量，更保證刀具本身材料的質量與性能
Coating with Si element in tools promotion and application ensure the coating quality, cutting performance and the quality of endmill material.

ST Coating	Typical Thickness(u)	Microhardness HV	Max Service Temp(C)	Friction Coefficient
TiAlN	3~5	2,800	800	0.4
TiSiN(Si)	2~4	3,600	1,100	0.4
CrN	3~5	2,200	700	0.4
CrSiN(Rs)	3~4	2,800	1,000	0.4

結論 Conclusion ：
使用矽塗層刀具可以解決難加工材料的加工問題，改變傳統的機械加工工藝，提高加工效率，節約工時及電力因此推廣和應用矽塗層刀具具有寬廣的發展與前景。
Rs coating contain Si element cutting tools can solve the problem for machining in Hard work material and change the traditional process. Improving the productivity Reducing the time and cost.

切 削 P324
條件表 P334
Cutting Condition

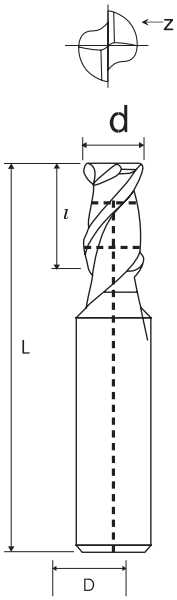
Square Series - Oil Jet

■ 油孔立銑刀

MG HRC ▶55 35° RS

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
JSE0602RS	6	16	50	6	2
JSE0604RS	6	16	50	6	4
JSE0802RS	8	20	60	8	2
JSE0804RS	8	20	60	8	4
JSE1002RS	10	25	75	10	2
JSE1004RS	10	25	75	10	4
JSE1202RS	12	32	75	12	2
JSE1204RS	12	32	75	12	4
JSE1602RS	16	40	100	16	2
JSE1604RS	16	40	100	16	4
JSE2002RS	20	45	100	20	2
JSE2004RS	20	45	100	20	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○				○	○

Unit/單位: mm

www.speedtiger.com.tw

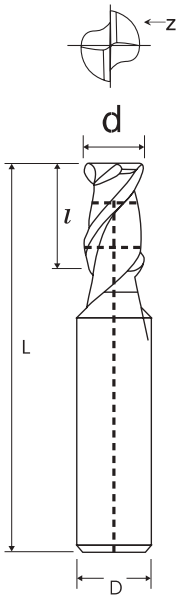
Square Series - For Aluminum - Oil Jet

■ 油孔鋁用立銑刀

MG HRC ▶40 55°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE 型號	Diameter d 刃徑	Flute Length ℓ 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
JAE50602	6	18	50	6	2
JAE50802	8	20	60	8	2
JAE51002	10	30	75	10	2
JAE51202	12	32	75	12	2
JAE51602	16	45	100	16	2
JAE52002	20	45	100	20	2
JAE50603	6	18	50	6	3
JAE50803	8	20	60	8	3
JAE51003	10	30	75	10	3
JAE51203	12	32	75	12	3
JAE51603	16	45	100	16	3
JAE52003	20	45	100	20	3



Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
X	X	X	X	X	X	X	◎	◎

切 削 條件表 P373
Cutting Condition

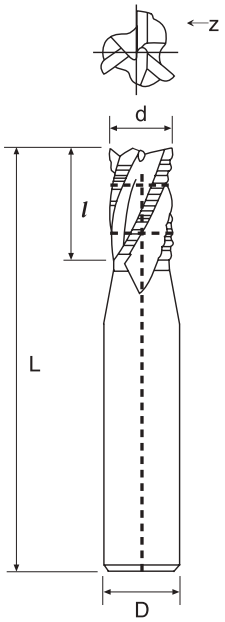
Roughing Series - For Aluminum - 3 flutes - Oil Jet

■ 油孔鋁用3刃粗銑刀

MG HRC ▶40 45°

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE 型號	Diameter d 刃徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
JANT0603	6	15	50	6	3
JANT0803	8	20	60	8	3
JANT1003	10	25	75	10	3
JANT1203	12	30	75	12	3
JANT1603	16	35	100	16	3
JANT2003	20	45	100	20	3



Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
X	X	X	X	X	X	X	◎	◎

Unit/單位: mm

www.speedtiger.com.tw

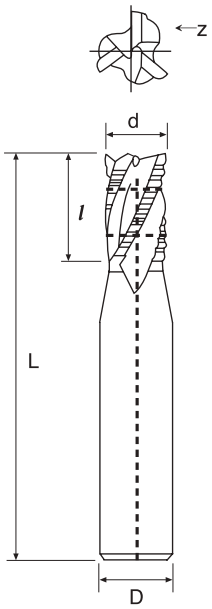
Fine Pitch Roughing series - Oil Jet

■ 油孔粗精銑刀

MG HRC ▶50 40° RS

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
JNTA0603RS	6	16	50	6	3
JNTA0803RS	8	19	60	8	3
JNTA1003RS	10	25	75	10	3
JNTA1203RS	12	30	75	12	3
JNTA1603RS	16	35	100	16	3
JNTA2003RS	20	45	100	20	3
JNTA0604RS	6	16	50	6	4
JNTA0804RS	8	19	60	8	4
JNTA1004RS	10	25	75	10	4
JNTA1204RS	12	30	75	12	4
JNTA1604RS	16	35	100	16	4
JNTA2004RS	20	45	100	20	4



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○				○	○

切 削 條件表 P329
Cutting Condition

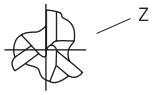
Roughing series - Oil Jet

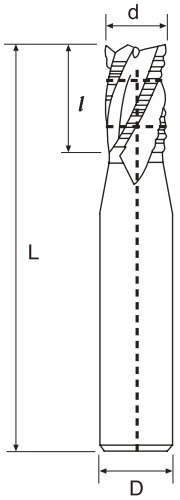
■ 油孔粗銑刀

MG HRC ▶50 25° RS

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
JXTA0603RS	6	16	50	6	3
JXTA0803RS	8	19	60	8	3
JXTA1003RS	10	25	75	10	3
JXTA1203RS	12	30	75	12	3
JXTA1603RS	16	35	100	16	3
JXTA2003RS	20	45	100	20	3
JXTA0604RS	6	16	50	6	4
JXTA0804RS	8	19	60	8	4
JXTA1004RS	10	25	75	10	4
JXTA1204RS	12	30	75	12	4
JXTA1604RS	16	35	100	16	4
JXTA2004RS	20	45	100	20	4





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○				○	○

Unit/單位: mm

www.speedtiger.com.tw

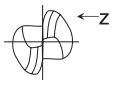
Ball Nose - 2 flutes - Oil Jet

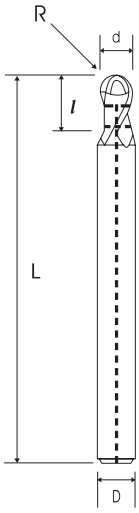
■ 油孔2刃球刀

MG HRC ▶55 35° RS

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
JSB0602RS	6	3	12	50	6	2
JSB0802RS	8	4	16	60	8	2
JSB1002RS	10	5	20	75	10	2
JSB1202RS	12	6	24	75	12	2
JSB1602RS	16	8	32	100	16	2
JSB2002RS	20	10	40	100	20	2





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○				○	○

切 削 條件表 P401
Cutting Condition

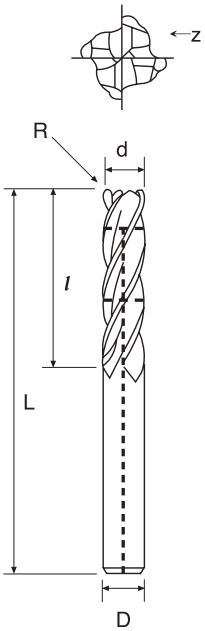
Corner Radius - 4 flutes - Oil Jet

■ 油孔4刃圓鼻立銑刀

MG HRC ▶55 35° RS R

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE 型號	Diameter d 刃徑	radius of Ball Nose R 角	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
JRTA060034RS	6	0.3	15	50	6	4
JRTA060054RS	6	0.5	15	50	6	4
JRTA060104RS	6	1	15	50	6	4
JRTA060204RS	6	2	15	50	6	4
JRTA080034RS	8	0.3	20	60	8	4
JRTA080054RS	8	0.5	20	60	8	4
JRTA080104RS	8	1	20	60	8	4
JRTA080204RS	8	2	20	60	8	4
JRTA100034RS	10	0.3	25	75	10	4
JRTA100054RS	10	0.5	25	75	10	4
JRTA100104RS	10	1	25	75	10	4
JRTA100204RS	10	2	25	75	10	4
JRTA120034RS	12	0.3	30	75	12	4
JRTA120054RS	12	0.5	30	75	12	4
JRTA120104RS	12	1	30	75	12	4
JRTA120204RS	12	2	30	75	12	4



Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O			O	O

Unit/單位: mm

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Note

SPEED TIGER®

UMG-FHPS
UMG-FHP
UMG-FHPM
UMG-FHPL
UMG-CR-FHP

FULGURITE AND HIGH SPEED MILLING AND POEWRFUL

FULGURITE AND HIGH SPEED MILLING AND POEWRFUL

UMG-FHPS
UMG-FHP
UMG-CR-FHP

長壽命

Long tool life

刀徑容許公差 0 ~ -0.02mm

Tool diameter tolerance 0 ~ -0.02mm for all size

高效能

High efficient

奈米超硬底材、驚異高抗損性、優異耐磨耗性

Superior wear and chipping resistance due to optimally matched coating and carbide material

高精度

High accuracy

刀刃平順光滑

Smooth radiul relief

優異新刃形採用

A new geomatry is adopted to ensure rigidity

多機能

高速溝加工及超高速側面加工

高精度加工一次完成

優異的切削排出性

切削排出性高

特殊溝形狀採用

四枚刀溝重切削實現

高剛性

獨自的溝形狀應用

大幅度的高剛性設計

抗折損強度大幅提昇

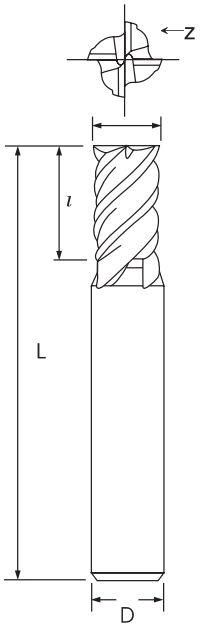
切 削 條件表 P391
Cutting Condition

FHP - FHPS 4 Flutes • Short
(Heavy- duty operation type)

400 Nano | HRC ▶ 60 | 45° | nBS

■ 4刃重切削立銑刀

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



UMG - FHPS

Mode 型號	Diameter d 直徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
FHPS020	2	3	50	6	4
FHPS021	2.1	3.2	50	6	4
FHPS022	2.2	3.3	50	6	4
FHPS023	2.3	3.5	50	6	4
FHPS024	2.4	3.6	50	6	4
FHPS025	2.5	3.8	50	6	4
FHPS026	2.6	3.9	50	6	4
FHPS027	2.7	4.1	50	6	4
FHPS028	2.8	4.2	50	6	4
FHPS029	2.9	4.4	50	6	4
FHPS030	3	4.5	50	6	4
FHPS031	3.1	4.7	50	6	4
FHPS032	3.2	4.8	50	6	4
FHPS033	3.3	5	50	6	4
FHPS034	3.4	5.1	50	6	4
FHPS035	3.5	5.3	50	6	4
FHPS036	3.6	5.4	50	6	4
FHPS037	3.7	5.6	50	6	4
FHPS038	3.8	5.7	50	6	4
FHPS039	3.9	5.9	50	6	4
FHPS040	4	6	50	6	4
FHPS041	4.1	6.2	50	6	4
FHPS042	4.2	6.3	50	6	4
FHPS043	4.3	6.5	50	6	4
FHPS044	4.4	6.6	50	6	4
FHPS045	4.5	6.8	50	6	4
FHPS046	4.6	6.9	50	6	4
FHPS047	4.7	7.1	50	6	4
FHPS048	4.8	7.2	50	6	4
FHPS049	4.9	7.4	50	6	4
FHPS050	5	7.5	50	6	4
FHPS051	5.1	7.7	50	6	4
FHPS052	5.2	7.8	50	6	4
FHPS053	5.3	8	50	6	4
FHPS054	5.4	8.1	50	6	4
FHPS055	5.5	8.3	50	6	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○	○				

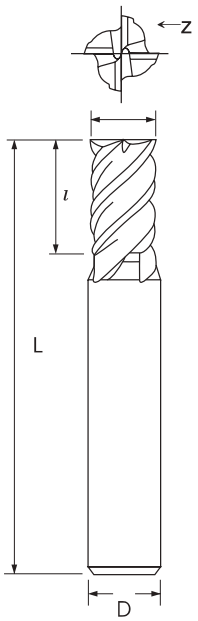
Unit/單位: mm

FHP - FHPS 4 Flutes • Short
(Heavy- duty operation type)

400 Nano | HRC ▶60 | 45° | nBS

■ 4刃重切削立銑刀

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



UMG - FHPS

Mode 型號	Diameter d 直徑	Flute Length l 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
FHPS056	5.6	8.4	50	6	4
FHPS057	5.7	8.6	50	6	4
FHPS058	5.8	8.7	50	6	4
FHPS059	5.9	8.9	50	6	4
FHPS060	6	9	50	6	4
FHPS061	6.1	9.2	60	8	4
FHPS062	6.2	9.3	60	8	4
FHPS063	6.3	9.5	60	8	4
FHPS064	6.4	9.6	60	8	4
FHPS065	6.5	9.8	60	8	4
FHPS066	6.6	9.9	60	8	4
FHPS067	6.7	10.1	60	8	4
FHPS068	6.8	10.2	60	8	4
FHPS069	6.9	10.4	60	8	4
FHPS070	7	10.5	60	8	4
FHPS071	7.1	10.7	60	8	4
FHPS072	7.2	10.8	60	8	4
FHPS073	7.3	11	60	8	4
FHPS074	7.4	11.1	60	8	4
FHPS075	7.5	11.3	60	8	4
FHPS076	7.6	11.4	60	8	4
FHPS077	7.7	11.6	60	8	4
FHPS078	7.8	11.7	60	8	4
FHPS079	7.9	11.9	60	8	4
FHPS080	8	12	60	8	4
FHPS081	8.1	12.2	75	10	4
FHPS082	8.2	12.3	75	10	4
FHPS083	8.3	12.5	75	10	4
FHPS084	8.4	12.6	75	10	4
FHPS085	8.5	12.8	75	10	4
FHPS086	8.6	12.9	75	10	4
FHPS087	8.7	13.1	75	10	4
FHPS088	8.8	13.2	75	10	4
FHPS089	8.9	13.4	75	10	4
FHPS090	9	13.5	75	10	4
FHPS091	9.1	13.7	75	10	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○	○				

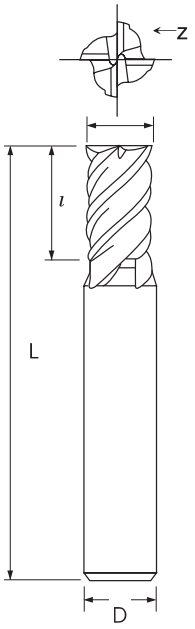
切 削 條件表 P391
Cutting Condition

FHP - FHPS 4 Flutes • Short (Heavy- duty operation type)

400 Nano | HRC ▶ 60 | 45° | nBS

■ 4刃重切削立銑刀

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



UMG - FHPS

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
FHPS092	9.2	13.8	75	10	4
FHPS093	9.3	14	75	10	4
FHPS094	9.4	14.1	75	10	4
FHPS095	9.5	14.3	75	10	4
FHPS096	9.6	14.4	75	10	4
FHPS097	9.7	14.6	75	10	4
FHPS098	9.8	14.7	75	10	4
FHPS099	9.9	14.9	75	10	4
FHPS100	10	15	75	10	4
FHPS105	10.5	15.8	100	12	4
FHPS110	11	16.5	100	12	4
FHPS115	11.5	17.3	100	12	4
FHPS120	12	18	100	12	4
FHPS125	12.5	18.8	100	14	4
FHPS130	13	19.5	100	14	4
FHPS135	13.5	20.3	100	14	4
FHPS140	14	21	100	14	4
FHPS145	14.5	21.8	100	16	4
FHPS150	15	22.5	100	16	4
FHPS155	15.5	23.3	100	16	4
FHPS160	16	24	100	16	4
FHPS170	17	25.5	100	20	4
FHPS180	18	27	100	20	4
FHPS190	19	28.5	100	20	4
FHPS200	20	30	100	20	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○	○				

Unit/單位: mm

UMG - FHP 4 Flutes • Short
(Heavy- duty operation type)

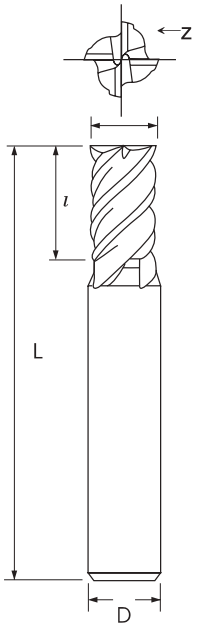
400 Nano | HRC ▶60 | 45° | nBS

■ 4刃重切削立銑刀

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm

UMG - FHP

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
FHP030	3	8	60	6	4
FHP040	4	11	60	6	4
FHP050	5	13	60	6	4
FHP060	6	13	60	6	4
FHP080	8	19	60	8	4
FHP100	10	22	75	10	4
FHP120	12	26	100	12	4
FHP160	16	35	100	16	4
FHP200	20	40	100	20	4



Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O				

切 削 條件表 P391
Cutting Condition

UMG - FHPM 4 Flutes • Medium / Long

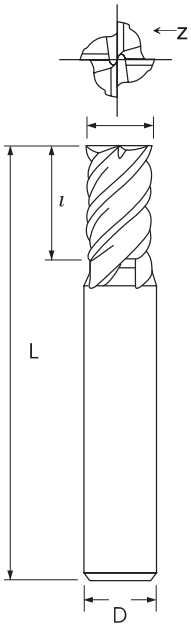
■ 4刃重切削立銑刀

400 Nano | HRC ▶60 | 45° | nBS

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm

UMG - FHPM

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
FHPM030	3	12	60	6	4
FHPM040	4	16	60	6	4
FHPM050	5	18	60	6	4
FHPM060	6	20	60	6	4
FHPM080	8	25	75	8	4
FHPM100	10	30	80	10	4
FHPM120	12	35	100	12	4
FHPM160	16	45	110	16	4
FHPM200	20	50	125	20	4



UMG - FHPL

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
FHPL030	3	15	60	6	4
FHPL040	4	20	60	6	4
FHPL050	5	22	60	6	4
FHPL060	6	25	75	6	4
FHPL080	8	30	75	8	4
FHPL100	10	35	80	10	4
FHPL120	12	40	100	12	4
FHPL160	16	55	110	16	4
FHPL200	20	60	125	20	4

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O				

Unit/單位: mm

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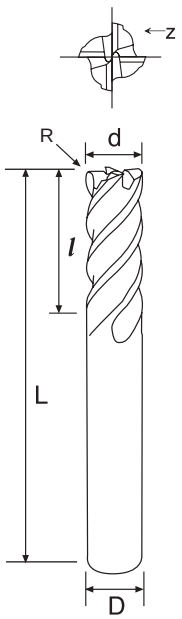
UMG - CR - FHP 4 Flutes • Short with Corner Radius (Heavy- duty operation type)

■ 4刃重切削圓鼻刀

400 Nano | HRC ▶60 | 45° | nBS | R

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



UMG - CR - FHP

Mode	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	*l* 刃長	L 全長	D 柄徑	Z 刃數
CRFHP0302	3	0.2	8	60	6	4
CRFHP0305	3	0.5	8	60	6	4
CRFHP0402	4	0.2	11	60	6	4
CRFHP0405	4	0.5	11	60	6	4
CRFHP0410	4	1	11	60	6	4
CRFHP0502	5	0.2	13	60	6	4
CRFHP0505	5	0.5	13	60	6	4
CRFHP0510	5	1	13	60	6	4
CRFHP0603	6	0.3	13	60	6	4
CRFHP0605	6	0.5	13	60	6	4
CRFHP0610	6	1	13	60	6	4
CRFHP0803	8	0.3	19	60	8	4
CRFHP0805	8	0.5	19	60	8	4
CRFHP0810	8	1	19	60	8	4
CRFHP0815	8	1.5	19	60	8	4
CRFHP0820	8	2	19	60	8	4
CRFHP1003	10	0.3	22	75	10	4
CRFHP1005	10	0.5	22	75	10	4
CRFHP1010	10	1	22	75	10	4
CRFHP1015	10	1.5	22	75	10	4
CRFHP1020	10	2	22	75	10	4
CRFHP1030	10	3	22	75	10	4
CRFHP1205	12	0.5	26	100	12	4
CRFHP1210	12	1	26	100	12	4
CRFHP1215	12	1.5	26	100	12	4
CRFHP1220	12	2	26	100	12	4
CRFHP1230	12	3	26	100	12	4
CRFHP1610	16	1	35	100	16	4
CRFHP1615	16	1.5	35	100	16	4
CRFHP1620	16	2	35	100	16	4
CRFHP1630	16	3	35	100	16	4
CRFHP2010	20	1	40	100	20	4
CRFHP2015	20	1.5	40	100	20	4
CRFHP2020	20	2	40	100	20	4
CRFHP2030	20	3	40	100	20	4

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O				

FHP+ series

創 新 Innovation :

結合粗銑精銑的優點，金屬去除率高且快，並獲得光滑的表面質量。

Combine the advantage of roughing and finishing milling ,remove chip efficiently and smooth surface quality.

環 保 Environment Protection :

AlCrSiN(nACro)奈米氮化鋁鉻矽塗層乾式切削技術，節省冷卻潤滑設備投資、降低加工成本、減少資源消耗、防止切削液污染環境、實現綠色加工。

Excellent AlCrSiN(nACro)coating for dry machining
Reduction of coolant oil
Reduction of production cost
Reduction of Energy Consumption
Reduction of cleaning Effort
Economical Environmentally manufacturing

本產品已獲德國專利
字號：Nr.20 2007 008 896.5
Patent of Germany
No:Nr.20 2007 008 896.5
多國專利申請中
Apply in the multinational patent,

本產品已獲日本專利
字號：Nr.3145278
Patent of Japan
No:Nr.3145278
多國專利申請中
Apply in the multinational patent,

創 新 · 環 保 · 專 利

Innovation · Environmental Protection · Patent

Details 產品特點

UMG-FHPC
UMG-FHPMC
UMG-FHPLC
UMG-CR-FHPC

- The FHP+ endmill features 4 flutes with a 45° helix,four serrated flutes and four continuous flutes.
- The tool is fully effective and enables running at rough machining parameters, resulting in finish surface quality.
- The unique tool design reduces vibration at high load applications.
- The tool produces short and long chips simultaneously. This chip mixture is evacuated more easily than each individual chip type an excellent solution in slotting and cavity milling applications.
- One tool change and setup time can be eliminated.
- A single tool replaces the roughing and finishing endmills, dramatically reducing cycle time and increasing productivity.
- Extra tool position is gained on the machine.
- Eliminates the need to keep a large amount of stock.
- 4 flutes : 4 serrated plus 4 continuous flutes.
- Excellent performance and tool life.
- Suitable for all types of steel.
- Excellent performance in machining titanium, Inconel, stainless steel and high temperature alloys.

- FHP+立銑刀，45° 螺旋角，4螺旋刃，4螺旋刃帶鋸齒，4光滑螺旋刃
- 高效刀具，粗加工的切削參數，精加工的表面質量
- 獨特設計減小了高負荷下刀具的振顫;有不等斷削槽設計
- 短小切屑及長切屑同時產生，長短混合的切屑比單一類型的切屑更易於排出，是槽銑加工及型腔銑削的出色解決方案
- 僅一把刀具，無調試時間
- 僅一把銑刀就完成了粗銑及精銑加工，出色地減少了加工週期及提高了生產率
- 刀庫中多了一個安裝其他刀具的刀位
- 當銑刀規格繁多時，會很明顯地為您減少庫存量
- 最頂尖的AlCrSiN奈米金屬三元素薄膜
- 4個螺旋刃，4螺旋刃帶鋸齒，4光滑螺旋刃
- 表現卓越，刀具壽命長
- 加工鈦合金，鎳鉻鐵合金（inconel），不銹鋼及高溫合金時，表現不凡

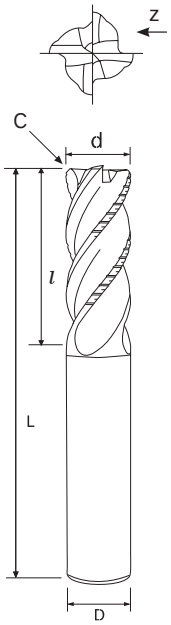
切 削 條件表 P386
Cutting Condition

FHP Plus Heavy duty

■ 加強版4刃重切削立銑刀

400 Nano | HRC ▶60 | 45° | nACRo | C

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm



UMG-FHPC (4 Flutes . Short)

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
FHPC060	6	13	60	6	4
FHPC080	8	19	60	8	4
FHPC100	10	22	75	10	4
FHPC120	12	26	100	12	4
FHPC160	16	35	100	16	4
FHPC200	20	40	100	20	4
FHPC250	25	50	110	25	4

UMG-FHPMC (4 Flutes . Medium)

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
FHPMC060	6	20	60	6	4
FHPMC080	8	25	75	8	4
FHPMC100	10	30	80	10	4
FHPMC120	12	35	100	12	4
FHPMC160	16	45	110	16	4
FHPMC200	20	50	125	20	4
FHPMC250	25	60	125	25	4

UMG-FHPLC (4 Flutes . Long)

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
FHPLC060	6	25	75	6	4
FHPLC080	8	30	75	8	4
FHPLC100	10	35	80	10	4
FHPLC120	12	40	100	12	4
FHPLC160	16	55	110	16	4
FHPLC200	20	60	125	20	4
FHPLC250	25	80	160	25	4

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O	X	O	O	

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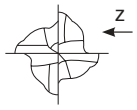
Unit/單位: mm

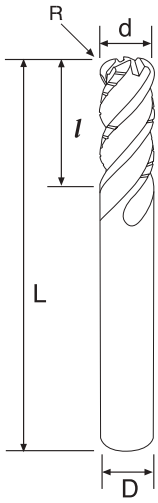
FHP Plus Heavy duty

■ 加強版4刃重切削圓鼻刀

400 Nano | HRC ▶60 | 45° | nACRo | R

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm





UMG-CR-FHPC (4 Flutes . Short with Corner Radius)

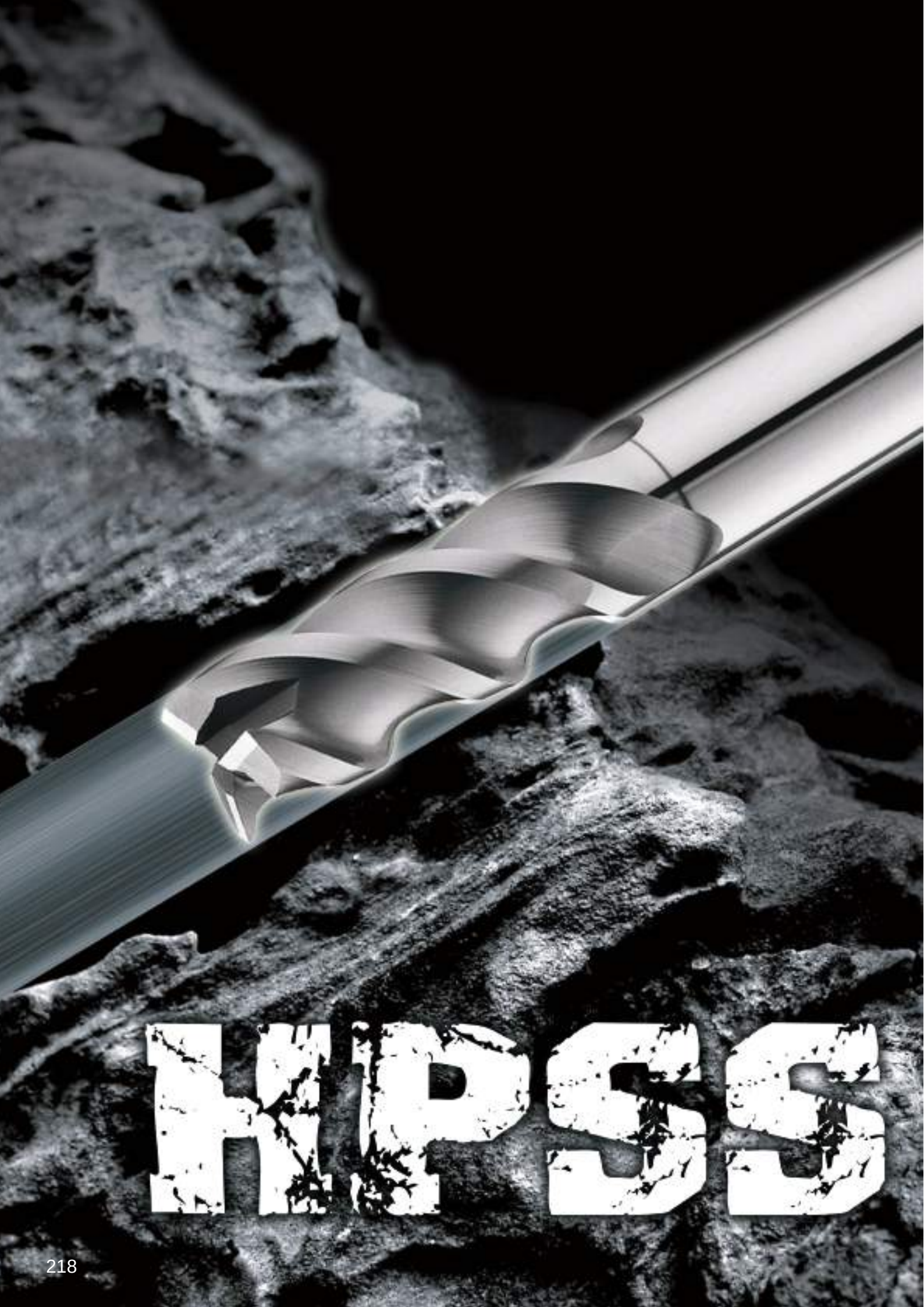
Mode 型號	Diameter d 直徑	Corner Radius R 角	Flute Length *l* 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flutes Z 刃數
CRFHPC0603	6	0.3	13	60	6	4
CRFHPC0605	6	0.5	13	60	6	4
CRFHPC0610	6	1	13	60	6	4
CRFHPC0803	8	0.3	19	60	8	4
CRFHPC0805	8	0.5	19	60	8	4
CRFHPC0810	8	1	19	60	8	4
CRFHPC0815	8	1.5	19	60	8	4
CRFHPC0820	8	2	19	60	8	4
CRFHPC1003	10	0.3	22	75	10	4
CRFHPC1005	10	0.5	22	75	10	4
CRFHPC1010	10	1	22	75	10	4
CRFHPC1015	10	1.5	22	75	10	4
CRFHPC1020	10	2	22	75	10	4
CRFHPC1030	10	3	22	75	10	4
CRFHPC1205	12	0.5	26	100	12	4
CRFHPC1210	12	1	26	100	12	4
CRFHPC1215	12	1.5	26	100	12	4
CRFHPC1220	12	2	26	100	12	4
CRFHPC1230	12	3	26	100	12	4
CRFHPC1610	16	1	35	100	16	4
CRFHPC1615	16	1.5	35	100	16	4
CRFHPC1620	16	2	35	100	16	4
CRFHPC1630	16	3	35	100	16	4
CRFHPC2010	20	1	40	100	20	4
CRFHPC2015	20	1.5	40	100	20	4
CRFHPC2020	20	2	40	100	20	4
CRFHPC2030	20	3	40	100	20	4

Type of machining Process 多樣加工型態例

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O	X	O	O	


HPSS

High Speed Pluging
High Speed Slotting
High Speed Sidemilling

HPSS

長壽命

Long tool life

防止角部崩損

Cutting edges designed to prevent chipping at corners

最佳設計的底刃容屑槽

Optimized chip pocket at end of cutting edge

刀徑容許公差 0 ~ -0.02mm

Tool diameter tolerance 0 ~ -0.02mm for all size

特殊排屑槽

Smooth chip flow due to high potential

奈米超硬底材、驚異高抗損性、優異耐磨耗性

Superior wear and chipping resistance due to optimally matched coating and carbide material

全新複合奈米薄膜

A new SS **AlCrN** coating

一支刀具可應用於軸切削、槽切削和插銑

This endmill can be applied to both plugging and slotting

高效能、高精度加工

加工時間縮減20%~50%可行

Save time to 20% ~ 50% possible

高能率加工

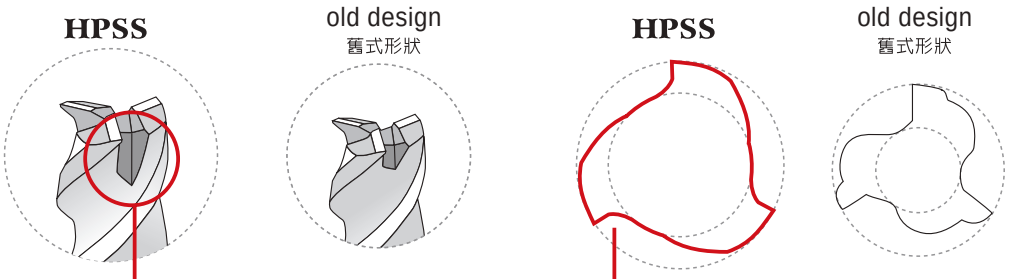
低摩擦、高排屑性

Smooth connection between flute and shank prevents a condition of stress

多功能

插銑、側銑、溝加工一次完成，產能速增

■ 進化的3枚刀刃形狀



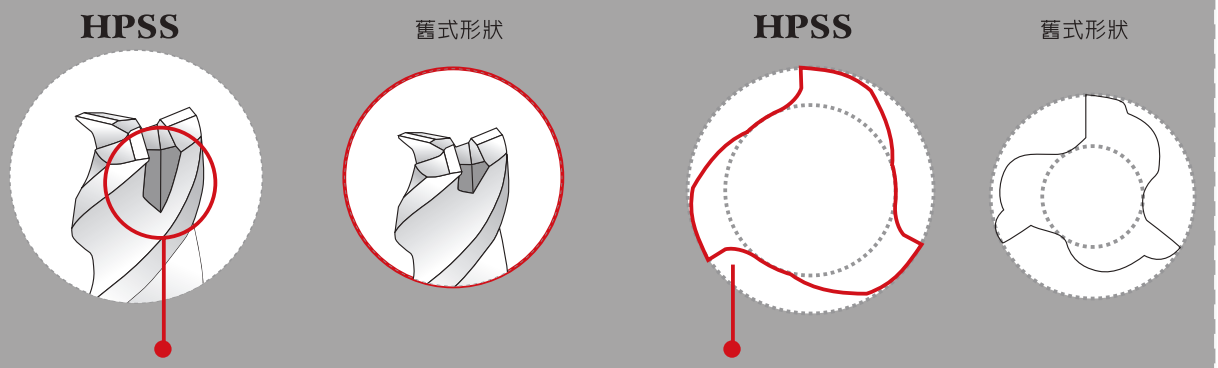
插銑時底刃排屑性能大幅提升
Improve chip removing during the sloting

增強側銑時剛性、提高排屑性能
Advanced tool disign.Improve tools life.

Unit/單位: mm

特點一

進化的3枚刀刃形狀



Slot 插銑時底刃排屑性能大幅提昇

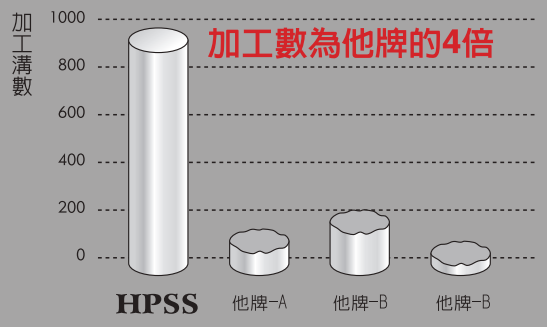
Sidemilling 側銑時剛性增強排屑性能良好

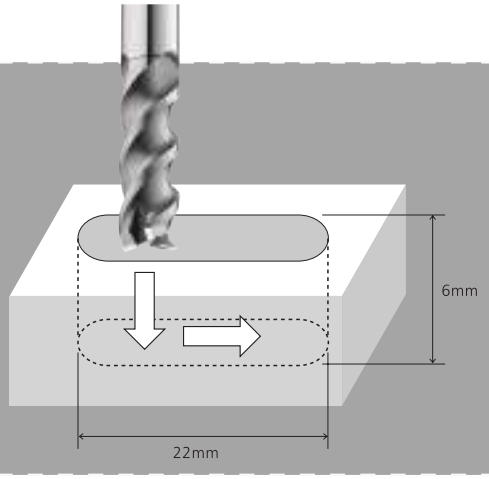
特點二

本銑刀同時具有鑽頭、插銑、溝加工、側面加工等多功能

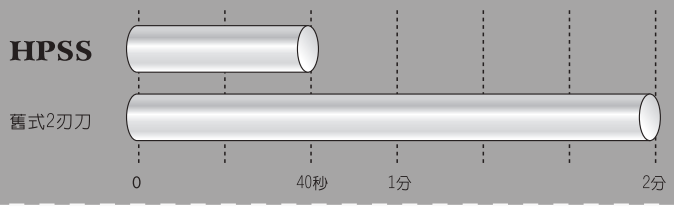
This multi-function endmill can be applied to plung, slot and side working.

溝加工範例一





溝加工範例二



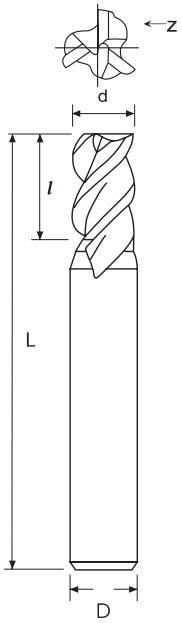
加工時間大幅縮短為1/3

HPSS Super plugging+Slotting

■ 插銑 / 溝銑 二合一

400 Nano | HRC ▶45 | 45° | SS

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



HPSS

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
HPSS0200	2	4	50	6	3
HPSS0250	2.5	5	50	6	3
HPSS0300	3	6	50	6	3
HPSS0350	3.5	8	50	6	3
HPSS0400	4	8	50	6	3
HPSS0450	4.5	10	50	6	3
HPSS0500	5	10	50	6	3
HPSS0550	5.5	13	50	6	3
HPSS0600	6	13	60	6	3
HPSS0650	6.5	16	60	8	3
HPSS0700	7	16	60	8	3
HPSS0750	7.5	16	60	8	3
HPSS0800	8	19	60	8	3
HPSS0850	8.5	19	75	10	3
HPSS0900	9	19	75	10	3
HPSS0950	9.5	19	75	10	3
HPSS1000	10	22	75	10	3
HPSS1100	11	22	75	12	3
HPSS1200	12	26	100	12	3
HPSS1300	13	26	100	14	3
HPSS1400	14	26	100	14	3
HPSS1500	15	26	100	16	3
HPSS1600	16	30	100	16	3
HPSS2000	20	32	100	20	3

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	O						

KK Series

獲德國專利　字號：Nr.20 2006 014 089.1
Patent of Germany No:Nr.20 2006 014 089.1
多國專利申請中
Apply in the multinational patent.

獲日本專利　字號：Nr.3145278
Patent of Japan No:Nr.3145278
多國專利申請中
Apply in the multinational patent.

獲中國專利　字號：ZL 2006 2 0124295.4
Patent of China No:ZL 2006 2 0124295.4
多國專利申請中
Apply in the multinational patent.

獲台灣專利　字號：新型第　M 303075 號
Patent of Taiwan No:M 303075
多國專利申請中
Apply in the multinational patent.

Features 產品特點

Two flutes with four teeth, Four flutes with eight teeth, High performance, High efficient, double tooling life, saving time and cost.
Adding second cutting teeth near the major cutting teeth will improve the cutting performance greatly. The meaning of this new development is like the second razor blade innovating the shaving experience. KK is developed according to the innovation of razor. The characteristic of KK endmill is 2 flutes with 4, 3 flutes with 6 teeth, 4 flutes with 8 teeth, 5 flutes with 10 teeth. Geometric appearance of endmill creates longer tooling life, low vibration, high feed rate, and smooth surface. The reason of longer tooling life is when the major tooth wear, the second tooth is still shape. Longer tooling life also benefit to reduce the horizontal vibration. Close distance between two teeth make the cutting edge produce irregular touch with working material and reduce harmful resonance. It contributes to control vibration that changes of helix angle between every group tooth
Reduction of cutting load of per teeth, 2 teeth enable increase feed rate (for each group tooth , the cutting load of second tooth is less than first tooth so the cutting area of econd is smaller than first ones)
Low vibration and cutting flute sharpness with more lasting edge make a contribution to improvement of surface accuracy.
Stocked item: Dia 6mm~25mm
Coating: KKH nACo
KKM Si
KKF、KKR nACro

二槽四刃、四槽八刃、多刃成精、效率加倍，壽命加倍、省時省力如果在這種傳統的刀具上離原來那個切削刃距離較近的地方加上第二個切削刃，將會極大地改善此類端銑刀的性能。這個發明帶來的意義正像剃鬚刀的第二塊刀片革新了剃須的體驗樣。根據這個發明生產出來的端銑刀如附圖所示。

這種“KK系列”端銑刀特徵是二槽四刃，三槽六刃、四槽八刃或五槽十刃。這種幾何表面為端銑刀提供了更長的刀具壽命、更低的振動、更高的進給量、更高的表面光潔度。刀具壽命的延長，是由於主刃磨損時，第二刃依然保持相對的鋒利。刀具壽命的延長同樣也受益於切削過程中振動水平的降低。兩齒間比較近的距離，使得齒與加工件間產生無規律接觸，從而極大地減少產生有害振動的諧波。每組切削刃之間變化的螺旋角也有助於控制振動。

因為每一切削刃切屑量減少，刀刃的加倍能使進給量成比例地增長。（對每一副切削刃而言，第二刃的切屑量確實比第一齒要少。當然，第二刃產生的切屑尺寸也相對較小）。低振動及切削刃更持久的鋒利度為表面加工精度的提高做出了貢獻。這種端銑刀目前可提供直徑6mm到25mm的規格。
在最後完成工序時會塗上一層塗層。

First Diameter (Roughing) 第一外徑（粗胚）		Scenod Diameter (Finishing) 第二外徑（精銑）
Diameter 刃　徑	Tolerance（Unit：mm） 公差（單位：mm）	Tolerance（Unit：mm） 公差（單位：mm）
6mm	-0.08~-0.10	+0.00~-0.02
8mm	-0.10~-0.12	+0.00~-0.02
10mm	-0.12~-0.15	+0.00~-0.02
12mm	-0.15~-0.18	+0.00~-0.02
16mm	-0.20~-0.24	+0.00~-0.02
20mm	-0.24~-0.30	+0.00~-0.02

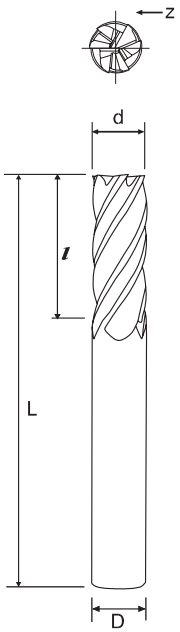
Unit/單位: mm

KKH Multi Flutes High Efficiency

■ 多刃高效立銑刀

400 Nano | HRC ▶65 | 35° | nACo

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



KKH

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
KKH0602	6	16	50	6	2
KKH0802	8	19	60	8	2
KKH1002	10	22	75	10	2
KKH1202	12	26	75	12	2
KKH1602	16	35	110	16	2
KKH2002	20	40	110	20	2
KKH2502	25	45	110	25	2

KKH

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
KKH0603	6	16	50	6	3
KKH0803	8	19	60	8	3
KKH1003	10	25	75	10	3
KKH1203	12	30	75	12	3
KKH1603	16	40	110	16	3
KKH2003	20	45	110	20	3
KKH2503	25	50	110	25	3

KKH

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
KKH1004	10	25	75	10	4
KKH1204	12	30	75	12	4
KKH1604	16	40	110	16	4
KKH2004	20	45	110	20	4
KKH2504	25	50	110	25	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	◎	○			

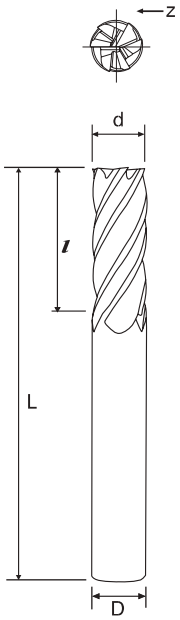
Unit/單位: mm

KKM Multi Flutes High Efficiency

■ 多刃高效立銑刀

400 Nano | HRC ▶55 | 35° | TiSiN

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm



KKM

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
KKM0602	6	16	50	6	2
KKM0802	8	19	60	8	2
KKM1002	10	22	75	10	2
KKM1202	12	26	75	12	2
KKM1602	16	35	110	16	2
KKM2002	20	40	110	20	2
KKM2502	25	45	110	25	2

KKM

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
KKM0603	6	16	50	6	3
KKM0803	8	19	60	8	3
KKM1003	10	25	75	10	3
KKM1203	12	30	75	12	3
KKM1603	16	40	110	16	3
KKM2003	20	45	110	20	3
KKM2503	25	50	110	25	3

KKM

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
KKM1004	10	25	75	10	4
KKM1204	12	30	75	12	4
KKM1604	16	40	110	16	4
KKM2004	20	45	110	20	4
KKM2504	25	50	110	25	4

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	O				

KKF Multi Flutes High Efficiency

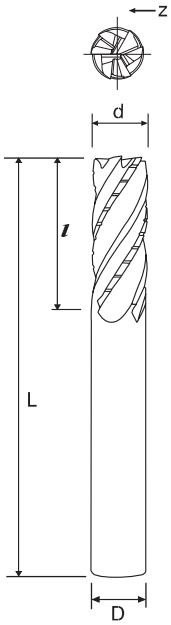
■ 多刃高效立銑刀

400 Nano | HRC ▶45 | 35° | nACRo

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

KKF

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
KKF0602	6	16	50	6	2
KKF0802	8	19	60	8	2
KKF1002	10	25	75	10	2
KKF1202	12	30	75	12	2
KKF1602	16	35	110	16	2
KKF2002	20	45	110	20	2



KKF

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
KKF0603	6	16	50	6	3
KKF0803	8	19	60	8	3
KKF1003	10	25	75	10	3
KKF1203	12	30	75	12	3
KKF1603	16	35	110	16	3
KKF2003	20	45	110	20	3

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○	○				

Unit/單位: mm

KKR Multi Flutes High Efficiency

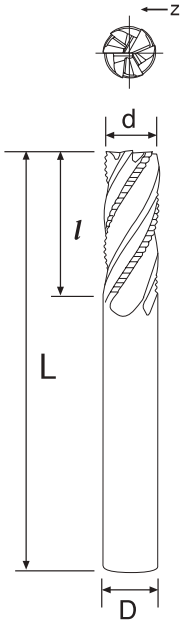
■ 多刃高效立銑刀

400 Nano | HRC ▶45 | 35° | nACRo

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm^2 Grain Size=0.4μm

KKR

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
KKR0602	6	16	50	6	2
KKR0802	8	19	60	8	2
KKR1002	10	25	75	10	2
KKR1202	12	30	75	12	2
KKR1602	16	35	110	16	2
KKR2002	20	45	110	20	2
KKR2502	25	50	110	25	2



KKR

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
KKR0603	6	16	50	6	3
KKR0803	8	19	60	8	3
KKR1003	10	25	75	10	3
KKR1203	12	30	75	12	3
KKR1603	16	35	110	16	3
KKR2003	20	45	110	20	3
KKR2503	25	50	110	25	3

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	O	O				

Unit/單位: mm

SH

Super High Hardness & Super High Speed Cutting

End Mill Series For High Hardness Steeles

高硬度鋼加工超長壽命
超高表面硬度・超高速加工
超高附著薄膜・超高硬度薄膜
震虎與 **Ion Bond** 技術合作開發

Long life for high hardness steel
Super high hardness, super high speed cutting
Super high adhesion coating & super high hardness coating

Super Coating SH

- 奈米複合塗層採用奈米晶格靶材，大幅改善附著效果，並且維持更亮的耐摩耗性。
- 非常出色地應用在塑膠模，尤其是在NAK鋼加工效率在2倍以上，並且在合金鋼NAK、碳鋼形成超長刀具壽命和高品質加工。
- 摩擦係數大幅改善，形成較低的切削溫度，所以乾式切削可行，超高速切削亦可行。
- Nano-composite coating which is improved the adhesion property without making the abrassive property lower by new coating mterial of nano-crystal.
- Excellent cutting is reached in machining plastic moulds, especially in NAK steels with over two times in machining efficiency. Long tool life and precision machining in carbon steels, alloy steels, NAK55 etc.
- Dry cutting applicable, because of less cutting heat by improving friction property very much and high speed cutting applicable.

Swiss & SPEED TIGER
Technological Cooperation

Unit/單位: mm

SH Super High Hardness & Super High Speed Cutting

End Mill Series For High Performace roughing

Super Hardness Steel Coating "SH" - SH Power Radius

產品特點 Features

採用先進奈米晶格SH塗層，擁有高附著性和高硬度
Developed NaNo SH Coating of high adhesion and high hardness is adopted.

長壽命 Long Tool Life • 工具壽命大大提昇 The tool life has drastically been improved
高精度 High Acuracy • 尺寸變化極少，精加工最適合 Less dimensional change, It's suitable for finishing

最新幾何刀刃形狀，擁有最高剛性Rx1保證，高精度R值
A new geometry is adopted to ensure rigidety and execllent R accuracy & specially cutting edge.

高能率 High Efficient • 強力重切削粗加工可行 A powerful roughing is available
高精度 High Acuracy • 高精度超精密加工 Highly accurate finish cutting is possible

- SH 系列強而有力的表現在形形色色的材質加工，從預熱鋼HRC45°到高硬度鋼HRC65°
- 特別應用在模具銑削 SH系列表現出無與倫比的超高速精度粗加工(超過一般圓鼻刀 3倍以上效率)
- R精度±0.01mm以下，尺寸摩耗小，高精密度精加工可行

- The tool exhibits it's power to various materials from pre-harden steel(45 HRC class to high hardness 65 HRC class)
- Especially for tp make possible the high performance roughing process on molds milling (3 times or more efficient than of a general radius endmill)
- R tolerance: ±0.01mm. Highly accurate finish cutting is possible

超高速進給、高能率切削三要素 Ultra high Feed cutting

R部刃形
Unique Corner Radius Geometry → 高強度 More stable cutting edge

低速高送の切削
Low Revolution, High Feed Cutting → 低振動 Low vibration

強化の刃口
Power Cutting Edge → 長壽命 Longer tool life

SH Series
Feed Over 10000 mm/min
¶i „ **10000 mm/min** ¥HW

工具和模具製造業 Tool and mould manufacturing

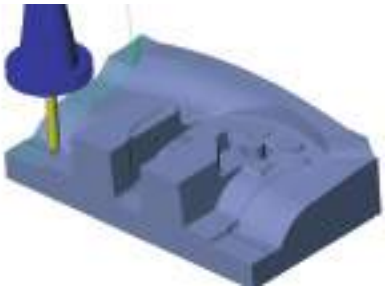
高速加工機器
High speed machining

高剛性機器
Hard machining

乾式機器
Dry machining

增加生產力和競爭力的秘訣
Keys to productivity and competitivity

How ? → 透過SH系列工具實現
Through SH tool performance



粗加工 Roughing 中加工 Semi-finishing	減少人員並且免去管理 Maximum use of machines (3 x 8) Reduced personnel without surveillance
精加工 Finishing	縮短生產週期，提高生產表面品質 Cycles as short as possible Quality of machined surface

切 削 條件表 P389
Cutting Condition

SH KTG Super High Hardness & Super High Speed Cutting Ball Nose

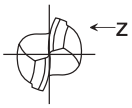
■ 超高硬度 / 超高速加工球刀

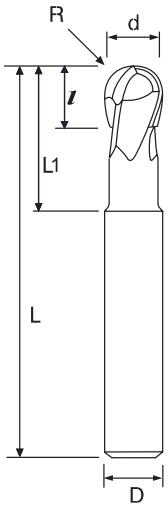
200 Nano | HRC ▶65 | 5° | SH

- Ultra Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm

SH KTG

Mode	Diameter	Radius	Flute Length	Efficient Length	Neck Dia	Full Length	Shank Diameter
型號	d 直徑	R 角	l 刃長	L1 有效長	頸徑	L 全長	D 柄徑
KTG0102SH	1	0.5	1	2.5	0.96	50	6
KTG0152SH	1.5	0.75	1.5	4	1.46	50	6
KTG0202SH	2	1	2	6	1.96	50	6
KTG0252SH	2.5	1.25	2.5	7	2.46	50	6
KTG0302SH	3	1.5	3	8	2.96	50	6
KTG4402SH	4	2	4	8	3.96	50	4
KTG0402SH	4	2	4	8	3.96	50	6
KTG0502SH	5	2.5	5	12	4.96	50	6
KTG0602SH	6	3	6	13	5.96	50	6
KTG0802SH	8	4	8	16	7.9	60	8
KTG1002SH	10	5	10	20	9.9	75	10
KTG1202SH	12	6	12	24	11.9	75	12





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	◎	◎	◎	◎			

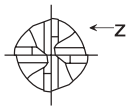
Unit/單位: mm

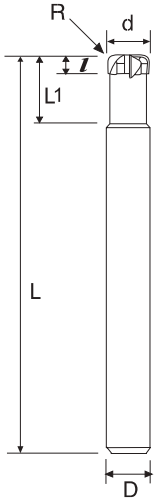
SH Super High Speed High Hardness

■ 超高硬度 / 超高速加工球刀

200 Nano | HRC ▶65 | 5° | SH

- Ultra Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm^2 Grain Size=0.2μm





SH KCR

Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Neck Dia	Full Length	Shank Diameter	Flutes
型號	d 直徑	R 角	l 刃長	L1 有效長	頸徑	L 全長	D 柄徑	Z 刃數
KCR0203	2	0.3	0.8	5	1.8	60	6	4
KCR0205	2	0.5	0.8	5	1.8	60	6	4
KCR0307	3	0.75	1.2	7.5	2.7	60	6	4
KCR0310	3	1	1.2	7.5	2.7	60	6	4
KCR0405	4	0.5	1.6	10	3.6	75	6	4
KCR0410	4	1	1.6	10	3.6	75	6	4
KCR0510	5	1	2	12	4.5	75	6	4
KCR0512	5	1.2	2	12	4.5	75	6	4
KCR0610	6	1	2.5	13	5.4	100	6	4
KCR0615	6	1.5	2.5	13	5.4	100	6	4
KCR0810	8	1	3.5	16	7.2	100	8	4
KCR0820	8	2	3.5	16	7.2	100	8	4
KCR0920	9	2	4	18	8.2	100	10	4
KCR1010	10	1	4	20	9	100	10	4
KCR1020	10	2	4	20	9	100	10	4
KCR1210	12	1	5	24	11	100	12	4
KCR1220	12	2	5	24	11	100	12	4
KCR1230	12	3	5	24	11	100	12	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	◎	◎	◎	◎			

SAVE TIME

SPEED TIGER®

BIG FOOT RADIUS ENDMILL

BALLNOSE ENDMILL

SAVE TIME

BIG FOOT RADIUS ENDMILL

長壽命

Long tool life

刀刃平順光滑

Smooth radiul relief

高效能

High efficient

刀徑容許公差 0 ~ -0.02mm

Tool diameter tolerance 0 ~ -0.02mm
for all size

高精度

High accuracy

奈米超硬底材、驚異高抗損性、優異耐磨耗性

Superior wear and chipping
resistance due to optimally matched
coating and carbide material

全新氮化鋁鈦

A new SH AℓTin coating

高效能、高精度加工

加工時間縮減20%~50%可行

高能率加工

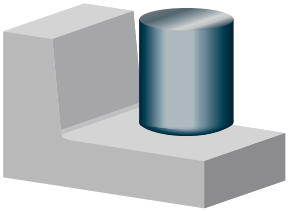
橢圓形狀，切削接觸面積增大
加工時間縮減20%~50%可行

長壽命

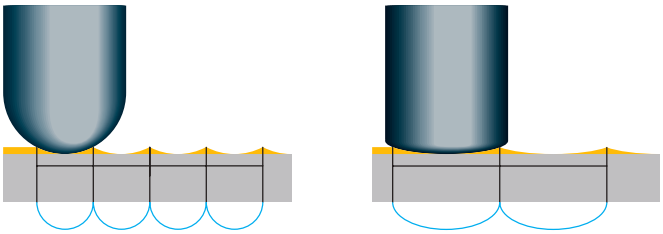
橢圓形狀同球型銑刀加工場合
走行距離大幅縮短
形成長壽命

↘加工資訊 CUTTING DATA

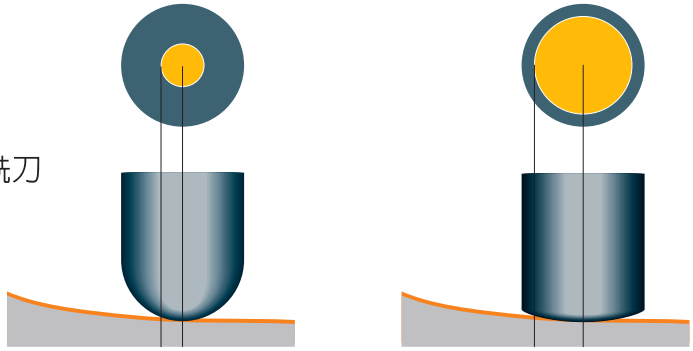
加工法-1：
加工面工具選擇效率良加工
Super smooth finished surface



加工法-2：
走行距離(加工時間)縮短
High efficiency milling by oval nose instead of ball end mill



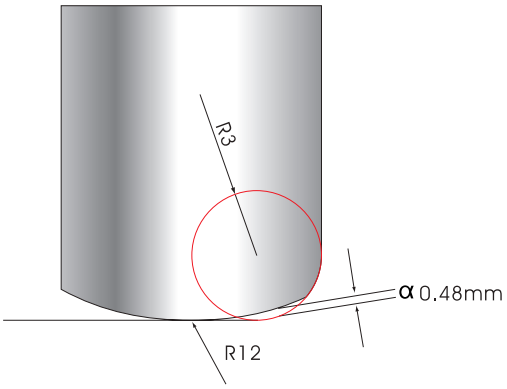
加工法-3：
高效率、低成本替代同R值球型銑刀
The efficiency is equal to one size larger ball



如何定義刀具形狀

大面積粗加工時程式輸入圓鼻刀，
取接近R值但勿超出R值，
殘料如右圖：

By inputting radius mill approximate corner R, insert R cutting remains processing as shown right is possible for roughing procedures.



BIG FOOT Super Remover

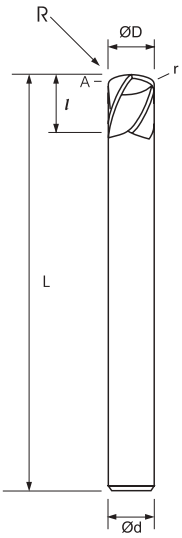
■ BIG FOOT 高移除率球刀

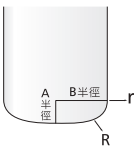
400 Nano | HRC ▶60 | 30° | SH | R ±0.01

- Ultra Micro Grain Carbide
- WC=87 Co=12 HRA=92.1 Rupture=3800N/mm² Grain Size=0.4μm

BIG FOOT

Mode	Diameter	Corner Radius			Corner	Flute Length	Full Length	Shank Diameter
型號	d 直徑	R 角	A 半徑	B 半徑	r	l 刃長	L 全長	D 柄徑
BFR06050	6	5	0.66	3	2	7	60	6
BFR06051	6	5	0.66	3	2	7	100	6
BFR06060	6	6	0.66	3	1.5	7	60	6
BFR06061	6	6	0.66	3	1.5	7	100	6
BFR08080	8	8	0.88	4	2	9	60	8
BFR08081	8	8	0.88	4	2	9	100	8
BFR10100	10	10	0.9	5	3	11	75	10
BFR10101	10	10	0.9	5	3	11	100	10
BFR12120	12	12	1.6	6	3	13	75	12
BFR12121	12	12	1.6	6	3	13	100	12
BFR12150	12	15	0.91	6	3	15	75	12
BFR12151	12	15	0.91	6	3	15	100	12
BFR16160	16	16	1.77	8	4	18	150	16
BFR16200	16	20	1.5	8	3	22	150	16





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	◎	◎	◎	◎			

SUS

Unceasing transcend self
Appear perfect limit

結合材料、研磨、塗層三要素而成的SUS系列銑刀提供了絕佳的耐磨性，可以說不局限於不銹鋼在一般加工也可得到長壽命。因為SSA薄膜提供了高氧化溫度、高硬度及抗沾粘特性，SUS系列銑刀在銑削不銹鋼加工上是不銹鋼加工上特有的損傷能力強，可得到穩定的長壽命新刀具，使用這款新刀具肯定可以為刀具壽命短且不穩定而煩惱的衆多不銹鋼加工用戶解決困難，以及在難切削材料加工中追求高速高效用戶降低成本。

Unit/單位: mm

SPEED TIGER

SUS Stainless Steel Expert

■ 不銹鋼專用立銑刀

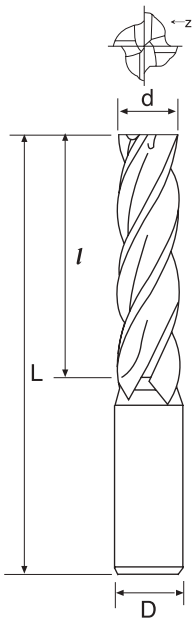
600 Nano | HRC ▶53 | 45° | SSA

- Ultra Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm² Grain Size=0.6μm

切 削 條件表 **P334**
Cutting Condition

SUS

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SUS0104	1	3	50	4	4
SUS0154	1.5	4	50	4	4
SUS0204	2	6	50	4	4
SUS0254	2.5	8	50	4	4
SUS0304	3	9	50	4	4
SUS6304	3	9	50	6	4
SUS0404	4	11	50	4	4
SUS6404	4	11	50	6	4
SUS0504	5	13	50	6	4
SUS0604	6	16	50	6	4
SUS0804	8	20	60	8	4
SUS1004	10	30	75	10	4
SUS1204	12	32	75	12	4



切 削 條件表 **P333**
Cutting Condition

SUSL

Mode	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
SUSL0104	1	4	50	4	4
SUSL0154	1.5	6	50	4	4
SUSL0204	2	8	50	4	4
SUSL0254	2.5	10	50	4	4
SUSL6304	3	12	50	6	4
SUSL6404	4	16	50	6	4
SUSL0504	5	20	60	6	4
SUSL0604	6	24	60	6	4
SUSL0804	8	35	75	8	4
SUSL1004	10	45	100	10	4
SUSL1204	12	45	100	12	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○					◎		

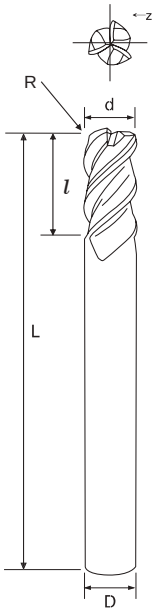
Corner Radius - Variable - lead - 3 Flutes

■ 3刃不等分割圓鼻刀

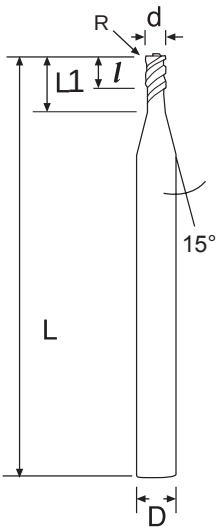
200 Nano | HRC ▶65 | R | nACo

- Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm

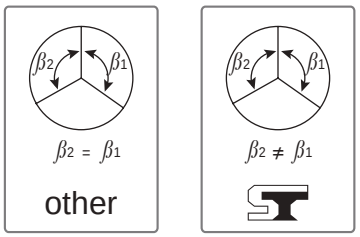
Mode	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes	Effective Leng by Inclined Angles				Type
型號	d 刃徑	R 角	l 刃長	L1有效長	L 全長	D 柄徑	Z 刃數	0.5°	1°	2°	3°	刀形
DAC020053	2	0.5	4	6	60	6	3	6.41	6.77	7.39	7.89	1
DAC030083	3	0.8	6	9	75	6	3	9.46	9.87	10.62	11.48	1
DAC040103	4	1	8	12	75	6	3	12.6	13.09	14.07	15.21	1
DAC050103	5	1	10	15	75	6	3	15.72	16.3	–	–	1
DAC060153	6	1.5	12	–	75	6	3	–	–	–	–	2
DAC080203	8	2	16	–	100	8	3	–	–	–	–	2
DAC100203	10	2	20	–	100	10	3	–	–	–	–	2
DAC120203	12	2	24	–	100	12	3	–	–	–	–	2
DAC160303	16	3	32	–	150	16	3	–	–	–	–	2
DAC200303	20	3	40	–	150	20	3	–	–	–	–	2



Type2



Type1



1.Milling For All Hard Working Material
適用各式難切削材

2.Unique Variable Shape, Super Vibration Resistance
不等分割設計, 降低切削的震動

3.Perfect Technology, Excellent Cutting Surface
高精密刀具, 切削表面更光滑平順

4.Less Working Distress, Longer Tool Life
有效降低加工時間, 刀具壽命更長.

5.Unbalance Flute Design For Fast Chip Remove
特殊排削溝設計, 排削更順暢

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	◎	○		

Unit/單位: mm

SPEED TIGER

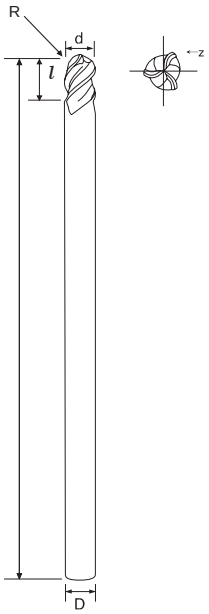
Ball Nose - 3 different flutes

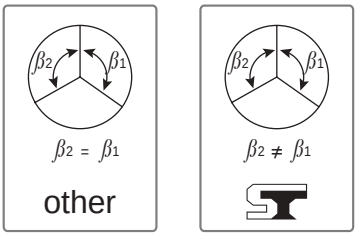
■ 3刃不等分割球刀

200 Nano | HRC ▶65 | nACo

- Micro Grain Carbide
- WC=91 Co=9 HRA=93.2 Rupture=4000N/mm² Grain Size=0.2μm

MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
DAB0103	6	0.5	1.5	60	6	3
DAB0203	6	1	3	60	6	3
DAB0303	6	1.5	4.5	75	6	3
DAB0403	6	2	6	75	6	3
DAB0603	6	2.5	7.5	75	6	3
DABM0603	6	3	9	75	6	3
DABL0603	6	3	9	100	6	3
DAB0803	8	4	12	100	8	3
DABL0803	8	4	12	120	8	3
DAB1003	10	5	15	100	10	3
DABL1003	10	5	15	130	10	3
DAB1203	12	6	18	100	12	3
DABL1203	12	6	18	150	12	3
DAB1603	16	8	24	150	16	3
DAB2003	20	10	30	150	20	3
DABL2003	20	10	30	200	20	3





1. Milling For All Hard Working Material
   適用各式難切削材
2. Unique Variable Shape, Super Vibration Resistance
   不等分割設計，降低切削的震動
3. Perfect Technology, Excellent Cutting Surface
   高精密刀具，切削表面更光滑平順
4. Less Working Distress, Longer Tool Life
   有效降低加工時間，刀具壽命更長.
5. Unbalance Flute Design For Fast Chip Remove
   特殊排削溝設計，排削更順暢

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	◎	◎	◎	○		

SBS
AES5
AES5
KTGS
KCRS
SBS
PES
SES
RTAS
SES
RTAS
Insert Price
End Mill Function
& Performance
Power Tips
Products Series
Accessibility
Superior Access
impossible to access
access possible
possible to perform deep cavity milling

KTGS

Developed NaNo nACo Coating of high adhesion and high hardhess is adopted.
Long Tool Life The tool life has drastically been improved
High Acuracy Less dimensional change, It's suitable for finishing work
A new geometry is adopted to ensure rigidety and execllent R accuracy & specially cutting edge.
High Efficient A powerful roughing is available
High Accuracy Highly accurate finish cutting is possible
The tool exhibits it's power to various materials from pre-harden steel
（45 HRC class to high hardness 65 HRC class）
Especially for pre-harden steel cutting, this tool shows incomparably longer life than with the tool of conventional type （3 times or more longer than of a general TiAln material）R tolerance:±0.01mm.Highly accurate finish cutting is possible

KCRS

Developed NaNo nACo Coating of high adhesion and high hardhess is adopted.
Long Tool Life The tool life has drastically been improved
High Acuracy Less dimensional change, It's suitable for finishing work
A new geometry is adopted to ensure rigidety and execllent R accuracy & specially cutting edge.
High Efficient A powerful roughing is available
High Accuracy Highly accurate finish cutting is possible
The tool exhibits it's power to various materials from pre-harden steel
（45 HRC class to high hardness 65 HRC class）
Especially for make the high performance roughing process on molds milling （3 times or more efficient than of a general radius endmill）
R tolerance:±0.01mm.Highly accurate finish cutting is possible

AE5S

Square type End Mill for Aluminum
Due to Helix angle 55 degree of tool design, the chip evacuation is more efficiently for high cutting speed, also has a much lower shaking of which enhances the accurate in cutting.

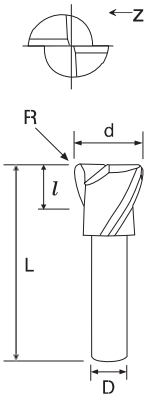
切 削 條件表 P376
Cutting Condition

SES Square Tip - 2 & 4 flutes

■ 平刀頭2刃 / 4刃

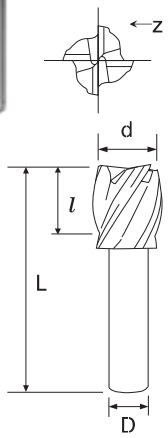
600 Nano | HRC ▶45 | 35° | nACRo

2 Flutes - 2刃



MODE	Diameter	Flute Length	Shank Diameter	Full Length	Flutes
型號	d 刃徑	l 刃長	D 柄徑	L 全長	Z 刃數
SES0802 nACRo	8	6	6	20	2
SES1002 nACRo	10	8	6	24	2
SES1202 nACRo	12	9	6	26	2
SES1602 nACRo	16	12	10	32	2
SES2002 nACRo	20	15	12	35	2

4 Flutes - 4刃



MODE	Diameter	Flute Length	Shank Diameter	Full Length	Flutes
型號	d 刃徑	l 刃長	D 柄徑	L 全長	Z 刃數
SES0804 nACRo	8	6	6	20	4
SES1004 nACRo	10	8	6	24	4
SES1204 nACRo	12	9	6	26	4
SES1604 nACRo	16	12	10	32	4
SES2004 nACRo	20	15	12	35	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	○	○	○				

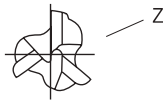
Unit/單位: mm

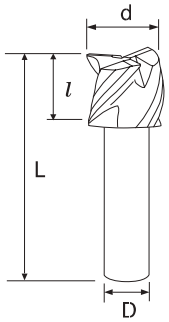
PES Square tip - 3 flutes Helix Angle 45

■ 平刀頭3刃45°

600 Nano | HRC ▶45 | 45° | nACRo

MODE	Diameter	Flute Length	Shank Diameter	Full Length	Flutes
型號	d 刃徑	ℓ 刃長	D 柄徑	L 全長	Z 刃數
PES0803 nACRo	8	6	6	20	3
PES1003 nACRo	10	8	6	24	3
PES1203 nACRo	12	9	6	26	3
PES1603 nACRo	16	12	10	32	3
PES2003 nACRo	20	15	12	35	3





Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	O	O					

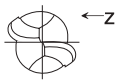
SBS Ball Nose Tip - 2 & 4 flutes

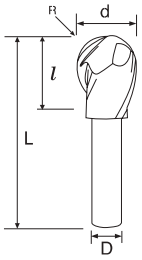
■ 球形刀頭2刃/4刃

600 Nano | HRC ▶50 | 35° | nACRo

切 削 條件表 **P341**
Cutting Condition

2 Flutes - 2刃

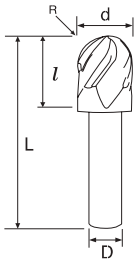




MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SBS0802 nACRo	8	4	6	20	6	2
SBS1002 nACRo	10	5	8	24	6	2
SBS1202 nACRo	12	6	9	26	6	2
SBS1602 nACRo	16	8	12	32	10	2
SBS2002 nACRo	20	10	15	35	12	2

切 削 條件表 **P400**
Cutting Condition

4 Flutes - 4刃



MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
SBS0804 nACRo	8	4	6	20	6	4
SBS1004 nACRo	10	5	8	24	6	4
SBS1204 nACRo	12	6	9	26	6	4
SBS1604 nACRo	16	8	12	32	10	4
SBS2004 nACRo	20	10	15	35	12	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○	○				

Unit/單位: mm

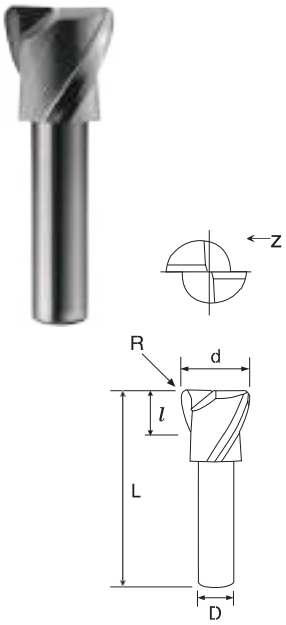
RTAS Corner Radius Tip - 2 & 4 flutes

■ 圓鼻刀頭2刃/4刃

600 Nano | HRC ▶45 | 35° | nACRo | R

切 削 條件表 **P380**
Cutting Condition

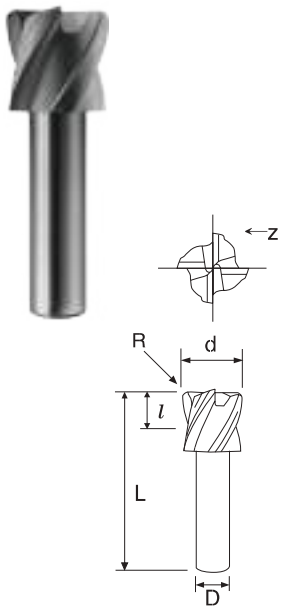
2 Flutes - 2刃



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
RTAS080052 nACRo	8	0.5	6	20	6	2
RTAS080102 nACRo	8	1	6	20	6	2
RTAS080202 nACRo	8	2	6	20	6	2
RTAS100052 nACRo	10	0.5	8	24	6	2
RTAS100102 nACRo	10	1	8	24	6	2
RTAS100202 nACRo	10	2	8	24	6	2
RTAS120052 nACRo	12	0.5	9	26	6	2
RTAS120102 nACRo	12	1	9	26	6	2
RTAS120202 nACRo	12	2	9	26	6	2
RTAS160102 nACRo	16	1	12	32	10	2
RTAS160202 nACRo	16	2	12	32	10	2
RTAS160302 nACRo	16	3	12	32	10	2
RTAS200102 nACRo	20	1	15	35	12	2
RTAS200202 nACRo	20	2	15	35	12	2
RTAS200302 nACRo	20	3	15	35	12	2

切 削 條件表 **P381**
Cutting Condition

4 Flutes - 4刃



MODE	Diameter	Corner Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L 全長	D 柄徑	Z 刃數
RTAS080054 nACRo	8	0.5	6	20	6	4
RTAS080104 nACRo	8	1	6	20	6	4
RTAS080204 nACRo	8	2	6	20	6	4
RTAS100054 nACRo	10	0.5	8	24	6	4
RTAS100104 nACRo	10	1	8	24	6	4
RTAS100204 nACRo	10	2	8	24	6	4
RTAS120054 nACRo	12	0.5	9	26	6	4
RTAS120104 nACRo	12	1	9	26	6	4
RTAS120204 nACRo	12	2	9	26	6	4
RTAS160104 nACRo	16	1	12	32	10	4
RTAS160204 nACRo	16	2	12	32	10	4
RTAS160304 nACRo	16	3	12	32	10	4
RTAS200104 nACRo	20	1	15	35	12	4
RTAS200204 nACRo	20	2	15	35	12	4
RTAS200304 nACRo	20	3	15	35	12	4

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○	○				

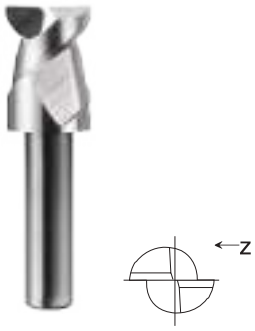
AES5 Square Tip - For Aluminum Alloy - 2 & 3 flutes

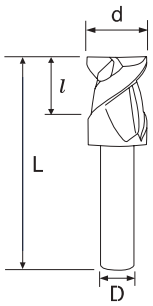
■ 鋁用刀頭2刃/3刃

600 Nano | HRC ▶40 | 55°

切 削 條件表 **P382**
Cutting Condition

2 Flutes - 2刃

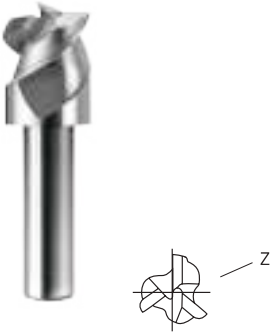


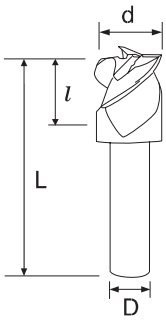


MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AES50802	8	6	20	6	2
AES51002	10	8	24	6	2
AES51202	12	9	26	6	2
AES51602	16	12	32	10	2
AES52002	20	15	35	12	2

切 削 條件表 **P383**
Cutting Condition

3 Flutes - 3刃





MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
AES50803	8	6	20	6	3
AES51003	10	8	24	6	3
AES51203	12	9	26	6	3
AES51603	16	12	32	10	3
AES52003	20	15	35	12	3

產品特點

鋁加工專用立銑刀
採用55° 螺旋角之設計，使排屑順暢；高速加工時不易發生顫動，可提升加工精度。

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
X	X	X	X	X	X	X	◎	◎

Unit/單位: mm

FHPCS Heavy-duty operation tip - 4 flutes

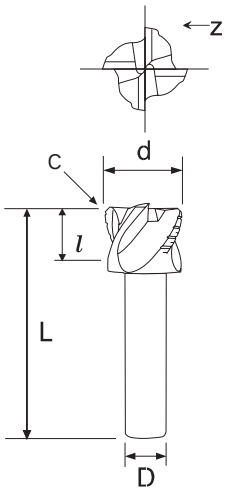
■ 重切削平刀頭4刃

400 Nano | HRC ▶50 | 45° | nACRo | C

MODE	Diameter	Flute Length	Shank Diameter	Full Length	Helix Angle	Flutes
型 號	d 刃徑	l 刃長	D 柄徑	L 全長	螺旋角度	Z 刃數
FHPCS080 nACRo	8	6	6	20	45˚	4
FHPCS100 nACRo	10	8	6	24	45˚	4
FHPCS120 nACRo	12	9	6	26	45˚	4
FHPCS160 nACRo	16	12	10	32	45˚	4
FHPCS200 nACRo	20	15	12	35	45˚	4

Details 產品特點

The FHPCS endmill features 4 flutes with a 45° helix,four serrated flutes and four continuous flutes.
The tool is fully effective and enables running at rough machining parameters, resulting in finish surface quality.
The unique tool design reduces vibration at high load applications.
The tool produces short and long chips simultaneously.
This chip mixture is evacuated more easily than each individual chip type an excellent solution in slotting and cavity milling applications.
One tool change and setup time can be eliminated.
A single tool replaces the roughing and finishing endmills, dramatically reducing cycle time and increasing productivity.
Extra tool position is gained on the machine.
Eliminates the need to keep a large amount of stock.
Superior nACRo nano metallic element coating.
4 flutes : 4 serrated plus 4 continuous flutes.
Excellent performance and tool life.
Suitable for all types of steel.
Excellent performance in machining titanium, Inconel, stainless steel and high temperature alloys.



FHPCS立銑刀，45° 螺旋角，4螺旋刃，4螺旋刃帶鋸齒，4光滑螺旋刃
高效刀具，粗加工的切削參數，精加工的表面質量
獨特設計減小了高負荷下刀具的振顫;有不等斷削槽設計
短小切屑及長切屑同時產生，長短混合的切屑比單一類型的切屑更易於排出，
是槽銑加工及型腔銑削的出色解決方案
僅一把刀具，無調試時間
僅一把銑刀就完成了粗銑及精銑加工，出色地減少了加工週期及提高了生產率
刀庫中多了一個安裝其他刀具的刀位
當銑刀規格繁多時，會很明顯地為您減少庫存量
最頂尖的nACRo奈米金屬三元素薄膜
4個螺旋刃，4螺旋刃帶鋸齒，4光滑螺旋刃
表現卓越，刀具壽命長
適用於所有類型的鋼製品加工
加工鈦合金，鎳鉻鐵合金（inconel），不銹鋼及高溫合金時，表現不凡

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○					

切削條件表 P374
Cutting Condition

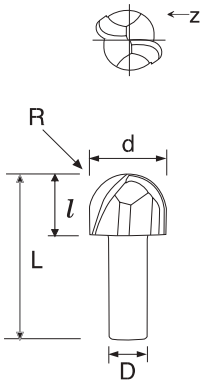
KTGS Super high speed cutting with high hardness Ball Nose Tip - 2 flutes

■ 超高速、超高硬度切削球形刀頭2刃

200 Nano | HRC ▶60 | 5° | nACo

MODE	Diameter	Radius	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 值	l 刃長	L 全長	D 柄徑	Z 刃數
KTGS0802 nACo	8	4	6	20	6	2
KTGS1002 nACo	10	5	8	24	6	2
KTGS1202 nACo	12	6	9	26	6	2
KTGS1602 nACo	16	8	12	32	10	2
KTGS2002 nACo	20	10	15	35	12	2

產品特點



採用先進奈米晶格nACo塗層，擁有高附著性和高硬度
長壽命　　工具壽命大大提升
高精度　　尺寸變化極少，精加工最適合
最新幾何刀刃形狀，擁有最高剛性保證，高精度R值
高能率　　強力重切削粗加工可行
高精度　　高精度超精密加工
KTGS nACo 系列強而有力的表現在形形色色的材質加工，從預熱鋼HRC45到高硬度鋼HRC65特別應用在預熱鋼切削KTGS nACo表現出無與倫比的超長壽命，非一般刀具能比（超過一般TiAlN3倍以上壽命）
R精度±0.01mm以下，尺寸磨耗小，高精密度精加工可行

Application 適用材質：　◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	◎				

Unit/單位: mm

KCRS Super high speed cutting with super high hardness - 4 flute

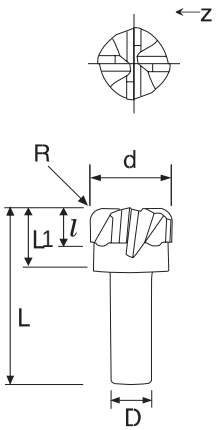
■ 超高速、超高硬度切削圓鼻刀頭4刃

200 Nano | HRC ▶60 | 5° | nACo | R

MODE	Diameter	Corner Radius	Flute Length	Efficient Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	R 角	l 刃長	L1 有效長	L 全長	D 柄徑	Z 刃數
KCRS0805 nACo	8	0.5	3.5	6	20	6	4
KCRS0810 nACo	8	1	3.5	6	20	6	4
KCRS0820 nACo	8	2	3.5	6	20	6	4
KCRS1005 nACo	10	0.5	4	8	24	6	4
KCRS1010 nACo	10	1	4	8	24	6	4
KCRS1020 nACo	10	2	4	8	24	6	4
KCRS1210 nACo	12	1	5	9	26	6	4
KCRS1220 nACo	12	2	5	9	26	6	4
KCRS1230 nACo	12	3	5	9	26	6	4
KCRS1610 nACo	16	1	7	12	32	10	4
KCRS1620 nACo	16	2	7	12	32	10	4
KCRS1630 nACo	16	3	7	12	32	10	4

產品特點

採用先進奈米晶格nACo塗層，擁有高附著性和高硬度
長壽命　　工具壽命大大提升
高精度　　尺寸變化極少，精加工最適合
最新幾何刀刃形狀，擁有最高剛性保證，高精度R值
高能率　　強力重切削粗加工可行
高精度　　高精度超精密加工
KCRS nACo 系列強而有力的表現在形形色色的材質加工，從預熱鋼HRC45到高硬度鋼HRC65特別應用在模具銑削KCRS nACo表現出無與倫比的超高速精度粗加工（超過一般圓鼻刀3倍以上效率）
R精度±0.01mm以下，尺寸磨耗小，高精密度精加工可行



Application 適用材質：　◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

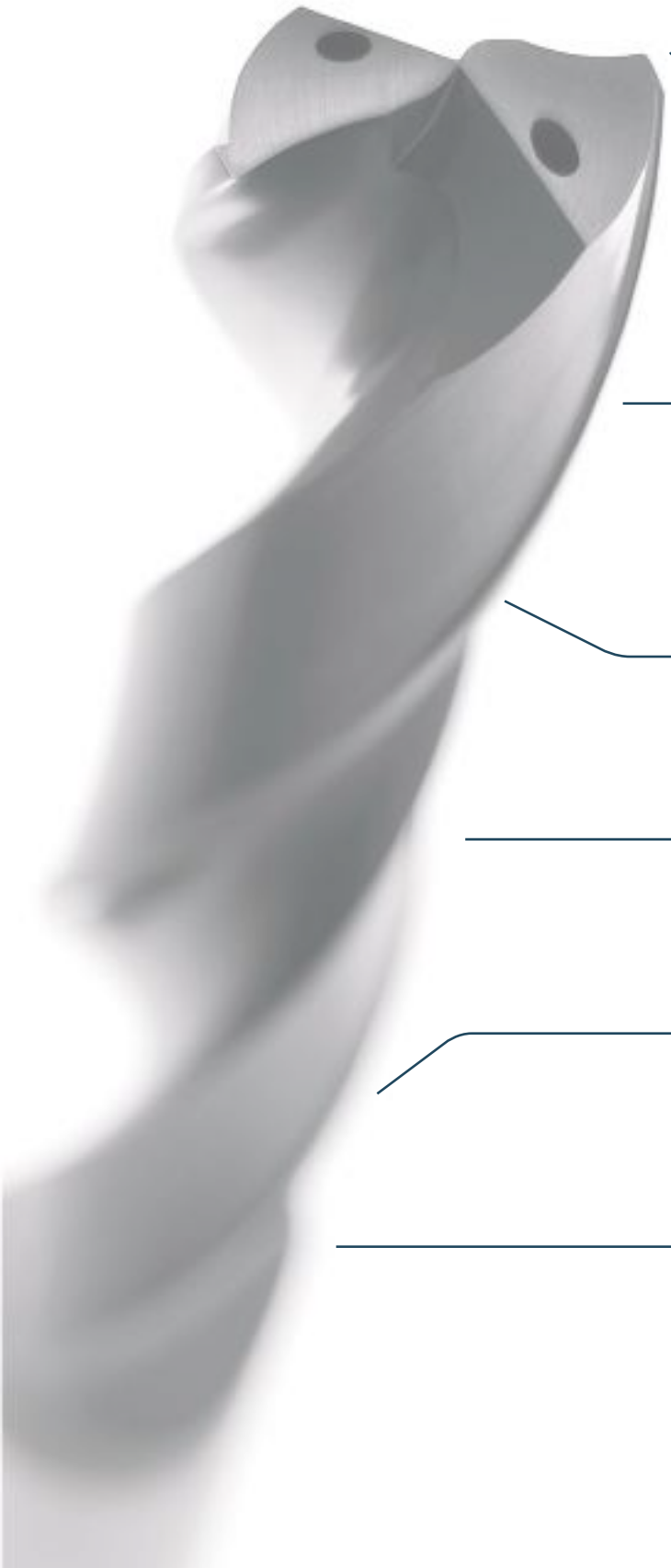
carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	○				

Drill Series

噴射鑽頭 / 油孔鑽頭
Jet Drill / Coolant Drill

- High Feed
- High Quality
- High Performance

■ Carbide Drill Series Technical Data



◀ Long tool life
長壽命

▶ Cutting edges designed to prevent chipping at corners
防止角部崩潰

◀ Optimized chip pocket at end of cutting edge
最佳設計的底刃容削槽

◀ Smooth chip flow due to high potential
特殊排削槽

◀A new nACro® coating
全新複合奈米薄膜

▶Tool diameter tolerance h7 mm for all size
刀刃容許公差 h7 mm

▶Superior wear and chipping resistance due to optimally matched coating and carbide material
奈米超硬底材驚異高抗損性
優異耐磨耗性

■Carbide Drill Series

Technical Data

Details 產品特點

It is suitable for high speed drilling in wet condition and drilling in dry condition.
適用於高速濕式加工和乾式加工2種方式

- 高效能、高精度加工

  Save time to 20%~50% possible
  加工時間縮減20%~50%可行

- 高能率加工

  Smooth connection between flute and shank prevents a condition of stress
  低磨擦、高排削性

- 多功能

  Working process finish in one time, increasing productivity
  加工一次完成，產能速增

nACro 塗層 nACro Coating

nACro 塗層表現了優異的耐熱性、極佳的與被切削材料的潤滑性，
可發揮高速濕式加工和乾式加工的卓越性能
nACro coat is wealthy in the lubrication with the work material and excellent to heat-resistance.

高可靠性 High reliability

使用了優異耐削性和耐磨性的特殊刀刃形狀，實現了穩定的加工
It is possible to operate stably due to new geometric.
Chipping resistance,wear resistance of corner edge is increased.

使用銑刀刀柄 End mill shank

使用了刀柄尺寸與銑刀的外徑
相匹配的立銑刀柄，實現了高精度鑽孔
Extremely precise positioning and stable drilled diameter.

螺旋孔直接給油大大的提高了排屑效率

內部給油方式使得高速的濕式加工和乾式加工成為可能
Excellent chip removal by spiral mist-holes
high speed drilling in wet condition and drilling in MQL

Unit/單位: mm

Selection Chart 選擇基準

Be sure to confirm the flute length by stocked tables.
根據不同的鑽頭尺寸，也有可能無法滿足表中所記載的加工深度。請務必確認尺寸表之溝槽長度。

Selection Chart according to drilling depth 根據被切削材料的選擇標準						
	Item 商品名稱	nACro 3XD 噴射鑽頭 nACro Drills 3SD	nACro 5XD 噴射鑽頭 nACro Drills 5SD	nACro 鑽頭 油孔型 (3SDC用) nACro Drills with Coolant-Hole(3SDC)	nACro 鑽頭 油孔型 (5SDC用) nACro Drills with Coolant-Hole(5SDC)	nACro 鑽頭 油孔型 (8SDC用) nACro Drills with Coolant-Hole(8SDC)
	Specification 規格	超硬鑽頭 Solid Drills				
	Sizes 尺寸範圍	ϕ3~ϕ20	ϕ3~ϕ20	ϕ4.1~ϕ16	ϕ3~ϕ30	ϕ3~ϕ12
	Drilling Depth 加工深度 (D:鑽頭直徑)	3D	5D	3D	5D	8D
	Cutting Fluids 切削油劑	濕式 & 乾式 Wet & Dry		濕式 & 霧式 Wet & MQL		
Selection Chart according to drilling depth 根據加工深度的選擇基準	Structual Steels SS400 普通結構軋鋼(~250HB)	◎	◎	◎	◎	◎
	Carbon Steels S45C 碳素鋼(~250HB)	◎	◎	◎	◎	◎
	Alloy Steels SCM, SCR 合金鋼(~30HRC)	◎	◎	◎	◎	◎
	Mold Steels SKD61 模具鋼(~30HRC)	◎	◎	◎	◎	◎
	Pre-Hardened Steels NAK, HAP 預硬化鋼(30~40HRC)	◎	◎	◎	◎	◎
	Hardened Steels SCM, SKD 調質鋼(30~40HRC)	◎	◎	◎	◎	◎
	Hardened Steels SKD61 高硬度鋼(40~50HRC)	◎	◎	◎	◎	◎
	Hardened Steels SKD11 高硬度鋼(50~55HRC)					
	Hardened Steels SKD, SKH 高硬度鋼(55~70HRC)	X	X	X	X	X
	Stainless Steels SUS304 奧氏体不銹鋼	X	X	O*	O*	O*
	Stainless Steels SUS420.440 馬氏体不銹鋼	O	O	O	O	O
	Nickel Alloy Titanium Alloy 鈦合金耐熱合金	X	X	X	X	X
	Cast Irons FC250 灰口鑄鐵	◎	◎	◎	◎	◎
	Ductile Cast Irons FCD450 球墨鑄鐵	◎	◎	◎	◎	◎
	Aluminum Alloys AC, ADC 鋁合金					
	Copper Alloy C1100 銅合金					

1 有高精度加工要求時，推薦使用濕式加工。For precision drilling, use drills in wet condition.
2 被切削材料硬度大於60 HRC時、請使用濕式加工。Use drills in wet condition in case of work material having over 60HRC hardness.
3 鑽頭直徑在1mm以下時，請使用濕式加工。Use in wet condition when drill size is under 1mm.
4 請採用內部給油方式。Use internal lubrication system.

* 請在加工的同時充分加入水溶性切削油劑。 Be used in wet condition.
◎：最適用 Excellent　　O：適用 Good　　X：不適用 Not Used　　無標示(No mark)：不推薦 Not recommended

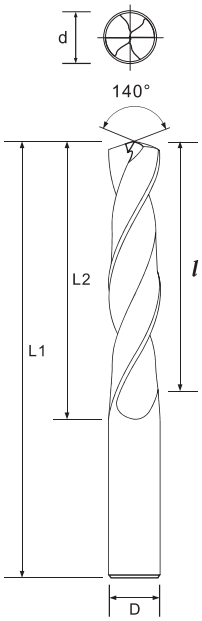
Unit/單位: mm

切 削 條件表 P393
Cutting Condition

3SD Jet Drill

■ 3SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SD0302	3	14	20	6	62
3SD0312	3.1	14	20	6	62
3SD0322	3.2	14	20	6	62
3SD0332	3.3	14	20	6	62
3SD0342	3.3	14	20	6	62
3SD0352	3.5	14	20	6	62
3SD0362	3.6	14	20	6	62
3SD0372	3.7	14	20	6	62
3SD0382	3.8	17	24	6	66
3SD0392	3.9	17	24	6	66
3SD0402	4	17	24	6	66
3SD0412	4.1	17	24	6	66
3SD0422	4.2	17	24	6	66
3SD0432	4.3	17	24	6	66
3SD0442	4.4	17	24	6	66
3SD0452	4.5	17	24	6	66
3SD0462	4.6	17	24	6	66
3SD0472	4.7	17	24	6	66
3SD0482	4.8	20	28	6	66
3SD0492	4.9	20	28	6	66
3SD0502	5	20	28	6	66
3SD0512	5.1	20	28	6	66
3SD0522	5.2	20	28	6	66
3SD0532	5.3	20	28	6	66
3SD0542	5.4	20	28	6	66
3SD0552	5.5	20	28	6	66
3SD0562	5.6	20	28	6	66
3SD0572	5.7	20	28	6	66
3SD0582	5.8	20	28	6	66

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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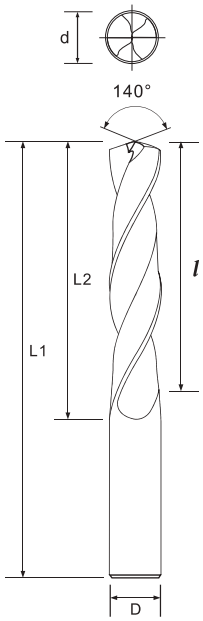
3SD Jet Drill

■ 3SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SD0592	5.9	20	28	6	66
3SD0602	6	20	28	6	66
3SD0612	6.1	24	34	8	79
3SD0622	6.2	24	34	8	79
3SD0632	6.3	24	34	8	79
3SD0642	6.4	24	34	8	79
3SD0652	6.5	24	34	8	79
3SD0662	6.6	24	34	8	79
3SD0672	6.7	24	34	8	79
3SD0682	6.8	24	34	8	79
3SD0692	6.9	24	34	8	79
3SD0702	7	24	34	8	79
3SD0712	7.1	29	41	8	79
3SD0722	7.2	29	41	8	79
3SD0732	7.3	29	41	8	79
3SD0742	7.4	29	41	8	79
3SD0752	7.5	29	41	8	79
3SD0762	7.6	29	41	8	79
3SD0772	7.7	29	41	8	79
3SD0782	7.8	29	41	8	79
3SD0792	7.9	29	41	8	79
3SD0802	8	29	41	8	79
3SD0812	8.1	35	47	10	89
3SD0822	8.2	35	47	10	89
3SD0832	8.3	35	47	10	89
3SD0842	8.4	35	47	10	89
3SD0852	8.5	35	47	10	89
3SD0862	8.6	35	47	10	89
3SD0872	8.7	35	47	10	89

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

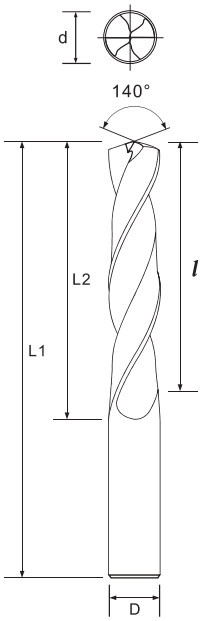
Unit/單位: mm

切 削 條件表 P393
Cutting Condition

3SD Jet Drill

■ 3SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SD0882	8.8	35	47	10	89
3SD0892	8.9	35	47	10	89
3SD0902	9	35	47	10	89
3SD0912	9.1	35	47	10	89
3SD0922	9.2	35	47	10	89
3SD0932	9.3	35	47	10	89
3SD0942	9.4	35	47	10	89
3SD0952	9.5	35	47	10	89
3SD0962	9.6	35	47	10	89
3SD0972	9.7	35	47	10	89
3SD0982	9.8	35	47	10	89
3SD0992	9.9	35	47	10	89
3SD1002	10	35	47	10	89
3SD1012	10.1	40	55	12	102
3SD1022	10.2	40	55	12	102
3SD1032	10.3	40	55	12	102
3SD1042	10.4	40	55	12	102
3SD1052	10.5	40	55	12	102
3SD1062	10.6	40	55	12	102
3SD1072	10.7	40	55	12	102
3SD1082	10.8	40	55	12	102
3SD1092	10.9	40	55	12	102
3SD1102	11	40	55	12	102
3SD1112	11.1	40	55	12	102
3SD1122	11.2	40	55	12	102
3SD1132	11.3	40	55	12	102
3SD1142	11.4	40	55	12	102
3SD1152	11.5	40	55	12	102

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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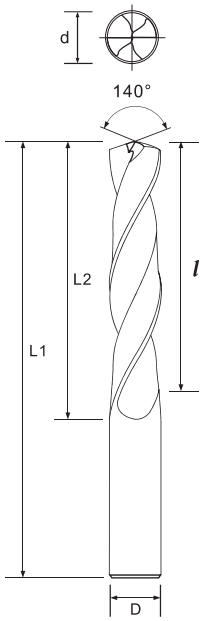
3SD Jet Drill

■ 3SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SD1162	11.6	40	55	12	102
3SD1172	11.7	40	55	12	102
3SD1182	11.8	40	55	12	102
3SD1192	11.9	40	55	12	102
3SD1202	12	40	55	12	102
3SD1232	12.3	43	60	14	107
3SD1252	12.5	43	60	14	107
3SD1282	12.8	43	60	14	107
3SD1302	13	43	60	14	107
3SD1352	13.5	43	60	14	107
3SD1382	13.8	43	60	14	107
3SD1402	14	43	60	14	107
3SD1452	14.5	45	65	16	115
3SD1482	14.8	45	65	16	115
3SD1502	15	45	65	16	115
3SD1552	15.5	45	65	16	115
3SD1582	15.8	45	65	16	115
3SD1602	16	45	65	16	115
3SD1652	16.5	51	73	18	123
3SD1682	16.8	51	73	18	123
3SD1702	17	51	73	18	123
3SD1752	17.5	51	73	18	123
3SD1782	17.8	51	73	18	123
3SD1802	18	51	73	18	123
3SD1852	18.5	55	79	20	131
3SD1902	19	55	79	20	131
3SD1952	19.5	55	79	20	131
3SD1982	19.8	55	79	20	131
3SD2002	20	55	79	20	131

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

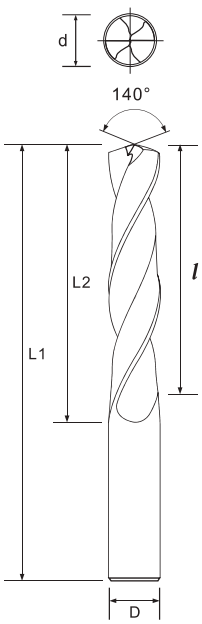
Unit/單位: mm

切 削 條件表 P394
Cutting Condition

5SD Jet Drill

■ 5SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SD0302	3	23	28	6	66
5SD0312	3.1	23	28	6	66
5SD0322	3.2	23	28	6	66
5SD0332	3.3	23	28	6	66
5SD0342	3.4	23	28	6	66
5SD0352	3.5	23	28	6	66
5SD0362	3.6	23	28	6	66
5SD0372	3.7	23	28	6	66
5SD0382	3.8	29	36	6	74
5SD0392	3.9	29	36	6	74
5SD0402	4	29	36	6	74
5SD0412	4.1	29	36	6	74
5SD0422	4.2	29	36	6	74
5SD0432	4.3	29	36	6	74
5SD0442	4.4	29	36	6	74
5SD0452	4.5	29	36	6	74
5SD0462	4.6	29	36	6	74
5SD04652	4.65	29	36	6	74
5SD0472	4.7	29	36	6	74
5SD0482	4.8	35	44	6	82
5SD0492	4.9	35	44	6	82
5SD0502	5	35	44	6	82
5SD0512	5.1	35	44	6	82
5SD0522	5.2	35	44	6	82
5SD0532	5.3	35	44	6	82
5SD0542	5.4	35	44	6	82
5SD0552	5.5	35	44	6	82
5SD05552	5.55	35	44	6	82
5SD0562	5.6	35	44	6	82

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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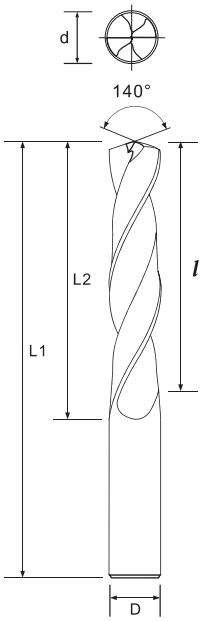
5SD Jet Drill

■ 5SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SD0572	5.7	35	44	6	82
5SD0582	5.8	35	44	6	82
5SD0592	5.9	35	44	6	82
5SD0602	6	35	44	6	82
5SD0612	6.1	43	53	8	91
5SD0622	6.2	43	53	8	91
5SD0632	6.3	43	53	8	91
5SD0642	6.4	43	53	8	91
5SD0652	6.5	43	53	8	91
5SD0662	6.6	43	53	8	91
5SD0672	6.7	43	53	8	91
5SD0682	6.8	43	53	8	91
5SD0692	6.9	43	53	8	91
5SD0702	7	43	53	8	91
5SD0712	7.1	43	53	8	91
5SD0722	7.2	43	53	8	91
5SD0732	7.3	43	53	8	91
5SD0742	7.4	43	53	8	91
5SD0752	7.5	43	53	8	91
5SD0762	7.6	43	53	8	91
5SD0772	7.7	43	53	8	91
5SD0782	7.8	43	53	8	91
5SD0792	7.9	43	53	8	91
5SD0802	8	43	53	8	91
5SD0812	8.1	49	61	10	103
5SD0822	8.2	49	61	10	103
5SD0832	8.3	49	61	10	103
5SD0842	8.4	49	61	10	103
5SD0852	8.5	49	61	10	103

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

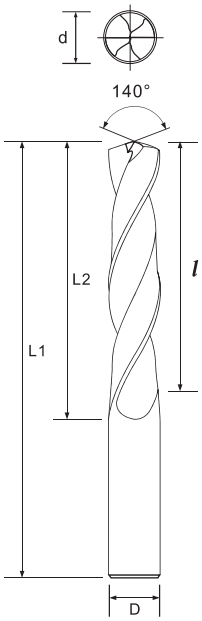
Unit/單位: mm

切 削 條件表 P394
Cutting Condition

5SD Jet Drill

■ 5SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SD0862	8.6	49	61	10	103
5SD0872	8.7	49	61	10	103
5SD0882	8.8	49	61	10	103
5SD0892	8.9	49	61	10	103
5SD0902	9	49	61	10	103
5SD0912	9.1	49	61	10	103
5SD0922	9.2	49	61	10	103
5SD0932	9.3	49	61	10	103
5SD0942	9.4	49	61	10	103
5SD0952	9.5	49	61	10	103
5SD0962	9.6	49	61	10	103
5SD0972	9.7	49	61	10	103
5SD0982	9.8	49	61	10	103
5SD0992	9.9	49	61	10	103
5SD1002	10	49	61	10	103
5SD1012	10.1	56	71	12	118
5SD1022	10.2	56	71	12	118
5SD1032	10.3	56	71	12	118
5SD1042	10.4	56	71	12	118
5SD1052	10.5	56	71	12	118
5SD1062	10.6	56	71	12	118
5SD1072	10.7	56	71	12	118
5SD1082	10.8	56	71	12	118
5SD1092	10.9	56	71	12	118
5SD1102	11	56	71	12	118
5SD1112	11.1	56	71	12	118
5SD1122	11.2	56	71	12	118
5SD1132	11.3	56	71	12	118
5SD1142	11.4	56	71	12	118

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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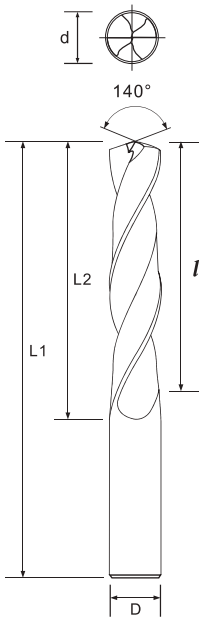
5SD Jet Drill

■ 5SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SD1152	11.5	56	71	12	118
5SD1162	11.6	56	71	12	118
5SD1172	11.7	56	71	12	118
5SD1182	11.8	56	71	12	118
5SD1192	11.9	56	71	12	118
5SD1202	12	56	71	12	118
5SD1222	12.2	60	77	14	124
5SD1232	12.3	60	77	14	124
5SD1252	12.5	60	77	14	124
5SD1282	12.8	60	77	14	124
5SD1302	13	60	77	14	124
5SD1352	13.5	60	77	14	124
5SD1382	13.8	60	77	14	124
5SD1402	14	60	77	14	124
5SD1452	14.5	63	83	16	133
5SD1482	14.8	63	83	16	133
5SD1502	15	63	83	16	133
5SD1552	15.5	63	83	16	133
5SD1582	15.8	63	83	16	133
5SD1602	16	63	83	16	133
5SD1652	16.5	71	93	18	143
5SD1682	16.8	71	93	18	143
5SD1702	17	71	93	18	143
5SD1752	17.5	71	93	18	143
5SD1782	17.8	71	93	18	143
5SD1802	18	71	93	18	143
5SD1852	18.5	77	101	20	153
5SD1902	19	77	101	20	153
5SD1952	19.5	77	101	20	153
5SD2002	20	77	101	20	153

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

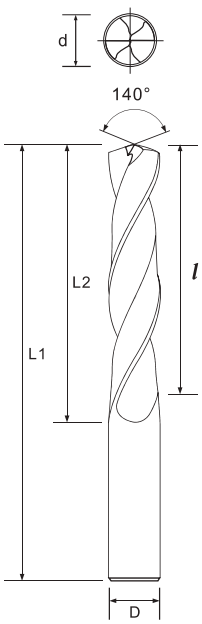
carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

8SD Jet Drill

■ 8SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
8SD0302	3	27	34	6	72
8SD0312	3.1	27	34	6	72
8SD0322	3.2	27	34	6	72
8SD0332	3.3	27	34	6	72
8SD0342	3.4	27	34	6	72
8SD0352	3.5	27	34	6	72
8SD0362	3.6	27	34	6	72
8SD0372	3.7	27	34	6	72
8SD0382	3.8	35	43	6	81
8SD0392	3.9	35	43	6	81
8SD0402	4	35	43	6	81
8SD0412	4.1	35	43	6	81
8SD0422	4.2	35	43	6	81
8SD0432	4.3	35	43	6	81
8SD0442	4.4	35	43	6	81
8SD0452	4.5	35	43	6	81
8SD0462	4.6	35	43	6	81
8SD0472	4.7	35	57	6	95
8SD0482	4.8	45	57	6	95
8SD0492	4.9	45	57	6	95
8SD0502	5	45	57	6	95
8SD0512	5.1	45	57	6	95
8SD0522	5.2	45	57	6	95

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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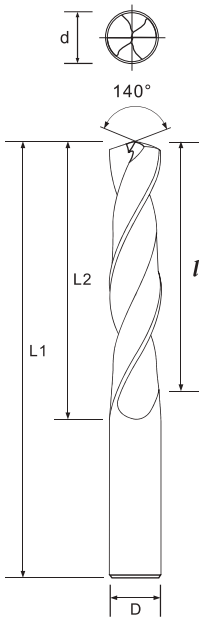
8SD Jet Drill

■ 8SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
8SD0532	5.3	45	57	6	95
8SD0542	5.4	45	57	6	95
8SD0552	5.5	45	57	6	95
8SD0562	5.6	45	57	6	95
8SD0572	5.7	45	57	6	95
8SD0582	5.8	45	57	6	95
8SD0592	5.9	45	57	6	95
8SD0602	6	45	76	8	114
8SD0612	6.1	52	76	8	114
8SD0622	6.2	52	76	8	114
8SD0632	6.3	52	76	8	114
8SD0642	6.4	52	76	8	114
8SD0652	6.5	52	76	8	114
8SD0662	6.6	52	76	8	114
8SD0672	6.7	52	76	8	114
8SD0682	6.8	52	76	8	114
8SD0692	6.9	52	76	8	114
8SD0702	7	60	76	8	114
8SD0712	7.1	60	76	8	114
8SD0722	7.2	60	76	8	114
8SD0732	7.3	60	76	8	114
8SD0742	7.4	60	76	8	114

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

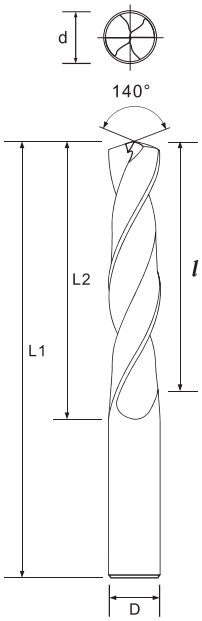
Unit/單位: mm

8SD Jet Drill

■ 8SD 鎢鋼噴射鑽頭

SMG nACRo

MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
8SD0752	7.5	60	76	8	114
8SD0762	7.6	60	76	8	114
8SD0772	7.7	60	76	8	114
8SD0782	7.8	60	76	8	114
8SD0792	7.9	60	76	8	114
8SD0802	8	60	76	8	114
8SD0812	8.1	68	95	10	142
8SD0822	8.2	68	95	10	142
8SD0832	8.3	68	95	10	142
8SD0842	8.4	68	95	10	142
8SD0852	8.5	68	95	10	142
8SD0862	8.6	68	95	10	142
8SD0872	8.7	68	95	10	142
8SD0882	8.8	68	95	10	142
8SD0892	8.9	68	95	10	142
8SD0902	9	68	95	10	142
8SD0912	9.1	76	95	10	142
8SD0922	9.2	76	95	10	142
8SD0932	9.3	76	95	10	142
8SD0942	9.4	76	95	10	142
8SD0952	9.5	76	95	10	142
8SD0962	9.6	76	95	10	142
8SD0972	9.7	76	95	10	142



Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

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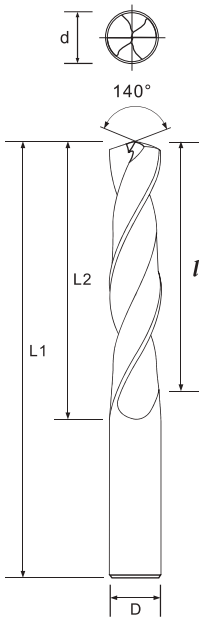
Unit/單位: mm

8SD Jet Drill

■ 8SD 鎢鋼噴射鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
8SD0982	9.8	76	95	10	142
8SD0992	9.9	76	95	10	142
8SD1002	10	76	95	10	142
8SD1012	10.1	90	114	12	162
8SD1022	10.2	90	114	12	162
8SD1032	10.3	90	114	12	162
8SD1042	10.4	90	114	12	162
8SD1052	10.5	90	114	12	162
8SD1062	10.6	90	114	12	162
8SD1072	10.7	90	114	12	162
8SD1082	10.8	90	114	12	162
8SD1092	10.9	90	114	12	162
8SD1102	11	90	114	12	162
8SD1112	11.1	90	114	12	162
8SD1122	11.2	90	114	12	162
8SD1132	11.3	90	114	12	162
8SD1142	11.4	90	114	12	162
8SD1152	11.5	90	114	12	162
8SD1162	11.6	90	114	12	162
8SD1172	11.7	90	114	12	162
8SD1182	11.8	90	114	12	162
8SD1192	11.9	90	114	12	162
8SD1202	12	90	114	12	162

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

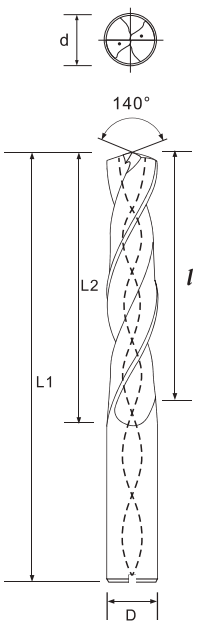
Unit/單位: mm

切 削 條件表 P395
Cutting Condition

3SDC Coolant Drill

■ 3SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SDC0302	3	14	20	6	62
3SDC0312	3.1	14	20	6	62
3SDC0322	3.2	14	20	6	62
3SDC0332	3.3	14	20	6	62
3SDC0342	3.4	14	20	6	62
3SDC0352	3.5	14	20	6	62
3SDC0362	3.6	14	20	6	62
3SDC0372	3.7	14	20	6	62
3SDC0382	3.8	17	24	6	66
3SDC0392	3.9	17	24	6	66
3SDC0402	4	17	24	6	66
3SDC0412	4.1	17	24	6	66
3SDC0422	4.2	17	24	6	66
3SDC0432	4.3	17	24	6	66
3SDC0442	4.4	17	24	6	66
3SDC0452	4.5	17	24	6	66
3SDC0462	4.6	17	24	6	66
3SDC0472	4.7	17	24	6	66
3SDC0482	4.8	20	28	6	66
3SDC0492	4.9	20	28	6	66
3SDC0502	5	20	28	6	66
3SDC0512	5.1	20	28	6	66
3SDC0522	5.2	20	28	6	66
3SDC0532	5.3	20	28	6	66
3SDC0542	5.4	20	28	6	66
3SDC0552	5.5	20	28	6	66
3SDC0562	5.6	20	28	6	66
3SDC0572	5.7	20	28	6	66
3SDC0582	5.8	20	28	6	66

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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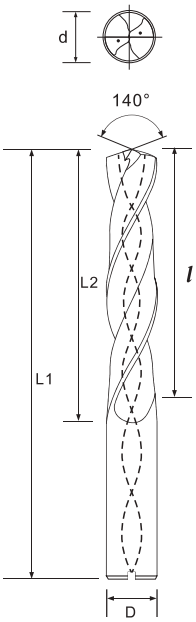
3SDC Coolant Drill

■ 3SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SDC0592	5.9	20	28	6	66
3SDC0602	6	20	28	6	66
3SDC0612	6.1	24	34	8	79
3SDC0622	6.2	24	34	8	79
3SDC0632	6.3	24	34	8	79
3SDC0642	6.4	24	34	8	79
3SDC0652	6.5	24	34	8	79
3SDC0662	6.6	24	34	8	79
3SDC0672	6.7	24	34	8	79
3SDC0682	6.8	24	34	8	79
3SDC0692	6.9	24	34	8	79
3SDC0702	7	24	34	8	79
3SDC0712	7.1	29	41	8	79
3SDC0722	7.2	29	41	8	79
3SDC0732	7.3	29	41	8	79
3SDC0742	7.4	29	41	8	79
3SDC0752	7.5	29	41	8	79
3SDC0762	7.6	29	41	8	79
3SDC0772	7.7	29	41	8	79
3SDC0782	7.8	29	41	8	79
3SDC0792	7.9	29	41	8	79
3SDC0802	8	29	41	8	79
3SDC0812	8.1	35	47	10	89
3SDC0822	8.2	35	47	10	89
3SDC0832	8.3	35	47	10	89
3SDC0842	8.4	35	47	10	89
3SDC0852	8.5	35	47	10	89
3SDC0862	8.6	35	47	10	89

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

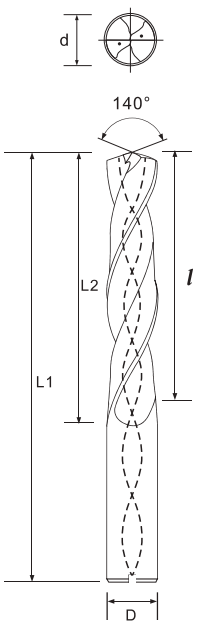
carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

切 削 條件表 P395
Cutting Condition

3SDC Coolant Drill

■ 3SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SDC0872	8.7	35	47	10	89
3SDC0882	8.8	35	47	10	89
3SDC0892	8.9	35	47	10	89
3SDC0902	9	35	47	10	89
3SDC0912	9.1	35	47	10	89
3SDC0922	9.2	35	47	10	89
3SDC0932	9.3	35	47	10	89
3SDC0942	9.4	35	47	10	89
3SDC0952	9.5	35	47	10	89
3SDC0962	9.6	35	47	10	89
3SDC0972	9.7	35	47	10	89
3SDC0982	9.8	35	47	10	89
3SDC0992	9.9	35	47	10	89
3SDC1002	10	35	47	10	89
3SDC1012	10.1	40	55	12	102
3SDC1022	10.2	40	55	12	102
3SDC1032	10.3	40	55	12	102
3SDC1042	10.4	40	55	12	102
3SDC1052	10.5	40	55	12	102
3SDC1062	10.6	40	55	12	102
3SDC1072	10.7	40	55	12	102
3SDC1082	10.8	40	55	12	102
3SDC1092	10.9	40	55	12	102
3SDC1102	11	40	55	12	102
3SDC1112	11.1	40	55	12	102
3SDC1122	11.2	40	55	12	102
3SDC1132	11.3	40	55	12	102
3SDC1142	11.4	40	55	12	102
3SDC1152	11.5	40	55	12	102

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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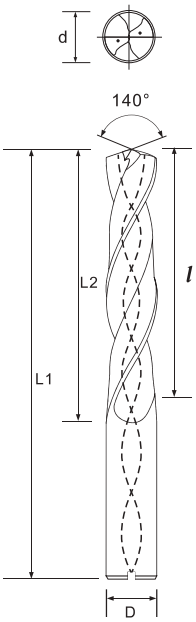
3SDC Coolant Drill

■ 3SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
3SDC1162	11.6	40	55	12	102
3SDC1172	11.7	40	55	12	102
3SDC1182	11.8	40	55	12	102
3SDC1192	11.9	40	55	12	102
3SDC1202	12	40	55	12	102
3SDC1232	12.3	43	60	14	107
3SDC1252	12.5	43	60	14	107
3SDC1282	12.8	43	60	14	107
3SDC1302	13	43	60	14	107
3SDC1352	13.5	43	60	14	107
3SDC1382	13.8	43	60	14	107
3SDC1402	14	43	60	14	107
3SDC1452	14.5	45	65	16	115
3SDC1482	14.8	45	65	16	115
3SDC1502	15	45	65	16	115
3SDC1552	15.5	45	65	16	115
3SDC1582	15.8	45	65	16	115
3SDC1602	16	45	65	16	115
3SDC1652	16.5	51	73	18	123
3SDC1682	16.8	51	73	18	123
3SDC1702	17	51	73	18	123
3SDC1752	17.5	51	73	18	123
3SDC1782	17.8	51	73	18	123
3SDC1802	18	51	73	18	123
3SDC1852	18.5	55	79	20	131
3SDC1902	19	55	79	20	131
3SDC1952	19.5	55	79	20	131
3SDC1982	19.8	55	79	20	131
3SDC2002	20	55	79	20	131

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

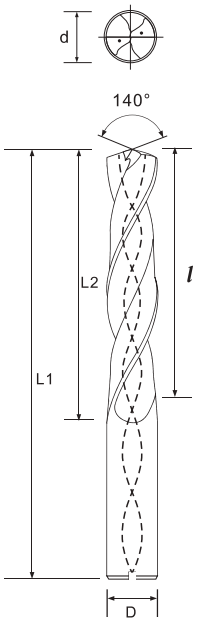
carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

切削條件表 P395
Cutting Condition

5SDC Coolant Drill

■ 5SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SDC0302	3	23	28	6	66
5SDC0312	3.1	23	28	6	66
5SDC0322	3.2	23	28	6	66
5SDC0332	3.3	23	28	6	66
5SDC0342	3.4	23	28	6	66
5SDC0352	3.5	23	28	6	66
5SDC0362	3.6	23	28	6	66
5SDC0372	3.7	23	28	6	66
5SDC0382	3.8	29	36	6	74
5SDC0392	3.9	29	36	6	74
5SDC0402	4	29	36	6	74
5SDC0412	4.1	29	36	6	74
5SDC0422	4.2	29	36	6	74
5SDC0432	4.3	29	36	6	74
5SDC0442	4.4	29	36	6	74
5SDC0452	4.5	29	36	6	74
5SDC0462	4.6	29	36	6	74
5SDC04652	4.65	29	36	6	74
5SDC0472	4.7	29	36	6	74
5SDC0482	4.8	35	44	6	82
5SDC0492	4.9	35	44	6	82
5SDC0502	5	35	44	6	82
5SDC0512	5.1	35	44	6	82
5SDC0522	5.2	35	44	6	82
5SDC0532	5.3	35	44	6	82
5SDC0542	5.4	35	44	6	82
5SDC0552	5.5	35	44	6	82
5SDC05552	5.55	35	44	6	82
5SDC0562	5.6	35	44	6	82

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

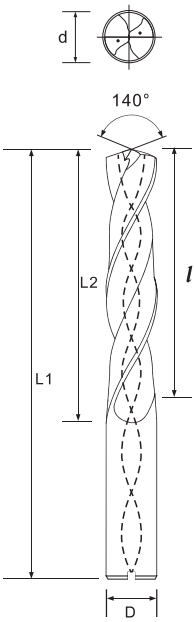
carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

5SDC Coolant Drill

■ 5SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SDC0572	5.7	35	44	6	82
5SDC0582	5.8	35	44	6	82
5SDC0592	5.9	35	44	6	82
5SDC0602	6	35	44	6	82
5SDC0612	6.1	43	53	8	91
5SDC0622	6.2	43	53	8	91
5SDC0632	6.3	43	53	8	91
5SDC0642	6.4	43	53	8	91
5SDC0652	6.5	43	53	8	91
5SDC0662	6.6	43	53	8	91
5SDC0672	6.7	43	53	8	91
5SDC0682	6.8	43	53	8	91
5SDC0692	6.9	43	53	8	91
5SDC0702	7	43	53	8	91
5SDC0712	7.1	43	53	8	91
5SDC0722	7.2	43	53	8	91
5SDC0732	7.3	43	53	8	91
5SDC0742	7.4	43	53	8	91
5SDC0752	7.5	43	53	8	91
5SDC0762	7.6	43	53	8	91
5SDC0772	7.7	43	53	8	91
5SDC0782	7.8	43	53	8	91
5SDC0792	7.9	43	53	8	91
5SDC0802	8	43	53	8	91
5SDC0812	8.1	49	61	10	103
5SDC0822	8.2	49	61	10	103
5SDC0832	8.3	49	61	10	103
5SDC0842	8.4	49	61	10	103
5SDC0852	8.5	49	61	10	103

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

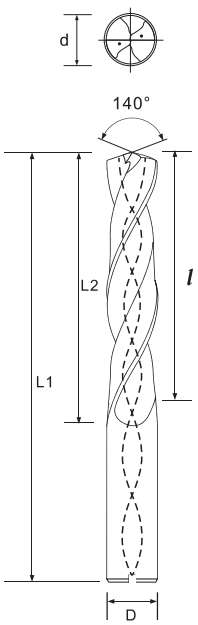
Unit/單位: mm

切 削 條件表 P395
Cutting Condition

5SDC Coolant Drill

■ 5SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SDC0862	8.6	49	61	10	103
5SDC0872	8.7	49	61	10	103
5SDC0882	8.8	49	61	10	103
5SDC0892	8.9	49	61	10	103
5SDC0902	9	49	61	10	103
5SDC0912	9.1	49	61	10	103
5SDC0922	9.2	49	61	10	103
5SDC0932	9.3	49	61	10	103
5SDC0942	9.4	49	61	10	103
5SDC0952	9.5	49	61	10	103
5SDC0962	9.6	49	61	10	103
5SDC0972	9.7	49	61	10	103
5SDC0982	9.8	49	61	10	103
5SDC0992	9.9	49	61	10	103
5SDC1002	10	49	61	10	103
5SDC1012	10.1	56	71	12	118
5SDC1022	10.2	56	71	12	118
5SDC1032	10.3	56	71	12	118
5SDC1042	10.4	56	71	12	118
5SDC1052	10.5	56	71	12	118
5SDC1062	10.6	56	71	12	118
5SDC1072	10.7	56	71	12	118
5SDC1082	10.8	56	71	12	118
5SDC1092	10.9	56	71	12	118
5SDC1102	11	56	71	12	118
5SDC1112	11.1	56	71	12	118
5SDC1122	11.2	56	71	12	118
5SDC1132	11.3	56	71	12	118
5SDC1142	11.4	56	71	12	118
5SDC1152	11.5	56	71	12	118

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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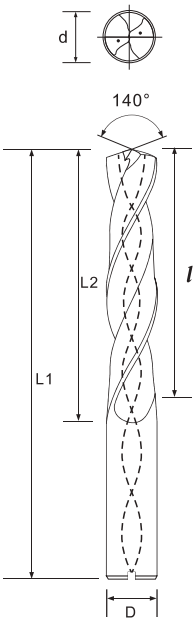
5SDC Coolant Drill

■ 5SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
5SDC1162	11.6	56	71	12	118
5SDC1172	11.7	56	71	12	118
5SDC1182	11.8	56	71	12	118
5SDC1192	11.9	56	71	12	118
5SDC1202	12	56	71	12	118
5SDC1222	12.2	60	77	14	124
5SDC1232	12.3	60	77	14	124
5SDC1252	12.5	60	77	14	124
5SDC1282	12.8	60	77	14	124
5SDC1302	13	60	77	14	124
5SDC1352	13.5	60	77	14	124
5SDC1382	13.8	60	77	14	124
5SDC1402	14	60	77	14	124
5SDC1452	14.5	63	83	16	133
5SDC1482	14.8	63	83	16	133
5SDC1502	15	63	83	16	133
5SDC1552	15.5	63	83	16	133
5SDC1582	15.8	63	83	16	133
5SDC1602	16	63	83	16	133
5SDC1652	16.5	71	93	18	143
5SDC1682	16.8	71	93	18	143
5SDC1702	17	71	93	18	143
5SDC1752	17.5	71	93	18	143
5SDC1782	17.8	71	93	18	143
5SDC1802	18	71	93	18	143
5SDC1852	18.5	77	101	20	153
5SDC1902	19	77	101	20	153
5SDC1952	19.5	77	101	20	153
5SDC2002	20	77	101	20	153

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

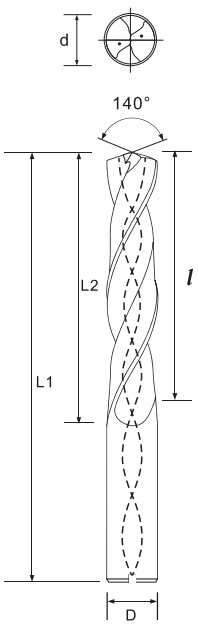
切 削 條件表 P395
Cutting Condition

8SDC Coolant Drill

■ 8SDC 鎢鋼油孔鑽頭

SMG nACRo

MODE 型號	Diameter d 刃徑	Length of Cut l 刃長	Flute Length L2 溝長	Shank Diameter D 柄徑	Full Length L1 全長
8SDC0302	3	27	34	6	72
8SDC0312	3.1	27	34	6	72
8SDC0322	3.2	27	34	6	72
8SDC0332	3.3	27	34	6	72
8SDC0342	3.4	27	34	6	72
8SDC0352	3.5	27	34	6	72
8SDC0362	3.6	27	34	6	72
8SDC0372	3.7	27	34	6	72
8SDC0382	3.8	35	43	6	81
8SDC0392	3.9	35	43	6	81
8SDC0402	4	35	43	6	81
8SDC0412	4.1	35	43	6	81
8SDC0422	4.2	35	43	6	81
8SDC0432	4.3	35	43	6	81
8SDC0442	4.4	35	43	6	81
8SDC0452	4.5	35	43	6	81
8SDC0462	4.6	35	43	6	81
8SDC0472	4.7	35	57	6	95
8SDC0482	4.8	45	57	6	95
8SDC0492	4.9	45	57	6	95
8SDC0502	5	45	57	6	95
8SDC0512	5.1	45	57	6	95



Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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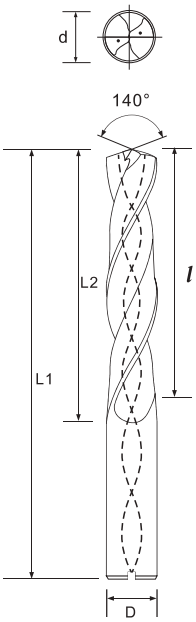
8SDC Coolant Drill

■ 8SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L2 溝長	D 柄徑	L1 全長
8SDC0522	5.2	45	57	6	95
8SDC0532	5.3	45	57	6	95
8SDC0542	5.4	45	57	6	95
8SDC0552	5.5	45	57	6	95
8SDC0562	5.6	45	57	6	95
8SDC0572	5.7	45	57	6	95
8SDC0582	5.8	45	57	6	95
8SDC0592	5.9	45	57	6	95
8SDC0602	6	45	76	8	114
8SDC0612	6.1	52	76	8	114
8SDC0622	6.2	52	76	8	114
8SDC0632	6.3	52	76	8	114
8SDC0642	6.4	52	76	8	114
8SDC0652	6.5	52	76	8	114
8SDC0662	6.6	52	76	8	114
8SDC0672	6.7	52	76	8	114
8SDC0682	6.8	52	76	8	114
8SDC0692	6.9	52	76	8	114
8SDC0702	7	60	76	8	114
8SDC0712	7.1	60	76	8	114
8SDC0722	7.2	60	76	8	114
8SDC0732	7.3	60	76	8	114
8SDC0742	7.4	60	76	8	114

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

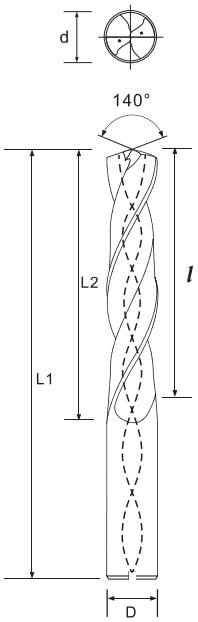
Unit/單位: mm

切 削 條件表 P395
Cutting Condition

8SDC Coolant Drill

■ 8SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L 溝長	D 柄徑	F 全長
8SDC0752	7.5	60	76	8	114
8SDC0762	7.6	60	76	8	114
8SDC0772	7.7	60	76	8	114
8SDC0782	7.8	60	76	8	114
8SDC0792	7.9	60	76	8	114
8SDC0802	8	60	76	8	114
8SDC0812	8.1	68	95	10	142
8SDC0822	8.2	68	95	10	142
8SDC0832	8.3	68	95	10	142
8SDC0842	8.4	68	95	10	142
8SDC0852	8.5	68	95	10	142
8SDC0862	8.6	68	95	10	142
8SDC0872	8.7	68	95	10	142
8SDC0882	8.8	68	95	10	142
8SDC0892	8.9	68	95	10	142
8SDC0902	9	68	95	10	142
8SDC0912	9.1	76	95	10	142
8SDC0922	9.2	76	95	10	142
8SDC0932	9.3	76	95	10	142
8SDC0942	9.4	76	95	10	142
8SDC0952	9.5	76	95	10	142
8SDC0962	9.6	76	95	10	142
8SDC0972	9.7	76	95	10	142

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

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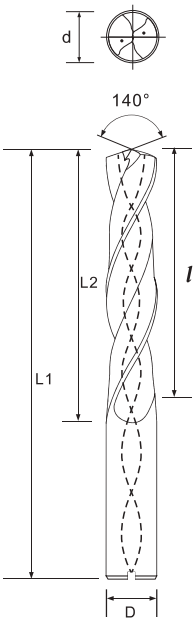
8SDC Coolant Drill

■ 8SDC 鎢鋼油孔鑽頭

SMG nACRo



MODE	Diameter	Length of Cut	Flute Length	Shank Diameter	Full Length
型號	d 刃徑	l 刃長	L 溝長	D 柄徑	F 全長
8SDC0982	9.8	76	95	10	142
8SDC0992	9.9	76	95	10	142
8SDC1002	10	76	95	10	142
8SDC1012	10.1	90	114	12	162
8SDC1022	10.2	90	114	12	162
8SDC1032	10.3	90	114	12	162
8SDC1042	10.4	90	114	12	162
8SDC1052	10.5	90	114	12	162
8SDC1062	10.6	90	114	12	162
8SDC1072	10.7	90	114	12	162
8SDC1082	10.8	90	114	12	162
8SDC1092	10.9	90	114	12	162
8SDC1102	11	90	114	12	162
8SDC1112	11.1	90	114	12	162
8SDC1122	11.2	90	114	12	162
8SDC1132	11.3	90	114	12	162
8SDC1142	11.4	90	114	12	162
8SDC1152	11.5	90	114	12	162
8SDC1162	11.6	90	114	12	162
8SDC1172	11.7	90	114	12	162
8SDC1182	11.8	90	114	12	162
8SDC1192	11.9	90	114	12	162
8SDC1202	12	90	114	12	162

Application 適用材質：

◎ Recommend 最適合　O Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	◎	X	X		X	X

Unit/單位: mm

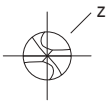
Position Drill

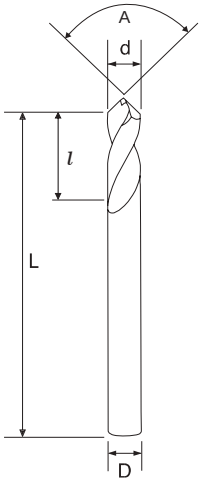
■ 定位鑽

600 Nano | HRC ▶45

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Tip Angle
型號	d 刃徑	l 刃長	L 全長	D 柄徑	A 前端角
PDST030900	3	10	50	3	90°
PDST030120	3	10	50	3	120°
PDST040900	4	12	50	4	90°
PDST040120	4	12	50	4	120°
PDST050900	5	15	50	5	90°
PDST050120	5	15	50	5	120°
PDST060900	6	20	60	6	90°
PDST060120	6	20	60	6	120°
PDST080900	8	25	60	8	90°
PDST080120	8	25	60	8	120°
PDST100900	10	25	75	10	90°
PDST100120	10	25	75	10	120°
PDST120900	12	30	75	12	90°
PDST120120	12	30	75	12	120°
PDST160900	16	35	100	16	90°
PDST160120	16	35	100	16	120°
PDST200900	20	40	100	20	90°
PDST200120	20	40	100	20	120°





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	○					○	○

Unit/單位: mm

www.speedtiger.com.tw

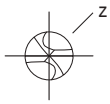
Position Drill

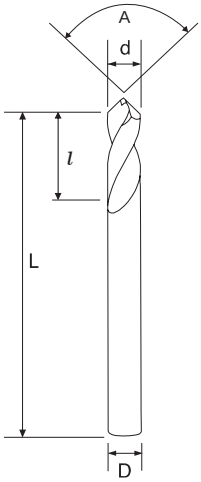
■ 定位鑽

600 Nano | HRC ▶50 | TiCN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Tip Angle
型號	d 刃徑	l 刃長	L 全長	D 柄徑	A 前端角
PDST030900 T	3	10	50	3	90°
PDST030120 T	3	10	50	3	120°
PDST040900 T	4	12	50	4	90°
PDST040120 T	4	12	50	4	120°
PDST050900 T	5	15	50	5	90°
PDST050120 T	5	15	50	5	120°
PDST060900 T	6	20	60	6	90°
PDST060120 T	6	20	60	6	120°
PDST080900 T	8	25	60	8	90°
PDST080120 T	8	25	60	8	120°
PDST100900 T	10	25	75	10	90°
PDST100120 T	10	25	75	10	120°
PDST120900 T	12	30	75	12	90°
PDST120120 T	12	30	75	12	120°
PDST160900 T	16	35	100	16	90°
PDST160120 T	16	35	100	16	120°
PDST200900 T	20	40	100	20	90°
PDST200120 T	20	40	100	20	120°





Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎	◎	○			○		

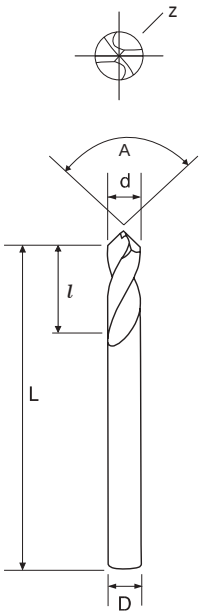
Position Drill - Long Shank

■ 長柄定位鑽

600 Nano | HRC ▶45

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Tip Angle
型號	d 刃徑	l 刃長	L 全長	D 柄徑	A 前端角
PDST040901	4	12	100	4	90°
PDST040121	4	12	100	4	120°
PDST060901	6	20	100	6	90°
PDST060121	6	20	100	6	120°
PDST080901	8	25	100	8	90°
PDST080121	8	25	100	8	120°
PDST100901	10	25	150	10	90°
PDST100121	10	25	150	10	120°
PDST120901	12	30	150	12	90°
PDST120121	12	30	150	12	120°
PDST160901	16	35	150	16	90°
PDST160121	16	35	150	16	120°
PDST200901	20	40	150	20	90°
PDST200121	20	40	150	20	120°



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	○					○	○

Unit/單位: mm

www.speedtiger.com.tw

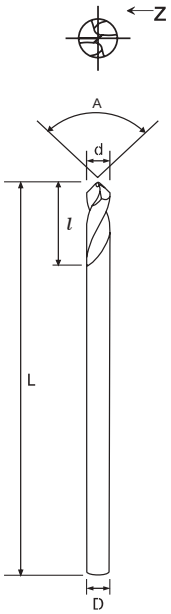
Position Drill - Long Shank

■ 長柄定位鑽

600 Nano | HRC ▶50 | TiCN

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Tip Angle
型號	d 刃徑	l 刃長	L 全長	D 柄徑	A 前端角
PDST040901 T	4	12	100	4	90°
PDST040121 T	4	12	100	4	120°
PDST060901 T	6	20	100	6	90°
PDST060121 T	6	20	100	6	120°
PDST080901 T	8	25	100	8	90°
PDST080121 T	8	25	100	8	120°
PDST100901 T	10	25	150	10	90°
PDST100121 T	10	25	150	10	120°
PDST120901 T	12	30	150	12	90°
PDST120121 T	12	30	150	12	120°
PDST160901 T	16	35	150	16	90°
PDST160121 T	16	35	150	16	120°
PDST200901 T	20	40	150	20	90°
PDST200121 T	20	40	150	20	120°



Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	◎	◎	○				○	○

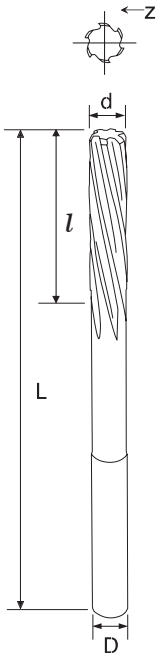
Reamer series

■ 鉸刀

600 Nano | HRC ▶65

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length
型號	d 刃徑	l 刃長	L 全長
RE010	1.0	6	34
RE011	1.1	7	36
RE012	1.2	7	38
RE013	1.3	7	38
RE014	1.4	8	40
RE015	1.5	8	40
RE016	1.6	9	43
RE017	1.7	9	43
RE018	1.8	10	46
RE019	1.9	10	46
RE020	2.0	11	49
RE021	2.1	11	49
RE022	2.2	12	53
RE023	2.3	12	53
RE024	2.4	14	57
RE025	2.5	14	57
RE026	2.6	14	57
RE027	2.7	15	61
RE028	2.8	15	61
RE029	2.9	15	61
RE030	3.0	15	61
RE031	3.1	16	65
RE032	3.2	16	65
RE033	3.3	16	65
RE034	3.4	18	70
RE035	3.5	18	70
RE036	3.6	18	70
RE037	3.7	18	70
RE038	3.8	19	75
RE039	3.9	19	75
RE040	4.0	19	75
RE041	4.1	19	75
RE042	4.2	19	75
RE043	4.3	21	80
RE044	4.4	21	80
RE045	4.5	21	80
RE046	4.6	21	80

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	○	○	○	○		

Unit/單位: mm

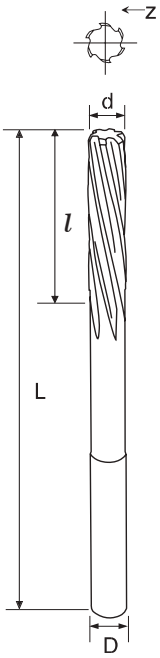
www.speedtiger.com.tw

Reamer series

■ 鉸刀

600 Nano | HRC ▶65

- Micro Grain Carbide
- WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length
型號	d 刃徑	l 刃長	L 全長
RE047	4.7	21	80
RE048	4.8	23	86
RE049	4.9	23	86
RE050	5.0	23	86
RE051	5.1	23	86
RE052	5.2	23	86
RE053	5.3	23	86
RE054	5.4	26	93
RE055	5.5	26	93
RE056	5.6	26	93
RE057	5.7	26	93
RE058	5.8	26	93
RE059	5.9	26	93
RE060	6.0	26	93
RE061	6.1	28	101
RE062	6.2	28	101
RE063	6.3	28	101
RE064	6.4	28	101
RE065	6.5	28	101
RE066	6.6	28	101
RE067	6.7	31	101
RE068	6.8	31	109
RE069	6.9	31	109
RE070	7.0	31	109
RE071	7.1	31	109
RE072	7.2	31	109
RE073	7.3	31	109
RE074	7.4	31	109
RE075	7.5	31	109
RE076	7.6	33	117
RE077	7.7	33	117
RE078	7.8	33	117
RE079	7.9	33	117
RE080	8.0	33	117
RE081	8.1	33	117
RE082	8.2	33	117
RE083	8.3	33	117

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	○	○	○	○		

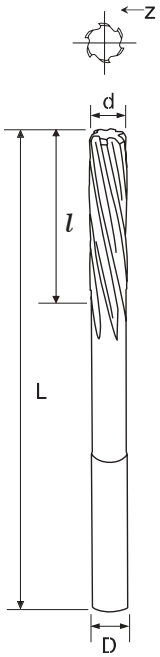
Reamer series

■ 鉸刀

600 Nano | HRC ▶ 65

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm



MODE	Diameter	Flute Length	Full Length
型號	d 刃徑	l 刃長	L 全長
RE084	8.4	33	117
RE085	8.5	33	117
RE086	8.6	36	125
RE087	8.7	36	125
RE088	8.8	36	125
RE089	8.9	36	125
RE090	9.0	36	125
RE091	9.1	36	125
RE092	9.2	36	125
RE093	9.3	36	125
RE094	9.4	36	125
RE095	9.5	36	125
RE096	9.6	38	133
RE097	9.7	38	133
RE098	9.8	38	133
RE099	9.9	38	133
RE100	10.0	38	133
RE101	10.1	38	133
RE102	10.2	38	133
RE103	10.3	38	133
RE104	10.4	38	133
RE105	10.5	38	133
RE106	10.6	38	133
RE107	10.7	41	142
RE108	10.8	41	142
RE109	10.9	41	142
RE110	11.0	41	142
RE111	11.1	41	142
RE112	11.2	41	142
RE113	11.3	41	142
RE114	11.4	41	142
RE115	11.5	41	142
RE116	11.6	41	142
RE117	11.7	41	142
RE118	11.8	41	142
RE119	11.9	44	151
RE120	12.0	44	151

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	○	○	○	○		

Unit/單位: mm

www.speedtiger.com.tw

Carbide Edge Reamer

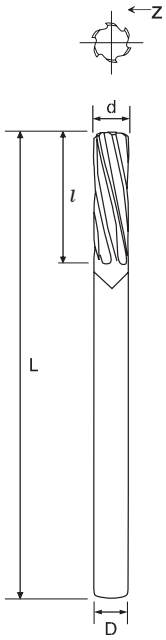
■ 刃部鎢鋼頭鉸刀

● Micro Grain Carbide

● WC=90 Co=10 HV30=1571 Rupture=3750N/mm^2 Grain Size=0.6μm

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
REC085	8.5	33	117	8	6
REC090	9	36	125	10	6
REC095	9.5	36	125	10	6
REC100	10	38	133	10	6
REC110	11	41	142	10	6
REC115	11.5	41	142	10	6
REC120	12	44	151	12	6
REC125	12.5	44	151	12	6
REC130	13	44	151	12	6
REC135	13.5	47	160	12	8
REC140	14	47	160	12	8
REC145	14.5	50	162	12	8
REC150	15	50	162	12	8
REC155	15.5	52	170	12	8
REC160	16	52	170	12	8

Helix Angle ：Tolerance for outer diameter Application：Mold steel and nonmetal material
Main character：Specialized in ream process of mold, could reach prefect tolerance for outer diameter, the helix angle more larger, the surface more smooth.



螺 旋 角：7° ~ 12°　　公　差：H7
適用材質：模具鋼鐵材料及非鐵金屬材質切削用。特別在製造模具時鉸孔作業，可達到非常好的孔徑公差，螺旋角越大，孔的加工面越光滑。

Application 適用材質：

◎ Recommend 最適合　○ Suitable 適　合　X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
○	○	○	○	○	○	○		

HSS Series

HSS Series

Technical Data

Details 產品特點

High Speed Steel

Application	Iron, Carbon steel Cast Iron, Alloy Steel, Tool Steel.
Main Character	Coating TiCN and wear-resisting, Specialized in general milling machine, Can carry on rough machining get to detailedprocess directly.
material character	optimally carbide material with hardness and toughness, the best material of cutting tool.
advantage of coating	TiCN coating composition, Low friction coefficient.
quality guarantee	five axis ~ eight axis CNC precision grinding.

適用材料	鐵材 / 碳素鋼 / 鑄鐵 / 模具鋼 / 合金鋼 / 工具鋼
主要特性	被覆 TiCN，耐磨耗 專用於一般銑床，直接進行粗加工到細加工
材質特性	基材硬度韌性兼備，切削刀具最佳材料
塗層特色	TiCN 結構低摩擦係數
品質保證	五軸 ~ 八軸CNC 精密研磨

Square series - 2 flutes

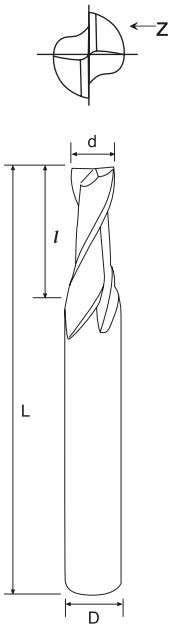
■ 2刃精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/ 高溫合金
- 適用切邊/切槽/挖槽

HSS HRC ▶40 30°

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting/plug milling



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSS0102	1	2	50	6	2
HSS0152	1.5	3	50	6	2
HSS0202	2	7	50	6	2
HSS0252	2.5	7	50	6	2
HSS0302	3	9	50	6	2
HSS0352	3.5	12	60	8	2
HSS0402	4	12	60	8	2
HSS0452	4.5	15	60	8	2
HSS0502	5	15	60	8	2
HSS0552	5.5	15	60	8	2
HSS0602	6	15	60	8	2
HSS0652	6.5	20	65	10	2
HSS0702	7	20	65	10	2
HSS0752	7.5	20	65	10	2
HSS0802	8	20	65	10	2
HSS0852	8.5	25	75	10	2
HSS0902	9	25	75	10	2
HSS0952	9.5	25	75	10	2
HSS1002	10	25	75	10	2
HSS1052	10.5	25	75	12	2
HSS1102	11	30	80	12	2
HSS1152	11.5	30	80	12	2
HSS1202	12	30	80	12	2
HSS1252	12.5	30	80	12	2
HSS1302	13	35	90	12	2
HSS1402	14	35	90	16	2
HSS1502	15	40	95	16	2
HSS1602	16	40	95	16	2
HSS1702	17	40	105	20	2
HSS1802	18	40	105	20	2
HSS1902	19	45	110	20	2
HSS2002	20	45	110	20	2
HSS2102	21	45	110	20	2
HSS2202	22	45	110	20	2
HSS2302	23	50	120	25	2
HSS2402	24	50	120	25	2
HSS2502	25	50	120	25	2
HSS2602	26	50	120	25	2
HSS2702	27	55	125	25	2
HSS2802	28	55	125	25	2
HSS3002	30	55	125	25	2
HSS3202	32	60	145	32	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

www.speedtiger.com.tw

Unit/單位: mm

SPEED TIGER

Square series - 2 flutes - TiCN

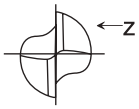
■ 2刃精銑刀

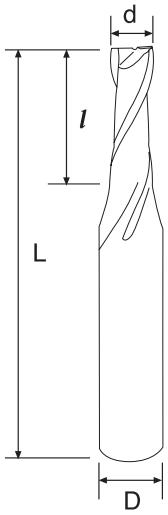
- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/ 高溫合金
- 適用切邊/切槽/挖槽

HSS HRC ▶45 30° TiCN

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting/plug milling





MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSS0102 T	1	2	50	6	2
HSS0152 T	1.5	3	50	6	2
HSS0202 T	2	7	50	6	2
HSS0252 T	2.5	7	50	6	2
HSS0302 T	3	9	50	6	2
HSS0352 T	3.5	12	60	8	2
HSS0402 T	4	12	60	8	2
HSS0452 T	4.5	15	60	8	2
HSS0502 T	5	15	60	8	2
HSS0552 T	5.5	15	60	8	2
HSS0602 T	6	15	60	8	2
HSS0652 T	6.5	20	65	10	2
HSS0702 T	7	20	65	10	2
HSS0752 T	7.5	20	65	10	2
HSS0802 T	8	20	65	10	2
HSS0852 T	8.5	25	75	10	2
HSS0902 T	9	25	75	10	2
HSS0952 T	9.5	25	75	10	2
HSS1002 T	10	25	75	10	2
HSS1052 T	10.5	25	75	12	2
HSS1102 T	11	30	80	12	2
HSS1152 T	11.5	30	80	12	2
HSS1202 T	12	30	80	12	2
HSS1252 T	12.5	30	80	12	2
HSS1302 T	13	35	90	12	2
HSS1402 T	14	35	90	16	2
HSS1502 T	15	40	95	16	2
HSS1602 T	16	40	95	16	2
HSS1702 T	17	40	105	20	2
HSS1802 T	18	40	105	20	2
HSS1902 T	19	45	110	20	2
HSS2002 T	20	45	110	20	2
HSS2102 T	21	45	110	20	2
HSS2202 T	22	45	110	20	2
HSS2302 T	23	50	120	25	2
HSS2402 T	24	50	120	25	2
HSS2502 T	25	50	120	25	2
HSS2602 T	26	50	120	25	2
HSS2702 T	27	55	125	25	2
HSS2802 T	28	55	125	25	2
HSS3002 T	30	55	125	25	2
HSS3202 T	32	60	145	32	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Unit/單位: mm

Square series - Long Flute - 2 flutes

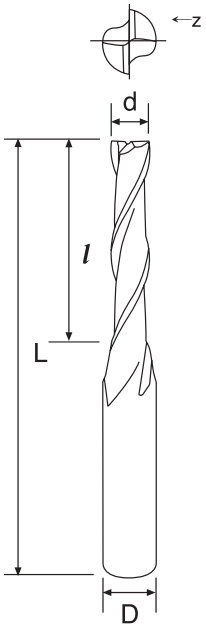
■ 2刃長刃精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/高溫合金
- 適用切邊/切槽/挖槽

HSS HRC ▶40 30°

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting/plug milling



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSL0302	3	15	60	6	2
HSSL0402	4	20	60	8	2
HSSL0502	5	25	65	8	2
HSSL0602	6	25	65	8	2
HSSL0702	7	35	80	10	2
HSSL0802	8	35	80	10	2
HSSL0902	9	45	95	10	2
HSSL1002	10	45	95	10	2
HSSL1102	11	55	105	12	2
HSSL1202	12	55	105	12	2
HSSL1302	13	55	110	12	2
HSSL1402	14	55	110	16	2
HSSL1502	15	65	120	16	2
HSSL1602	16	65	120	16	2
HSSL1702	17	65	130	20	2
HSSL1802	18	65	130	20	2
HSSL1902	19	75	140	20	2
HSSL2002	20	75	140	20	2
HSSL2102	21	75	140	20	2
HSSL2202	22	75	140	20	2
HSSL2302	23	90	160	25	2
HSSL2402	24	90	160	25	2
HSSL2502	25	90	160	25	2
HSSL2602	26	90	160	25	2
HSSL2702	27	90	160	25	2
HSSL2802	28	90	160	25	2
HSSL2902	29	90	160	25	2
HSSL3002	30	90	160	25	2
HSSL3102	31	105	190	32	2
HSSL3202	32	105	190	32	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

SPEED TIGER

Square series - Long Flute - 2 flutes

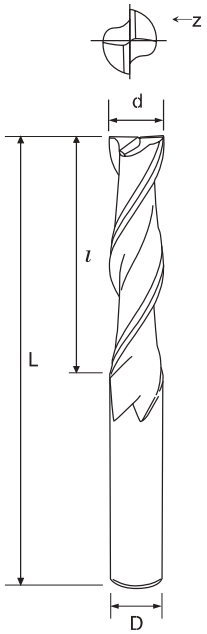
■ 2刃長刃精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/高溫合金
- 適用切邊/切槽/挖槽

HSS HRC ▶45 30° TiCN

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting/plug milling



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSL0302 T	3	15	60	6	2
HSSL0402 T	4	20	60	8	2
HSSL0502 T	5	25	65	8	2
HSSL0602 T	6	25	65	8	2
HSSL0702 T	7	35	80	10	2
HSSL0802 T	8	35	80	10	2
HSSL0902 T	9	45	95	10	2
HSSL1002 T	10	45	95	10	2
HSSL1102 T	11	55	105	12	2
HSSL1202 T	12	55	105	12	2
HSSL1302 T	13	55	110	12	2
HSSL1402 T	14	55	110	16	2
HSSL1502 T	15	65	120	16	2
HSSL1602 T	16	65	120	16	2
HSSL1702 T	17	65	130	20	2
HSSL1802 T	18	65	130	20	2
HSSL1902 T	19	75	140	20	2
HSSL2002 T	20	75	140	20	2
HSSL2102 T	21	75	140	20	2
HSSL2202 T	22	75	140	20	2
HSSL2302 T	23	90	160	25	2
HSSL2402 T	24	90	160	25	2
HSSL2502 T	25	90	160	25	2
HSSL2602 T	26	90	160	25	2
HSSL2702 T	27	90	160	25	2
HSSL2802 T	28	90	160	25	2
HSSL2902 T	29	90	160	25	2
HSSL3002 T	30	90	160	25	2
HSSL3102 T	31	105	190	32	2
HSSL3202 T	32	105	190	32	2

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Square series - 4 flutes

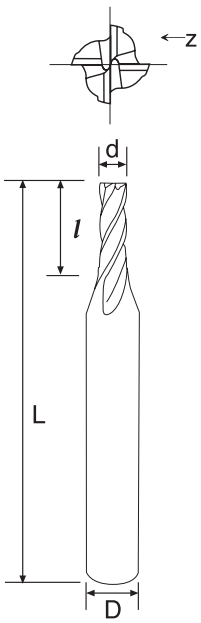
■ 4刃精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/高溫合金
- 適用切邊/切槽

HSS HRC ▶40 30°

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSS0104	1	2	50	6	4
HSS0154	1.5	3	50	6	4
HSS0204	2	7	50	6	4
HSS0254	2.5	7	50	6	4
HSS0304	3	9	50	6	4
HSS0354	3.5	12	60	8	4
HSS0404	4	12	60	8	4
HSS0454	4.5	15	60	8	4
HSS0504	5	15	60	8	4
HSS0554	5.5	15	60	8	4
HSS0604	6	15	60	8	4
HSS0654	6.5	20	65	10	4
HSS0704	7	20	65	10	4
HSS0754	7.5	20	65	10	4
HSS0804	8	20	65	10	4
HSS0854	8.5	25	75	10	4
HSS0904	9	25	75	10	4
HSS0954	9.5	25	75	10	4
HSS1004	10	25	75	10	4
HSS1054	10.5	25	75	12	4
HSS1104	11	30	80	12	4
HSS1154	11.5	30	80	12	4
HSS1204	12	30	80	12	4
HSS1254	12.5	30	80	12	4
HSS1304	13	35	90	12	4
HSS1404	14	35	90	16	4
HSS1504	15	40	95	16	4
HSS1604	16	40	95	16	4
HSS1704	17	40	105	20	4
HSS1804	18	40	105	20	4
HSS1904	19	45	110	20	4
HSS2004	20	45	110	20	4
HSS2104	21	45	110	20	4
HSS2204	22	45	110	20	4
HSS2304	23	50	120	25	4
HSS2404	24	50	120	25	4
HSS2504	25	50	120	25	4
HSS2604	26	50	120	25	4
HSS2704	27	55	125	25	4
HSS2804	28	55	125	25	4
HSS3004	30	55	125	25	4
HSS3204	32	60	145	32	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

SPEED TIGER

Square series - 4 flutes - TiCN

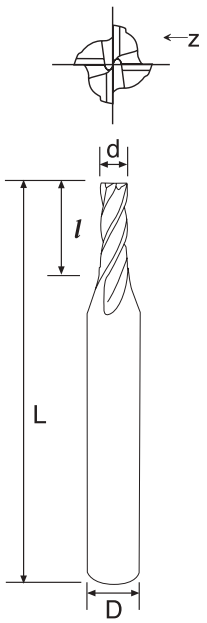
■ 4刃精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/高溫合金
- 適用切邊/切槽

HSS HRC ▶45 30° TiCN

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSS0104 T	1	2	50	6	4
HSS0154 T	1.5	3	50	6	4
HSS0204 T	2	7	50	6	4
HSS0254 T	2.5	7	50	6	4
HSS0304 T	3	9	50	6	4
HSS0354 T	3.5	12	60	8	4
HSS0404 T	4	12	60	8	4
HSS0454 T	4.5	15	60	8	4
HSS0504 T	5	15	60	8	4
HSS0554 T	5.5	15	60	8	4
HSS0604 T	6	15	60	8	4
HSS0654 T	6.5	20	65	10	4
HSS0704 T	7	20	65	10	4
HSS0754 T	7.5	20	65	10	4
HSS0804 T	8	20	65	10	4
HSS0854 T	8.5	25	75	10	4
HSS0904 T	9	25	75	10	4
HSS0954 T	9.5	25	75	10	4
HSS1004 T	10	25	75	10	4
HSS1054 T	10.5	25	75	12	4
HSS1104 T	11	30	80	12	4
HSS1154 T	11.5	30	80	12	4
HSS1204 T	12	30	80	12	4
HSS1254 T	12.5	30	80	12	4
HSS1304 T	13	35	90	12	4
HSS1404 T	14	35	90	16	4
HSS1504 T	15	40	95	16	4
HSS1604 T	16	40	95	16	4
HSS1704 T	17	40	105	20	4
HSS1804 T	18	40	105	20	4
HSS1904 T	19	45	110	20	4
HSS2004 T	20	45	110	20	4
HSS2104 T	21	45	110	20	4
HSS2204 T	22	45	110	20	4
HSS2304 T	23	50	120	25	4
HSS2404 T	24	50	120	25	4
HSS2504 T	25	50	120	25	4
HSS2604 T	26	50	120	25	4
HSS2704 T	27	55	125	25	4
HSS2804 T	28	55	125	25	4
HSS3004 T	30	55	125	25	4
HSS3204 T	32	60	145	32	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Unit/單位: mm

Square series - Long Flute - 4 flutes

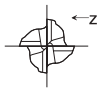
■ 4刃長刃精銑刀

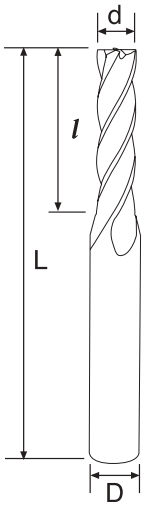
- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/高溫合金
- 適用切邊/切槽

HSS HRC ▶40 30°

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting





MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSL0304	3	15	60	6	4
HSSL0404	4	20	60	8	4
HSSL0504	5	25	65	8	4
HSSL0604	6	25	65	8	4
HSSL0704	7	35	80	10	4
HSSL0804	8	35	80	10	4
HSSL0904	9	45	95	10	4
HSSL1004	10	45	95	10	4
HSSL1104	11	55	105	12	4
HSSL1204	12	55	105	12	4
HSSL1304	13	55	110	12	4
HSSL1404	14	55	110	16	4
HSSL1504	15	65	120	16	4
HSSL1604	16	65	120	16	4
HSSL1704	17	65	130	20	4
HSSL1804	18	65	130	20	4
HSSL1904	19	75	140	20	4
HSSL2004	20	75	140	20	4
HSSL2104	21	75	140	20	4
HSSL2204	22	75	140	20	4
HSSL2304	23	90	160	25	4
HSSL2404	24	90	160	25	4
HSSL2504	25	90	160	25	4
HSSL2604	26	90	160	25	4
HSSL2704	27	90	160	25	4
HSSL2804	28	90	160	25	4
HSSL2904	29	90	160	25	4
HSSL3004	30	90	160	25	4
HSSL3104	31	105	190	32	4
HSSL3204	32	105	190	32	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

SPEED TIGER

Square series - Long Flute - 4 flutes - TiCN

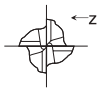
■ 4刃長刃精銑刀

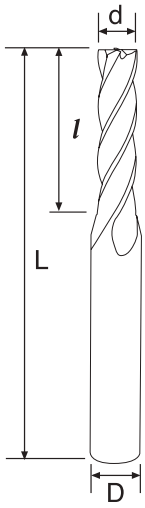
- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料/高溫合金
- 適用切邊/切槽

HSS HRC ▶45 30° TiCN

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material/heat alloy steel
· Apply to side milling/slotting





MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSL0304 T	3	15	60	6	4
HSSL0404 T	4	20	60	8	4
HSSL0504 T	5	25	65	8	4
HSSL0604 T	6	25	65	8	4
HSSL0704 T	7	35	80	10	4
HSSL0804 T	8	35	80	10	4
HSSL0904 T	9	45	95	10	4
HSSL1004 T	10	45	95	10	4
HSSL1104 T	11	55	105	12	4
HSSL1204 T	12	55	105	12	4
HSSL1304 T	13	55	110	12	4
HSSL1404 T	14	55	110	16	4
HSSL1504 T	15	65	120	16	4
HSSL1604 T	16	65	120	16	4
HSSL1704 T	17	65	130	20	4
HSSL1804 T	18	65	130	20	4
HSSL1904 T	19	75	140	20	4
HSSL2004 T	20	75	140	20	4
HSSL2104 T	21	75	140	20	4
HSSL2204 T	22	75	140	20	4
HSSL2304 T	23	90	160	25	4
HSSL2404 T	24	90	160	25	4
HSSL2504 T	25	90	160	25	4
HSSL2604 T	26	90	160	25	4
HSSL2704 T	27	90	160	25	4
HSSL2804 T	28	90	160	25	4
HSSL2904 T	29	90	160	25	4
HSSL3004 T	30	90	160	25	4
HSSL3104 T	31	105	190	32	4
HSSL3204 T	32	105	190	32	4

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Unit/單位: mm

Fine Pitch Roughing - 4 flutes

■ 4刃粗精銑刀

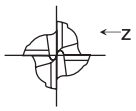
- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

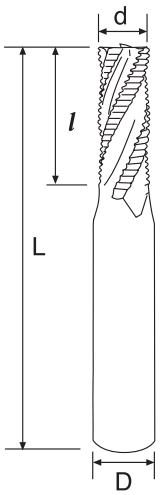
HSS HRC ▶40 30°

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	*l* 刃長	L 全長	D 柄徑	Z 刃數
HSSNTA0604	6	15	60	6	3
HSSNTA0704	7	20	65	10	3
HSSNTA0804	8	20	65	10	3
HSSNTA0904	9	25	65	10	3
HSSNTA1004	10	25	75	10	4
HSSNTA1104	11	30	80	12	4
HSSNTA1204	12	30	80	12	4
HSSNTA1304	13	35	90	12	4
HSSNTA1404	14	35	90	12	4
HSSNTA1504	15	40	95	12	4
HSSNTA1604	16	40	95	16	4
HSSNTA1804	18	40	105	16	4
HSSNTA2004	20	45	110	20	4
HSSNTA2205	22	45	110	25	4
HSSNTA2505	25	50	120	25	5
HSSNTA2806	28	55	120	25	6
HSSNTA3006	30	55	125	25	6
HSSNTA3206	32	60	145	32	6
HSSNTA3606	36	53	133	32	6
HSSNTA4006(D32)	40	53	133	32	6
HSSNTA4006(D40)	40	63	155	40	6
HSSNTA4506	45	75	177	50	6





Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

Fine Pitch Roughing - 4 flutes -TiCN

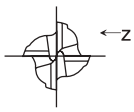
■ 4刃粗精銑刀

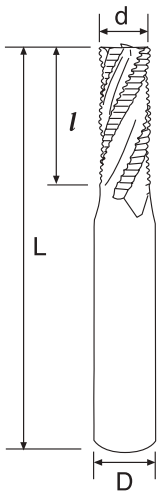
- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS HRC ▶45 30° TiCN

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting





MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSNTA0604 T	6	15	60	6	3
HSSNTA0704 T	7	20	65	10	3
HSSNTA0804 T	8	20	65	10	3
HSSNTA0904 T	9	25	65	10	3
HSSNTA1004 T	10	25	75	10	4
HSSNTA1104 T	11	30	80	12	4
HSSNTA1204 T	12	30	80	12	4
HSSNTA1304 T	13	35	90	12	4
HSSNTA1404 T	14	35	90	12	4
HSSNTA1504 T	15	40	95	12	4
HSSNTA1604 T	16	40	95	16	4
HSSNTA1804 T	18	40	105	16	4
HSSNTA2004 T	20	45	110	20	4
HSSNTA2205 T	22	45	110	25	4
HSSNTA2505 T	25	50	120	25	5
HSSNTA2806 T	28	55	120	25	6
HSSNTA3006 T	30	55	125	25	6
HSSNTA3206 T	32	60	145	32	6
HSSNTA3606 T	36	53	133	32	6
HSSNTA4006 T (D32)	40	53	133	32	6
HSSNTA4006 T (D40)	40	63	155	40	6
HSSNTA4506 T	45	75	177	50	6

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Roughing series - 4 flutes

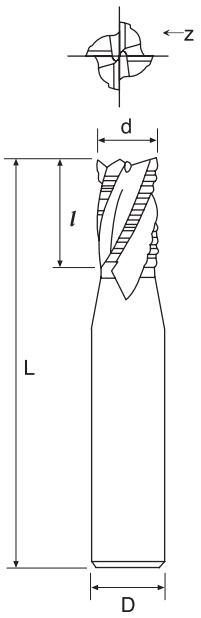
■ 4刃粗銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS HRC ▶40 30°

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSXTA0604	6	15	60	8	4
HSSXTA0704	7	20	65	10	4
HSSXTA0804	8	20	65	10	4
HSSXTA0904	9	25	75	12	4
HSSXTA1004	10	25	75	12	4
HSSXTA1104	11	30	80	12	4
HSSXTA1204	12	30	80	12	4
HSSXTA1304	13	35	90	16	4
HSSXTA1404	14	35	90	16	4
HSSXTA1504	15	40	90	16	4
HSSXTA1604	16	40	95	16	4
HSSXTA1804	18	40	105	20	4
HSSXTA2004	20	45	110	20	4
HSSXTA2205	22	45	110	20	5
HSSXTA2505	25	50	120	25	5
HSSXTA2806	28	55	125	25	6
HSSXTA3006	30	55	125	25	6
HSSXTA3206	32	60	145	32	6
HSSXTA3606	36	60	160	32	6
HSSXTA4006(D32)	40	65	160	32	6
HSSXTA4006(D40)	40	65	160	40	6
HSSXTA4506	45	75	177	50	6

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

SPEED TIGER

Roughing series - 4 flutes - TiCN

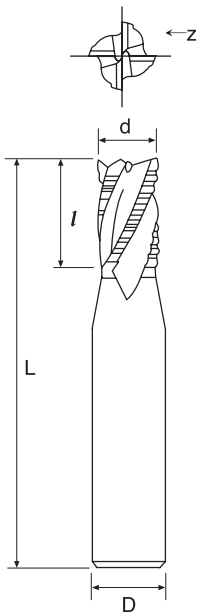
■ 4刃粗銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS HRC ▶45 30° TiCN

● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting



MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSXTA0604 T	6	15	60	8	4
HSSXTA0704 T	7	20	65	10	4
HSSXTA0804 T	8	20	65	10	4
HSSXTA0904 T	9	25	75	12	4
HSSXTA1004 T	10	25	75	12	4
HSSXTA1104 T	11	30	80	12	4
HSSXTA1204 T	12	30	80	12	4
HSSXTA1304 T	13	35	90	16	4
HSSXTA1404 T	14	35	90	16	4
HSSXTA1504 T	15	40	90	16	4
HSSXTA1604 T	16	40	95	16	4
HSSXTA1804 T	18	40	105	20	4
HSSXTA2004 T	20	45	110	20	4
HSSXTA2205 T	22	45	110	20	5
HSSXTA2505 T	25	50	120	25	5
HSSXTA2806 T	28	55	125	25	6
HSSXTA3006 T	30	55	125	25	6
HSSXTA3206 T	32	60	145	32	6
HSSXTA3606 T	36	60	160	32	6
HSSXTA4006 T (D32)	40	65	160	32	6
HSSXTA4006 T (D40)	40	65	160	32	6
HSSXTA4506 T	45	75	177	50	6

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Fine Pitch Roughing - Long Flute - 4 flutes

■ 4刃長刃粗精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS HRC ▶40 30°

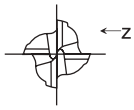
● Micro Grain High Speed steel

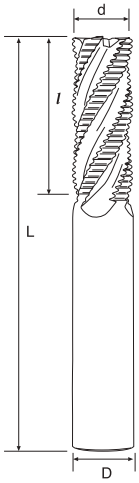
● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSLNTA0804	8	38	80	10	4
HSSLNTA1004	10	45	95	10	4
HSSLNTA1204	12	53	110	12	4
HSSLNTA1404	14	53	110	12	4
HSSLNTA1604	16	63	123	16	4
HSSLNTA1804	18	63	123	16	4
HSSLNTA2004	20	75	141	20	4
HSSLNTA2205	22	75	141	20	5
HSSLNTA2505	25	90	166	25	5
HSSLNTA2806	28	90	166	25	6
HSSLNTA3006	30	90	166	25	6
HSSLNTA3206	32	106	186	32	6
HSSLNTA3606	36	100	170	32	6

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意 ： 為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。





1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make HSS efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使 HSS 發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用不水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高30%-50%。

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

SPEED TIGER

Fine Pitch Roughing - Long Flute - 4 flutes - TiCN

■ 4刃長刃粗精銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS | HRC ▶45 | 30° | TiCN

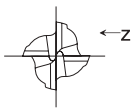
● Micro Grain High Speed steel

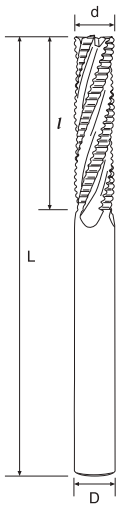
● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSLNTA0804 T	8	38	80	10	4
HSSLNTA1004 T	10	45	95	10	4
HSSLNTA1204 T	12	53	110	12	4
HSSLNTA1404 T	14	53	110	12	4
HSSLNTA1604 T	16	63	123	16	4
HSSLNTA1804 T	18	63	123	16	4
HSSLNTA2004 T	20	75	141	20	4
HSSLNTA2205 T	22	75	141	20	5
HSSLNTA2505 T	25	90	166	25	5
HSSLNTA2806 T	28	90	166	25	6
HSSLNTA3006 T	30	90	166	25	6
HSSLNTA3206 T	32	106	186	32	6
HSSLNTA3606 T	36	100	170	32	6

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意 ： 為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。





1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make HSS efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使 HSS 發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用不水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高30%~50%。

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

Roughing series - Long Flute - 4 flutes

■ 4刃長刃粗銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS HRC ▶40 30°

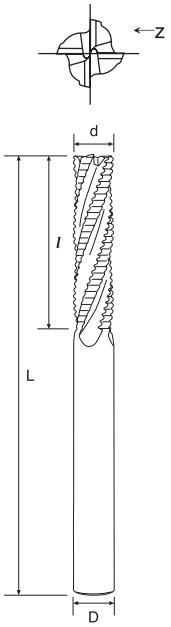
● Micro Grain High Speed steel

● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 直徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSLXTA0804	8	35	95	8	4
HSSLXTA1004	10	45	95	10	4
HSSLXTA1204	12	53	110	12	4
HSSLXTA1404	14	53	110	12	4
HSSLXTA1604	16	63	123	16	4
HSSLXTA1804	18	63	123	16	4
HSSLXTA2004	20	75	141	20	4
HSSLXTA2205	22	75	141	20	5
HSSLXTA2505	25	90	166	25	5
HSSLXTA2806	28	90	166	25	6
HSSLXTA3006	30	90	166	25	6
HSSLXTA3206	32	106	186	32	6
HSSLXTA3606	36	106	186	32	6

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意 ： 為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。



1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make HSS efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使 HSS 發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用不水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高30%-50%。

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	○						○	○

Unit/單位: mm

SPEED TIGER

Roughing series - Long Flute - 4 flutes - TiCN

■ 4刃長刃粗銑刀

- 含8%的鈷鋼
- 30° 螺旋角
- 應用所有材料
- 適用外型/切槽

HSS HRC ▶45 30° TiCN

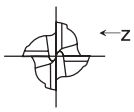
● Micro Grain High Speed steel

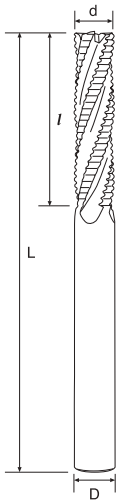
● · Co Content 8% · Helix degree: 30°
· Apply to all material
· Apply to surface milling/slotting

MODE	Diameter	Flute Length	Full Length	Shank Diameter	Flutes
型號	d 刃徑	l 刃長	L 全長	D 柄徑	Z 刃數
HSSLXTA0804 T	8	35	95	8	4
HSSLXTA1004 T	10	45	95	10	4
HSSLXTA1204 T	12	53	110	12	4
HSSLXTA1404 T	14	53	110	12	4
HSSLXTA1604 T	16	63	123	16	4
HSSLXTA1804 T	18	63	123	16	4
HSSLXTA2004 T	20	75	141	20	4
HSSLXTA2205 T	22	75	141	20	5
HSSLXTA2505 T	25	90	166	25	5
HSSLXTA2806 T	28	90	166	25	6
HSSLXTA3006 T	30	90	166	25	6
HSSLXTA3206 T	32	106	186	32	6
HSSLXTA3606 T	36	106	186	32	6

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意 ： 為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。





1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make HSS efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使 HSS 發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用不水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高30%-50%。

Application 適用材質：

◎ Recommend 最適合 ○ Suitable 適 合 X Not Recommend 不建議

carbon steel, Alloy steel 炭素鋼 ,合金鋼	Pre-harden steel 預硬鋼	High-hardened 高硬度鋼				Stainless steel 不銹鋼	Copper alloy 銅合金,銅	Aluminun alloy 鋁合金
	~45HRC	~50HRC	~55HRC	~60HRC	~65HRC			
◎	◎						○	○

• P-SSE/P-MSE/P-SE 2 FLUTES SLOTTING
P-SSE/P-MSE/P-SE 2刃 溝銑

WORK MATERIAL 被切削材	COPPER, COPPER ALLOY銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼			
			~32HRC		33~41HRC		42~50HRC	
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
1	47,500	280	17,500	96	12,500	72	11,000	52
1.5	32,000	256	12,500	96	8,900	72	7,900	52
2	24,000	248	9,700	104	7,000	72	6,300	56
2.5	20,000	280	8,200	128	6,100	72	5,300	56
3	16,000	320	6,900	136	5,300	80	4,400	60
3.5	14,000	336	6,000	152	4,600	96	3,800	64
4	12,000	360	5,400	168	4,200	100	3,500	72
4.5	10,500	400	5,100	192	3,900	104	3,200	76
5	9,500	432	4,800	216	3,500	104	3,000	80
5.5	8,800	432	4,400	216	3,200	104	2,700	80
6	7,900	424	4,000	216	2,900	104	2,500	80
6.5	7,500	424	3,700	216	2,700	104	2,300	80
7	6,900	424	3,400	216	2,500	104	2,100	80
7.5	6,400	424	3,200	216	2,300	104	2,000	80
8	5,900	416	3,000	208	2,200	100	1,900	80
8.5	5,600	416	2,800	208	2,000	100	1,700	80
9	5,300	408	2,600	208	1,900	100	1,500	80
9.5	5,100	408	2,500	208	1,800	100	1,400	76
10	4,700	400	2,400	200	1,700	100	1,500	76
11	4,400	400	2,200	200	1,600	100	1,100	76
12	4,000	408	2,000	200	1,400	100	1,200	76
16	3,000	320	1,500	160	1,100	92	800	64
18	2,700	288	1,300	144	900	80	700	56
20	2,400	240	1,200	120	800	72	600	48

DEPTH OF CUT 加工深度

Unit/單位: mm

• P-LNT 2 FLUTES SLOTTING P-LNT 2刃 溝銑

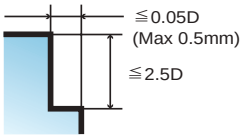
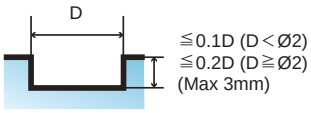
WORK MATERIAL 被切削材		COPPER, COPPER ALLOY 銅、鋁合金			MILD STEELS, CARBON STEELS,SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼			HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELSSKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼					
					~32HRC			33~41HRC			42~50HRC		
MILL DIA. (mm) 直徑	(FLUTE LENGTH) 有效長	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap
0.5	2	38,500	480	0.054	32,000	400	0.045	32,000	320	0.038	29,000	240	0.030
	4	33,500	384	0.025	28,000	320	0.021	28,000	256	0.018	25,000	200	0.014
	6	26,500	336	0.007	22,000	280	0.006	22,000	176	0.005	20,000	144	0.004
0.6	2	38,500	576	0.065	32,000	480	0.054	32,000	320	0.045	27,000	240	0.036
	4	33,500	432	0.048	28,000	360	0.040	28,000	240	0.033	25,000	160	0.260
	6	26,500	240	0.022	22,000	200	0.018	22,000	160	0.015	20,000	120	0.012
0.7	4	33,500	432	0.055	28,000	360	0.046	28,000	240	0.039	22,000	240	0.031
	6	33,500	432	0.035	28,000	360	0.029	28,000	160	0.250	22,000	160	0.020
0.8	4	38,500	576	0.064	32,000	480	0.053	32,000	480	0.044	25,000	320	0.035
	6	31,000	432	0.041	26,000	360	0.034	26,000	320	0.028	21,000	240	0.022
	8	26,500	336	0.290	22,000	280	0.024	22,000	240	0.020	18,000	200	0.016
0.9	6	36,000	960	0.071	30,000	800	0.059	28,000	624	0.050	22,000	480	0.040
	8	31,000	768	0.046	26,000	640	0.038	25,000	480	0.032	19,000	320	0.025
	10	24,000	576	0.032	20,000	480	0.027	20,000	400	0.023	16,000	240	0.018
1.0	6	32,500	960	0.084	27,000	800	0.070	26,000	720	0.060	20,000	480	0.040
	8	27,500	768	0.048	23,000	640	0.040	22,000	560	0.040	18,000	320	0.030
	10	23,000	576	0.036	19,000	480	0.030	18,000	400	0.028	15,000	240	0.020
	12	23,000	576	0.024	19,000	480	0.020	18,000	400	0.019	15,000	240	0.010
	16	18,000	288	0.010	15,000	240	0.008	15,000	240	0.007	12,000	160	0.006
1.2	6	27,500	960	0.096	23,000	800	0.080	22,000	720	0.070	18,000	560	0.060
	8	24,000	672	0.084	20,000	560	0.070	19,000	560	0.050	17,000	480	0.050
	10	24,000	672	0.060	20,000	560	0.050	19,000	560	0.040	14,000	320	0.040
	12	20,500	576	0.048	17,000	480	0.040	16,000	400	0.030	14,000	320	0.030
1.4	6	24,000	960	0.156	20,000	800	0.013	19,000	720	0.110	15,000	480	0.090
	10	21,500	768	0.072	18,000	640	0.050	17,000	560	0.040	13,000	320	0.030
	16	18,000	576	0.036	15,000	480	0.030	14,000	400	0.020	11,000	240	0.020
1.5	6	21,500	960	0.168	18,000	800	0.014	18,000	720	0.110	14,000	480	0.090
	8	19,000	768	0.120	16,000	640	0.010	15,000	560	0.080	12,000	320	0.070
	10	19,000	768	0.096	16,000	640	0.080	15,000	560	0.070	12,000	320	0.050
	12	19,000	768	0.072	16,000	640	0.060	15,000	560	0.050	12,000	320	0.040
	14	19,000	768	0.060	16,000	640	0.050	15,000	560	0.045	12,000	320	0.035
	16	17,000	576	0.060	14,000	480	0.050	13,000	400	0.040	10,000	240	0.030
	18	17,000	576	0.036	14,000	480	0.030	13,000	400	0.020	10,000	240	0.020
	20	14,500	400	0.024	12,000	336	0.020	11,000	304	0.015	10,000	240	0.010
1.6	6	20,500	960	0.180	17,000	800	0.150	17,000	720	0.130	13,000	480	0.100
	8	18,000	768	0.168	15,000	640	0.140	15,000	560	0.120	11,000	320	0.100
	10	18,000	768	0.132	15,000	640	0.110	15,000	560	0.090	11,000	320	0.070
	12	18,000	768	0.084	15,000	640	0.070	15,000	560	0.060	11,000	320	0.050
	14	18,000	768	0.072	15,000	640	0.060	15,000	560	0.050	11,000	320	0.040
	16	15,500	576	0.060	13,000	480	0.050	13,000	400	0.040	9,000	240	0.035
	18	15,500	576	0.048	13,000	480	0.040	13,000	400	0.030	9,000	240	0.030
1.8	8	19,000	1,040	0.252	16,000	880	0.210	15,000	800	0.170	12,000	560	0.130
	14	17,000	768	0.096	14,000	640	0.080	14,000	560	0.060	10,000	400	0.050
	20	14,500	576	0.048	12,000	480	0.040	12,000	400	0.040	8,000	320	0.030
2.0	6	18,000	1,040	0.372	15,000	880	0.310	14,000	800	0.260	11,000	560	0.210
	8	18,000	1,040	0.312	15,000	880	0.260	14,000	800	0.220	11,000	560	0.180
	10	15,500	768	0.288	13,000	640	0.240	12,000	560	0.200	9,000	400	0.160
	12	15,500	768	0.156	13,000	640	0.130	12,000	560	0.110	9,000	400	0.090
	14	15,500	768	0.132	13,000	640	0.110	12,000	560	0.090	9,000	400	0.070
	16	15,500	768	0.096	13,000	640	0.080	12,000	560	0.070	9,000	400	0.060
	18	15,500	768	0.084	13,000	640	0.070	12,000	560	0.060	9,000	400	0.050
	20	13,000	576	0.060	11,000	480	0.050	10,000	400	0.050	7,000	320	0.040
2.5	8	14,500	1,040	0.468	12,000	880	0.039	11,000	800	0.330	9,000	560	0.260
	10	14,500	1,040	0.396	12,000	880	0.033	11,000	800	0.280	9,000	560	0.220
	12	14,500	1,040	0.276	12,000	880	0.230	11,000	800	0.190	9,000	560	0.150
	14	12,000	768	0.204	12,000	640	0.170	9,000	560	0.140	7,000	400	0.110
	16	12,000	768	0.144	12,000	640	0.120	9,000	560	0.100	7,000	400	0.080
	20	12,000	768	0.108	12,000	640	0.090	9,000	560	0.090	7,000	400	0.060

Unit/單位: mm

• P-LNT 2 FLUTES SLOTTING P-LNT 2刃 溝銑

WORK MATERIAL 被切削材		COPPER, COPPER ALLOY 銅、鋁合金			MILD STEELS, CARBON STEELS,SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼			HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELSSKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼					
					~32HRC			33~41HRC			42~50HRC		
MILL DIA. (mm) 直徑	(FLUTE LENGTH) 有效長	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	ap
3.0	8	12,000	1,040	0.432	10,000	880	0.360	10,000	800	0.300	8,000	560	0.240
	10	12,000	1,040	0.348	10,000	880	0.290	10,000	800	0.240	8,000	560	0.190
	12	12,000	1,040	0.324	10,000	880	0.270	10,000	800	0.230	8,000	560	0.180
	16	12,000	768	0.240	10,000	640	0.200	9,000	560	0.170	6,000	400	0.130
	20	12,000	768	0.156	10,000	640	0.130	9,000	560	0.110	6,000	400	0.080
	25	12,000	768	0.132	10,000	640	0.110	9,000	560	0.090	6,000	400	0.070
4.0	12	8,550	1,080	0.456	7,000	880	0.380	7,000	800	0.320	6,000	560	0.260
	16	8,550	1,080	0.432	7,000	880	0.360	7,000	800	0.300	6,000	560	0.240
	20	8,550	776	0.408	7,000	640	0.340	6,000	560	0.280	5,000	400	0.220
	25	8,550	776	0.312	7,000	640	0.260	6,000	560	0.220	5,000	400	0.180
	30	8,550	776	0.228	7,000	640	0.190	6,000	560	0.160	5,000	400	0.130
	35	8,550	776	0.204	7,000	640	0.170	6,000	560	0.140	5,000	400	0.110
DEPTH OF CUT 加工深度													

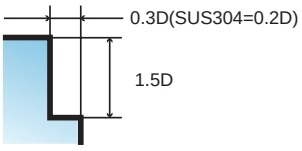
• P-LET 2 FLUTES SIDE MILING P-LET 2刃 側銑

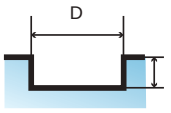
WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼			
			~32HRC		33~41HRC		42~50HRC	
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
1	9,800	96	5,700	36	5,400	40	-	-
1.5	7,000	104	3,900	36	3,600	40	-	-
2	5,200	96	3,000	36	2,800	40	-	-
2.5	4,100	112	2,500	44	2,500	40	-	-
3	3,400	120	2,100	48	2,100	40	1,900	24
3.5	2,800	128	1,800	56	1,800	44	1,600	24
4	2,400	136	1,600	60	1,600	52	1,400	28
4.5	2,100	160	1,500	68	1,500	52	1,300	32
5	2,000	168	1,400	76	1,400	52	1,300	32
5.5	1,800	168	1,300	76	1,300	52	1,100	32
6	1,600	168	1,200	76	1,200	52	1,000	32
8	1,100	160	900	76	900	52	800	32
10	900	160	700	72	700	52	630	32
12	800	160	600	72	600	52	525	32
DEPTH OF CUT 加工深度	 							

• P-MPE/P-PE (45°) 3 FLUTES SLOTTING
P-MPE/P-PE(45°) 3刃 溝銑

WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼			
			~32HRC		33~41HRC		42~50HRC	
直徑 MILL DIA. (mm)	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
1	47,500	420	17,500	144	12,500	108	11,000	78
1.5	32,000	384	12,500	144	8,900	108	7,900	78
2	24,000	372	9,700	156	7,000	108	6,300	84
2.5	20,000	420	8,200	192	6,100	108	5,300	84
3	16,000	480	6,900	204	5,300	120	4,400	90
3.5	14,000	504	6,000	228	4,600	144	3,800	96
4	12,000	540	5,400	252	4,200	150	3,500	108
4.5	10,500	600	5,100	288	3,900	156	3,200	114
5	9,500	648	4,800	324	3,500	156	3,000	120
5.5	8,800	648	4,400	324	3,200	156	2,700	120
6	7,900	636	4,000	324	2,900	156	2,500	120
6.5	7,500	636	3,700	324	2,700	156	2,300	120
7	6,900	636	3,400	324	2,500	156	2,100	120
7.5	6,400	636	3,200	324	2,300	156	2,000	120
8	5,900	624	3,000	312	2,200	150	1,900	120
8.5	5,600	624	2,800	312	2,000	150	1,700	120
9	5,300	612	2,600	312	1,900	150	1,500	120
9.5	5,100	612	2,500	312	1,800	150	1,400	114
10	4,700	600	2,400	300	1,700	150	1,500	114
11	4,400	600	2,200	300	1,600	150	1,100	114
12	4,000	612	2,000	300	1,400	150	1,200	114
16	3,000	480	1,500	240	1,100	138	800	96
18	2,700	432	1,300	216	900	120	700	84
20	2,400	360	1,200	180	800	108	600	72

DEPTH OF CUT 加工深度





Unit/單位: mm

• P-SSE/P-MSE/P-SE/P-MPE/P-PE(45˚) 4T SIDE MILLING
P-SSE/P-MSE/P-SE/P-MPE/P-PE(45˚) 4刃 側銑

WORK MATERIAL 被切削材	MILD STEELS, CARBON STEELS, CAST IRON SS400、S55C、FC250 (~750N/mm²) 一般構造用鋼、碳素鋼、鑄鐵		ALLOY STEELS, TOOL STEELS SCM、SKT、SKS、SKD (~30HRC) 合金鋼、工具鋼		HARDENED STEELS, PREHARDENED STEELS SKT、SKD、NAK55、HPM1 (30~38HRC) 調質鋼、預硬鋼		STAINLESS STEELS, HARDENED STEELS SUS304、SKD (38~45HRC)不銹鋼、調質鋼		HARDENED STEELS, TITANIUM ALLOY STEELS (45~55HRC) 調質鋼、鈦合金		HEAT RESISTANT ALLOY STEELS INCONEL 耐熱合金鋼、高鎳合金	
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
3	12,500	880	9,550	672	8,100	500	7,650	492	7,400	436	3,800	176
4	9,750	960	7,550	788	6,400	544	6,050	568	5,850	504	3,000	192
5	7,950	1,040	6,150	840	5,250	580	4,950	620	4,800	536	2,450	196
6	6,750	1,280	5,250	960	4,450	712	4,200	668	4,050	556	2,100	200
8	5,050	1,240	3,950	880	3,350	652	3,150	648	3,050	540	1,600	180
10	4,100	1,160	3,200	840	2,700	580	2,550	572	2,450	508	1,250	172
12	3,400	1,120	2,650	800	2,250	576	2,100	540	2,050	484	1,050	168
16	2,550	960	2,000	752	1,700	508	1,600	444	1,550	404	765	168
20	2,050	788	1,600	604	1,350	472	1,250	412	1,250	368	635	160
25	1,650	704	1,250	540	1,100	428	1,000	388	990	316	510	148

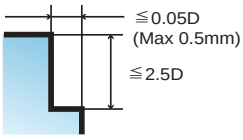
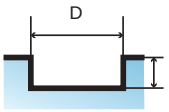
DEPTH OF CUT 加工深度

• P-SSE/P-MSE/P-SE/P-MPE/P-PE(45˚) 4刃 溝銑
P-SSE/P-MSE/P-SE/P-MPE/P-PE(45˚) 4T SLOTTING

WORK MATERIAL 被切削材	MILD STEELS, CARBON STEELS, CAST IRON SS400、S55C、FC250 (~750N/mm²) 一般構造用鋼、碳素鋼、鑄鐵		ALLOY STEELS, TOOL STEELS SCM、SKT、SKS、SKD (~30HRC) 合金鋼、工具鋼		HARDENED STEELS, PREHARDENED STEELS SKT、SKD、NAK55、HPM1 (30~38HRC) 調質鋼、預硬鋼		STAINLESS STEELS, HARDENED STEELS SUS304、SKD (38~45HRC)不銹鋼、調質鋼		HARDENED STEELS, TITANIUM ALLOY STEELS (45~55HRC) 調質鋼、鈦合金		HEAT RESISTANT ALLOY STEELS INCONEL 耐熱合金鋼、高鎳合金	
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
3	10,500	584	8,550	544	7,850	416	7,450	368	7,200	352	2,500	100
4	7,750	584	6,400	620	5,900	416	5,550	412	5,400	396	1,900	108
5	6,200	588	5,100	604	4,700	436	4,450	436	4,300	428	1,500	116
6	5,150	592	4,250	508	3,950	460	3,700	456	3,600	436	1,250	116
8	3,850	480	3,200	440	2,950	440	2,800	420	2,700	408	945	124
10	3,100	464	2,550	432	2,350	384	2,250	380	2,150	364	760	116
12	2,600	448	2,150	380	1,950	368	1,850	352	1,800	348	630	116
16	1,950	444	1,600	344	1,500	296	1,400	296	1,350	292	475	88
20	1,550	380	1,300	304	1,200	284	1,100	264	1,100	264	380	88
25	1,250	360	1,000	292	945	252	890	228	865	188	300	84

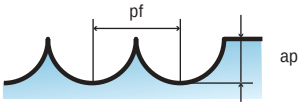
DEPTH OF CUT 加工深度

• P-LET 4 FLUTES SIDE MILLING
P-LET 4刃 側銑

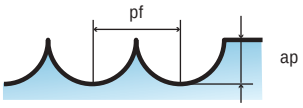
WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼		
			~32HRC		33~41HRC		42~50HRC
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速
1	5,880	96	3,420	36	3,240	40	-
1.5	4,200	104	2,340	36	2,160	40	-
2	3,120	96	1,800	36	1,680	40	-
2.5	2,460	112	1,500	44	1,500	40	-
3	2,040	120	1,260	48	1,260	40	1,140
3.5	1,680	128	1,080	56	1,080	44	960
4	1,440	136	960	60	960	52	840
4.5	1,260	160	900	68	900	52	780
5	1,200	168	840	76	840	52	780
5.5	1,080	168	780	76	780	52	660
6	960	168	720	76	720	52	600
8	660	160	540	76	540	52	480
10	540	160	420	72	420	52	378
12	480	160	360	72	360	52	315
DEPTH OF CUT 加工深度	 						

Unit/單位: mm

• P-SSB/P-MSB/P-SB 2 FLUTES REGULAR MILLING
P-SSB/P-MSB/P-SB 2刃 標準切削

WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金				MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼				HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼							
					~32HRC				33~41HRC				42~50HRC			
R	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf
R 0.05	40,000	120	0.003	0.005	32,000	60	0.005	0.005	32,000	40	0.005	0.005	32,000	28	0.005	0.005
R 0.1	40,000	240	0.010	0.020	32,000	160	0.010	0.010	32,000	160	0.010	0.010	32,000	160	0.005	0.005
R0.2	40,000	392	0.020	0.080	32,000	328	0.020	0.080	32,000	264	0.040	0.080	32,000	164	0.020	0.040
R0.3	40,000	464	0.030	0.120	32,000	392	0.030	0.120	32,000	336	0.060	0.120	32,000	212	0.030	0.060
R0.4	40,000	528	0.040	0.160	32,000	440	0.040	0.160	31,500	336	0.080	0.160	27,500	232	0.040	0.080
R0.5	32,000	600	0.050	0.200	31,500	496	0.050	0.200	25,000	320	0.100	0.200	22,000	228	0.050	0.100
R1	19,000	600	0.200	0.400	15,500	496	0.200	0.400	12,500	320	0.200	0.400	11,000	232	0.100	0.200
R1.5	12,500	608	0.300	0.600	10,500	504	0.300	0.600	8,450	324	0.300	0.600	7,400	232	0.150	0.300
R2	9,500	608	0.400	0.800	7,950	504	0.400	0.800	6,350	356	0.400	0.080	5,550	296	0.200	0.400
R3	6,300	640	0.600	1.200	5,300	536	0.600	1.200	4,200	372	0.600	1.200	3,700	312	0.300	0.600
R4	4,750	760	0.800	1.600	3,950	632	0.800	1.600	3,150	444	0.800	1.600	2,750	364	0.400	0.800
R5	3,800	712	1.000	2.000	3,150	596	1.000	2.000	2,500	420	1.000	2.000	2,200	344	0.500	1.000
R6	3,170	672	1.200	2.400	2,650	560	1.200	2.400	2,100	392	1.200	2.400	1,850	344	0.600	1.200
R8	2,400	504	1.600	3.200	1,990	420	1.600	3.200	1,580	296	1.600	3.200	1,390	260	0.800	1.600
R10	1,900	400	2.000	4.000	1,590	336	2.000	4.000	1,260	232	2.000	4.000	1,110	208	1.000	2.000
DEPTH OF CUT 加工深度																

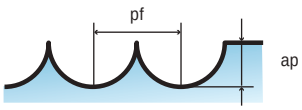
• P-SSB/P-MSB/P-SB 2 FLUTES HIGH-SPEED LIGHT MILLING
P-SSB/P-MSB/P-SB 2刃 高速切削

WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金				MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼				HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼							
					~32HRC				33~41HRC				42~50HRC			
R	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min⁻¹) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf
R 0.5	50,000	2,680	0.020	0.050	50,000	2,240	0.020	0.050	50,000	2,000	0.020	0.050	47,500	1,800	0.020	0.050
R1	31,500	2,680	0.040	0.100	25,000	2,240	0.040	0.100	24,500	2,000	0.040	0.100	23,500	1,800	0.040	0.100
R1.5	21,000	2,680	0.060	0.150	16,500	2,240	0.060	0.150	16,000	2,000	0.060	0.150	15,500	1,800	0.060	0.150
R2	15,500	3,264	0.080	0.200	15,500	2,720	0.080	0.200	15,000	2,200	0.080	0.200	13,500	1,960	0.080	0.200
R3	10,500	4,128	0.120	0.300	13,500	3,440	0.300	0.600	11,500	2,200	0.300	0.600	9,500	1,800	0.120	0.300
R4	7,900	3,072	0.160	0.400	10,000	2,560	0.400	0.800	8,950	1,680	0.400	0.800	7,150	1,360	0.160	0.400
R5	6,300	2,496	0.200	0.500	8,250	2,080	0.500	1.000	7,150	1,360	0.500	1.000	5,700	1,080	0.200	0.500
R6	5,250	2,064	0.240	0.600	6,850	1,720	0.500	2.400	5,950	1,120	0.500	2.400	4,750	880	0.240	0.600
R8	4,950	1,240	0.320	0.800	4,110	1,032	0.500	3.200	4,460	840	0.500	3.200	3,560	656	0.320	0.800
R10	3,950	992	0.400	1.000	3,290	824	0.500	4.000	3,570	672	0.500	4.000	2,850	528	0.320	1.000
DEPTH OF CUT 加工深度																

• P-LNBT 2 FLUTES REGULAR MILLING
P-LNBT 2刃 標準切削

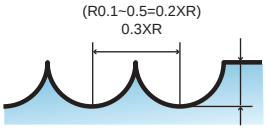
WORK MATERIAL 被切削材		COPPER, COPPER ALLOY 銅、鋁合				MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼				HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼							
						~32HRC				33~41HRC				42~50HRC			
R	(FLUTE LENGTH) 有效長	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	DEPTH OF CUT 加工深度 ap	DEPTH OF CUT 加工深度 pf
0.25	2	32,000	480	0.040	0.050	32,000	320	0.020	0.025	32,000	240	0.020	0.020	32,000	240	0.010	0.010
	4	27,000	360	0.040	0.050	27,000	240	0.020	0.025	27,000	160	0.020	0.020	27,000	160	0.010	0.010
	6	21,000	240	0.020	0.030	20,000	160	0.010	0.015	20,000	120	0.010	0.010	20,000	120	0.010	0.010
0.30	2	32,000	540	0.045	0.120	32,000	360	0.030	0.060	32,000	240	0.030	0.050	32,000	240	0.030	0.030
	4	30,000	300	0.045	0.120	25,000	200	0.030	0.060	24,000	160	0.030	0.040	24,000	160	0.030	0.030
	6	25,000	180	0.045	0.120	20,000	120	0.030	0.060	20,000	120	0.030	0.040	20,000	120	0.020	0.020
0.40	4	27,000	540	0.060	0.160	23,000	360	0.040	0.080	21,000	240	0.040	0.060	21,000	240	0.040	0.040
	6	24,000	300	0.060	0.120	21,000	200	0.040	0.080	19,000	160	0.040	0.050	19,000	160	0.020	0.025
	8	22,000	180	0.060	0.120	19,000	120	0.040	0.060	17,000	120	0.040	0.050	17,000	120	0.020	0.025
0.50	6	21,000	360	0.075	0.200	19,000	240	0.050	0.100	16,000	160	0.050	0.080	16,000	160	0.050	0.050
	8	21,000	360	0.075	0.150	19,000	240	0.050	0.075	16,000	160	0.050	0.060	16,000	160	0.030	0.030
	10	18,000	240	0.060	0.120	17,000	160	0.030	0.050	14,000	120	0.030	0.040	14,000	120	0.010	0.015
	12	18,000	240	0.060	0.120	17,000	160	0.030	0.050	14,000	120	0.030	0.040	14,000	120	0.010	0.015
0.60	6	20,000	360	0.090	0.240	17,000	240	0.060	0.120	14,000	160	0.060	0.100	14,000	160	0.060	0.060
	8	20,000	360	0.090	0.240	17,000	240	0.060	0.120	14,000	160	0.060	0.100	14,000	160	0.060	0.060
	10	20,000	360	0.090	0.180	17,000	240	0.060	0.090	14,000	160	0.060	0.070	14,000	160	0.030	0.030
	12	16,000	240	0.090	0.180	14,000	160	0.060	0.090	11,000	120	0.060	0.070	11,000	120	0.030	0.030
0.70	16	13,000	240	0.090	0.180	12,000	160	0.060	0.090	9,000	120	0.040	0.070	9,000	120	0.010	0.030
0.75	6	18,000	600	0.120	0.300	15,000	400	0.080	0.150	12,000	280	0.080	0.120	12,000	240	0.080	0.100
	8	17,000	360	0.120	0.300	15,000	240	0.080	0.150	12,000	200	0.080	0.120	12,000	200	0.080	0.100
	10	17,000	360	0.120	0.300	15,000	240	0.080	0.150	12,000	200	0.080	0.120	12,000	200	0.080	0.100
	12	17,000	360	0.120	0.240	15,000	240	0.080	0.120	12,000	200	0.080	0.090	12,000	200	0.050	0.060
	14	17,000	360	0.120	0.240	15,000	240	0.080	0.120	12,000	200	0.080	0.090	12,000	200	0.050	0.060
	16	13,000	240	0.090	0.180	12,000	160	0.060	0.010	9,500	120	0.060	0.070	9,500	120	0.010	0.030
	18	13,000	240	0.090	0.180	12,000	160	0.060	0.010	9,500	120	0.060	0.070	9,500	120	0.010	0.030
	20	13,000	240	0.090	0.180	12,000	160	0.060	0.010	9,500	120	0.060	0.070	9,500	120	0.010	0.030
0.80	8	16,500	360	0.120	0.320	14,000	240	0.080	0.160	11,000	200	0.080	0.130	11,000	200	0.080	0.100
	12	16,500	360	0.120	0.240	14,000	240	0.080	0.120	11,000	200	0.080	0.080	11,000	200	0.050	0.050
	16	11,500	240	0.120	0.240	11,000	160	0.080	0.120	9,000	120	0.080	0.080	9,000	120	0.050	0.050
	20	11,500	240	0.090	0.200	11,000	160	0.060	0.120	9,000	120	0.060	0.075	9,000	120	0.015	0.030
0.90	8	16,500	480	0.130	0.360	14,000	320	0.090	0.180	11,000	240	0.090	0.160	11,000	240	0.090	0.120
	20	11,000	240	0.100	0.220	11,000	160	0.060	0.130	8,000	160	0.060	0.080	8,000	160	0.020	0.030
1.00	8	14,000	840	0.150	0.560	16,500	400	0.100	0.280	10,000	240	0.100	0.280	10,000	240	0.100	0.200
	10	14,000	600	0.150	0.560	13,000	400	0.100	0.280	10,000	240	0.100	0.280	10,000	240	0.100	0.200
	12	14,000	600	0.150	0.560	13,000	400	0.100	0.280	10,000	240	0.100	0.280	10,000	240	0.100	0.200
	14	14,000	600	0.150	0.560	13,000	400	0.100	0.280	10,000	240	0.100	0.280	10,000	240	0.100	0.200
	16	14,000	600	0.150	0.420	13,000	400	0.100	0.210	10,000	240	0.100	0.180	10,000	240	0.060	0.100
	18	14,000	600	0.150	0.420	13,000	400	0.100	0.210	10,000	240	0.100	0.180	10,000	240	0.060	0.100
	20	11,000	300	0.150	0.420	10,000	200	0.100	0.210	8,000	160	0.100	0.180	8,000	160	0.060	0.100
1.25	20	12,000	480	0.180	0.560	10,000	320	0.120	0.280	8,500	240	0.120	0.200	8,500	240	0.080	0.150
1.50	12	10,000	720	0.200	0.840	9,500	480	0.150	0.420	7,500	320	0.150	0.360	7,500	320	0.150	0.300
	16	10,000	360	0.200	0.840	8,500	240	0.150	0.420	6,500	200	0.150	0.360	6,500	200	0.150	0.300
	20	10,000	360	0.200	0.840	8,500	240	0.150	0.420	6,500	200	0.150	0.360	6,500	200	0.150	0.300
	25	10,000	360	0.200	0.840	8,500	240	0.150	0.420	6,500	200	0.150	0.300	6,500	200	0.090	0.150
2.00	12	9,000	720	0.500	1.280	7,500	480	0.200	0.640	6,000	320	0.200	0.600	6,000	320	0.200	0.400
	16	9,000	720	0.500	1.280	7,500	480	0.200	0.640	6,000	320	0.200	0.600	6,000	320	0.200	0.400
	20	7,000	480	0.500	1.280	6,000	320	0.200	0.640	5,000	200	0.200	0.600	5,000	200	0.200	0.400
	25	7,000	480	0.500	1.280	6,000	320	0.200	0.640	5,000	200	0.200	0.600	5,000	200	0.200	0.400
	30	7,000	480	0.400	1.280	6,000	320	0.200	0.640	5,000	200	0.200	0.560	5,000	200	0.120	0.200

DEPTH OF CUT 加工深度

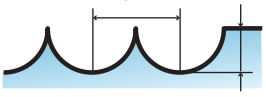


Unit/單位: mm

• P-SSB/P-MSB/P-SB 4 FLUTES REGULAR MILLING
P-SSB/P-MSB/P-SB 4刃 標準切削

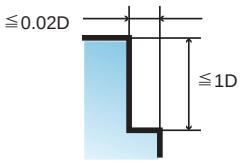
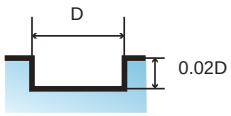
WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼			
			~32HRC		33~41HRC		42~50HRC	
R	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
R 0.05	40,000	180	32,000	90	32,000	60	32,000	42
R 0.1	40,000	360	32,000	240	32,000	240	32,000	240
R0.2	40,000	588	32,000	492	32,000	396	32,000	246
R0.3	40,000	696	32,000	588	32,000	504	32,000	318
R0.4	40,000	792	32,000	660	31,500	504	27,500	348
R0.5	32,000	900	31,500	744	25,000	480	22,000	342
R1	19,000	900	15,500	744	12,500	480	11,000	348
R1.5	12,500	912	10,500	756	8,450	486	7,400	348
R2	9,500	912	7,950	756	6,350	534	5,550	444
R3	6,300	960	5,300	804	4,200	558	3,700	468
R4	4,750	1,140	3,950	948	3,150	666	2,750	546
R5	3,800	1,068	3,150	894	2,500	630	2,200	516
R6	3,170	1,008	2,650	840	2,100	588	1,850	516
R8	2,400	756	1,990	630	1,580	444	1,390	390
R10	1,900	600	1,590	504	1,260	348	1,110	312
DEPTH OF CUT 加工深度	0.1xR(~45HRC) ~0.08XR(~50HRC)				 (R0.1~0.5=0.2XR) 0.3XR; ~0.16XR R≦0.3 (~45HRC); ~0.25XR R≦3 (~45HRC); ~0.17XR R≧4 (~45HRC); ~0.05XR (~50HRC)			

• P-SSB/P-MSB/P-SB 4 FLUTES HIGH-SPEED LIGHT MILLING
P-SSB/P-MSB/P-SB 4刃 高速切削

WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼			
			~32HRC		33~41HRC		42~50HRC	
R	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
R 0.5	50,000	4,020	50,000	3,360	50,000	3,000	47,500	2,700
R1	31,500	4,020	25,000	3,360	24,500	3,000	23,500	2,700
R1.5	21,000	4,020	16,500	3,360	16,000	3,000	15,500	2,700
R2	15,500	4,896	15,500	4,080	15,000	3,300	13,500	2,940
R3	10,500	6,192	13,500	5,160	11,500	3,300	9,500	2,700
R4	7,900	4,608	10,000	3,840	8,950	2,520	7,150	2,040
R5	6,300	3,744	8,250	3,120	7,150	2,040	5,700	1,620
R6	5,250	3,096	6,850	2,580	5,950	1,680	4,750	1,320
R8	4,950	1,860	4,110	1,548	4,460	1,260	3,560	984
R10	3,950	1,488	3,290	1,236	3,570	1,008	2,850	792
DEPTH OF CUT 加工深度	0.1xR(~45HRC) ~0.08XR(~50HRC)				 (R0.2~R0.5=0.1XR) 0.2XR; 0.1XR			

P-RTA 產品規格表 P110-113 Specification page
P-LRTA 產品規格表 P115 Specification page

• P-RTA/P-LRTA 2 FLUTES SLOTTING
P-RTA/P-LRTA 2刃 溝銑

WORK MATERIAL 被切削材	COPPER, COPPER ALLOY 銅、鋁合金		MILD STEELS, CARBON STEELS, SS400、S55C、FC250、NAK55 一般構造用鋼、碳素鋼		HARDENED STEELS, PREHARDENED STEELS, STAINLESS STEELS SKT、SKD61、NAK80、HPM1、DH 調質鋼、預硬鋼、不銹鋼			
			~32HRC		33~41HRC		42~50HRC	
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
2	24,000	248	9,700	104	7,000	72	6,300	56
3	16,000	320	6,900	136	5,300	80	4,400	60
4	12,000	360	5,400	168	4,200	100	3,500	72
5	9,500	432	4,800	216	3,500	104	3,000	80
6	7,900	424	4,000	216	2,900	104	2,500	80
8	5,900	416	3,000	208	2,200	100	1,900	80
10	4,700	400	2,400	200	1,700	100	1,500	76
12	4,000	408	2,000	200	1,400	100	1,200	76
DEPTH OF CUT 加工深度								

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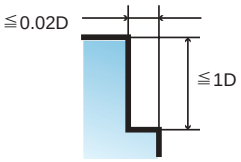
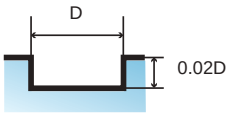
Unit/單位: mm

• P-RTA/P-LRTA 4 FLUTES SLOTTING
P-RTA/P-LRTA 4刃 溝銑

WORK MATERIAL 被切削材	MILD STEELS, CARBON STEELS, CAST IRON SS400、S55C、FC250 (~750N/mm²) 一般構造用鋼、碳素鋼、鑄鐵		ALLOY STEELS, TOOL STEELS SCM、SKT、SKS、SKD (~30HRC) 合金鋼、工具鋼		HARDENED STEELS, PREHARDENED STEELS SKT、SKD、NAK55、HPM1 (30~38HRC) 調質鋼、預硬鋼		STAINLESS STEELS, HARDENED STEELS SUS304、SKD (38~45HRC) 不銹鋼、調質鋼		HARDENED STEELS, TITANIUM ALLOY STEELS (45~55HRC) 調質鋼、鈦合金		HEAT RESISTANT ALLOY STEELS INCONEL 耐熱合金鋼、高鎳合金	
MILL DIA. (mm) 直徑	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速	SPEED (min^{-1}) 迴轉速	FEED (mm/min) 進給速
3	10,500	584	8,550	544	7,850	416	7,450	368	7,200	352	2,500	100
4	7,750	584	6,400	620	5,900	416	5,550	412	5,400	396	1,900	108
5	6,200	588	5,100	604	4,700	436	4,450	436	4,300	428	1,500	116
6	5,150	592	4,250	508	3,950	460	3,700	456	3,600	436	1,250	116
8	3,850	480	3,200	440	2,950	440	2,800	420	2,700	408	945	124
10	3,100	464	2,550	432	2,350	384	2,250	380	2,150	364	760	116
12	2,600	448	2,150	380	1,950	368	1,850	352	1,800	348	630	116
DEPTH OF CUT 加工深度	 											

• UMIE 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter D	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.2	25000	144	22500	130
D0.3	25000	171	22500	154
D0.4	25000	189	22500	170
D0.5	25000	216	22500	194
D0.6	25000	216	22500	194
D0.7	23000	252	20700	227
D0.8	21500	270	19350	243
D0.9	20000	324	18000	292

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意：為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。

1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make **nBS** efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再進行切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使**nBS**發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用非水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高 30%-50%。

Unit/單位: mm

• SFUMIE 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 60°	
Diameter D	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.2	25000	144	22500	130
D0.3	25000	171	22500	154
D0.4	25000	189	22500	170
D0.5	25000	216	22500	194
D0.6	25000	216	22500	194
D0.7	23000	252	20700	227
D0.8	21500	270	19350	134
D0.9	20000	324	18000	292

Unit/單位: mm

ULNT 產品規格表 P46 Specification page
SFULNT 產品規格表 P48 Specification page

• SFULNT,ULNT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter D	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.5-2	23000	280	19550	196
D0.5-4	19000	220	16150	154
D0.5-6	16000	190	13600	133
D0.6-2	23000	300	19550	210
D0.6-4	19000	260	16150	182
D0.6-6	16000	220	13600	154
D0.7-4	18500	320	15725	224
D0.7-6	15500	280	13175	196
D0.8-4	18500	330	15725	231
D0.8-6	15500	280	13175	196
D0.8-8	13000	230	11050	161
D0.9-6	14000	350	11900	245
D0.9-8	11000	310	9350	217
D0.9-10	9800	260	8330	182
D1-6	13000	380	11050	266
D1-8	10500	340	8925	238
D1-10	9600	270	8160	189
D1-12	9000	250	7650	175
D1.2-6	13000	380	11050	266
D1.2-8	10500	340	8925	238
D1.2-10	9600	270	8160	189
D1.2-12	9000	250	7650	175
D1.4-6	12000	400	10200	280
D1.4-10	9800	300	8330	210
D1.4-16	8700	220	7395	154
D1.5-6	11500	500	9775	350
D1.5-8	9300	390	7905	273
D1.5-10	8600	310	7310	217
D1.5-12	8100	260	6885	182
D1.5-14	7900	220	6715	154
D1.5-16	7500	190	6375	133
D1.5-18	7000	170	5950	119
D1.5-20	6300	150	5355	105
D1.6-6	11500	550	9775	385
D1.6-8	9300	500	7905	350
D1.6-10	8600	470	7310	329
D1.6-12	8100	450	6885	315

Unit/單位: mm

• SFULNT,ULNT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter D	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.6-14	7900	400	6715	280
D1.6-16	7500	330	6375	231
D1.6-18	7000	250	5950	175
D1.6-20	6300	200	5355	140
D1.8-8	11000	580	9350	406
D1.8-14	9100	420	7735	294
D1.8-20	6900	250	5865	175
D2-6	9800	580	8330	406
D2-8	9000	520	7650	364
D2-10	8500	450	7225	315
D2-12	7800	390	6630	273
D2-14	7200	340	6120	238
D2-16	6500	310	5525	217
D2-18	5800	270	4930	189
D2-20	4900	210	4165	147
D2.5-8	9500	600	8075	420
D2.5-12	7600	520	6460	364
D2.5-16	6100	440	5185	308
D2.5-20	4800	350	4080	245
D3-8	9100	600	7735	420
D3-12	7800	520	6630	364
D3-16	6300	470	5355	329
D3-20	5100	410	4335	287
D3-25	3800	360	3230	252
D3.5-12	8800	620	7480	434
D3.5-16	8300	530	7055	371
D3.5-20	5500	470	4675	329
D3.5-25	4300	390	3655	273
D3.5-30	3600	290	3060	203
D4-12	9500	700	8075	490
D4-16	8600	620	7310	434
D4-20	6200	550	5270	385
D4-25	4800	450	4080	315
D4-30	3300	320	2805	224
D4-35	2900	280	2465	196

CEL 產品規格表 P146 Specification page
SULNT 產品規格表 P177 Specification page

• CEL,SULNT 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材		Carbon Steels, Alloy Steels Prehardened Steels S50C, SCM, SKD, SUS, HPM, NAK 碳素鋼，合金鋼，調質鋼		Aluminum 鋁		Copper 銅		Plastics 塑膠	
Cutting Speed 切削速度		30~80m/min		100~200m/min		50~150m/min		50~80m/min	
Diameter (mm) 直徑	Ad Depth of cut (mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
0.2	0.002~0.01	47,800~	200~400	50,000~	200~400	50,000~	200~400	50,000~	200~400
0.3	0.002~0.02	31,800~	200~600	50,000~	200~600	50,000~	300~600	50,000~	200~600
0.4	0.002~0.02	23,900~	200~800	50,000~	200~800	39,800~	300~800	39,800~	200~800
0.5	0.001~0.04	19,100~	200~1,000	50,000~	200~1,000	31,800~	300~1,000	31,800~	200~1,000
1	0.002~0.05	9,600~25,500	300~1,300	31,800~	300~2,600	15,900~47,800	450~1,950	15,900~25,500	300~1,300
1.5	0.002~0.1	6,400~17,000	250~900	21,200~42,500	250~1,800	10,600~31,800	375~1,350	10,600~17,000	250~900
2	0.003~0.2	4,800~12,700	250~700	15,900~31,800	250~1,400	8,000~23,900	375~1,050	8,000~12,700	250~700
2.5	0.01~0.4	3,800~10,200	200~500	12,700~25,500	200~1,000	6,400~19,100	300~750	6,400~10,200	200~500
3	0.012~0.6	3,200~8,500	200~500	10,600~21,200	200~1,000	5,300~15,900	300~750	5,300~8,500	200~500

1. Adjust depth of cut according to effective length.
2. When under 20 (effective length / diameter), refer to the conditions listed above.
3. Use cutting fluid with retardant.
4. Recommend reciprocating cutting.

1.請參考刀具之有效長，來調整切削量及回轉數，床台進給速度。
2.上述條件為L1(有效長)/ D(刀徑)≦20 為基準，超出上述場合時；請大幅調整切削條件。
3.請使用不容易冒煙之切削油劑。
4.請使用往復方式進行切削。

Unit/單位: mm

• UET 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Diameter D	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.0	11500	384	8896	288	6720	243
D1.5	10800	480	8250	380	6400	290
D2.0	9472	448	8192	384	5760	320
D2.5	9100	500	8050	420	5600	320
D3.0	7680	550	7150	480	4992	320
D3.5	7200	610	6850	520	4680	350
D4.0	6950	680	6350	580	4480	350
D4.5	6660	700	6100	600	4500	360
D5.0	6400	700	5850	600	4310	360
D5.5	6200	750	5900	650	4100	380
D6.0	6200	750	5900	650	3900	380
D6.5	6000	800	5700	710	3800	410
D7.0	5900	850	5000	760	3700	420
D7.5	5900	850	4600	760	3600	420
D8.0	4500	950	2880	800	1850	470
D8.5	4100	1020	2450	900	1750	500
D10.0	2900	1400	1500	750	1100	380
D10.5	2800	1400	1350	680	1000	350
D11.0	2700	1300	1250	500	950	300
D11.5	2600	1300	1100	450	850	250
D12.0	2450	1000	1020	420	790	210
D12.5	2100	900	950	380	680	200
D13.0	1800	700	870	350	620	180
D14.0	1680	650	740	320	570	170
D15.0	1500	600	700	320	520	170
D16.0	1400	600	670	300	490	170
D17.0	1300	600	630	290	450	170
D18.0	1190	550	580	270	430	160
D19.0	1050	550	490	250	395	150
D20.0	920	550	440	210	310	120
D25.0	780	400	380	165	280	120

Unit/單位: mm

• SFUET 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC30° ~ 35°		HRC35° ~ 40°		HRC40° ~ 45°		HRC45° ~ 65°	
Diameter D	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D1.0	12800	480	11840	400	11120	360	10400	320	8400	304
D2.0	11840	560	11120	520	10240	480	8920	464	7200	400
D3.0	9600	880	8800	800	7840	720	7200	640	6240	400
D4.0	9200	1280	7840	1080	7200	760	6800	600	5600	544
D5.0	8000	1600	7600	1360	7120	1040	6240	640	4400	480
D6.0	8000	1600	7200	1320	6560	960	6080	760	4000	440
D8.0	5200	1760	4800	1440	3600	1200	3200	960	2000	520
D10.0	3040	1520	2400	1200	2000	880	1600	720	1280	400
D12.0	2560	1440	2160	1200	2000	960	1600	800	960	360

Unit/單位: mm

• SFULET,ULET,SULET 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			Alloy Steels,Tool Steels 調質鋼, SKD61, NAK等 Prehardened steels, AISI H13 合金鋼，工具鋼(30~45HRC)			Austenitic stainless steels SUS304, SUS316等 AISI 304, AISI 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61,SKD11, NAK,STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	30~50m/min			30~40m/min			20~30m/min			15~25m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝
1	13,000	60	60	9,500	45	45	8,000	35	35	6,400	25	25
1.5	8,500	60	60	6,400	45	45	5,300	35	35	4,200	25	25
2	6,400	60	60	4,800	45	45	4,000	35	35	3,200	25	25
2.5	5,100	60	60	3,800	45	45	3,200	40	40	2,500	25	25
3	4,200	65	60	3,400	55	45	2,600	40	40	2,100	25	25
4	3,400	80	60	2,700	65	45	2,100	50		1,700	35	25
							1,600		30			
5	2,900	100	60	2,300	80	45	1,800	60		1,500	40	25
							1,350		30			
6	2,500	120	60	2,000	100	50	1,500	75		1,300	50	25
							1,100		30			
8	1,900	130	60	1,500	100	50	1,200	80		1,000	50	25
							900		30			
10	1,600	130	60	1,300	100	50	950	75		800	50	25
							710		30			
12	1,300	120	60	1,100	100	50	800	75		670	50	25
							600		30			
16	1,000	80	40	820	65	30	600	45		500	30	15
							450		20			
20	800	65	30	650	50	25	480	40		400	25	13
							360		15			
25	650	50	25	520	40	20	380	30		320	20	10
							280		12			

Depth of cut (D:直徑Dia) 切削量基準

1. Please use SI coating tools for work materials of 50~60HRC.
2. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
3. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4. When drilling, please set the feed rate at 1/3 or below of the above value.

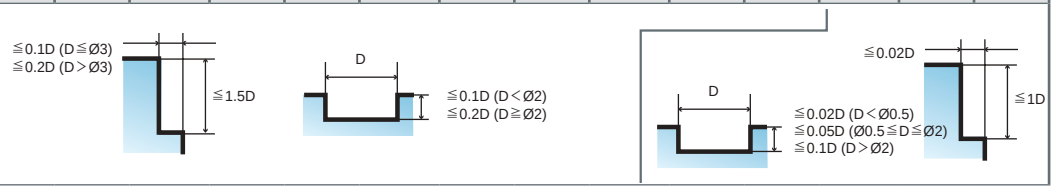
1.切削50~60 HRC 以上之材料時，請使用SI鍍膜之刀具。
2.切削沃斯田鐵系列不銹鋼時，請使用非水溶性切削油效果較好。
3.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
4.縱向進給時，進給速度請設定為上表之1/3以下。

JSE 產品規格表 P198 Specification page
SUMIE 產品規格表 P174 Specification page
SUPE 產品規格表 P175 Specification page
MIE 產品規格表 P26-27 Specification page
SLE/MLE 產品規格表 P40-41 Specification page

• JSE,SUMIE,SUPE,MIE,SLE/MLE 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Copper 銅			Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			(30~45HRC) Alloy Steels,Tool Steels 調質鋼, SKD61, NAK等 Prehardened steels, AISI H13 合金鋼，工具鋼			Austenitic stainless steels SUS304,SUS316等 AISI 304,AISI 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61,SKD11, NAK,STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	80~150m/min			50~100m/min			50~70m/min			30~60m/min			20~40m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝
0.2	40,000	90	30	40,000	-	120	40,000	-	100	28,000	-	60	32,000	-	25
0.3	40,000	130	40	40,000	-	160	40,000	-	120	28,000	-	70	32,000	-	35
0.4	40,000	170	55	40,000	-	200	40,000	-	160	28,000	-	90	24,000	-	35
0.5	40,000	210	70	40,000	320	250	40,000	240	190	25,000	200	120	19,000	75	60
0.6	40,000	245	85	38,000	380	300	33,000	270	210	21,000	220	130	16,000	75	60
0.7	40,000	285	95	36,000	420	330	28,000	300	240	18,000	240	140	14,000	75	60
0.8	40,000	330	110	34,000	480	380	25,000	340	270	16,000	260	150	12,000	75	60
0.9	40,000	375	125	32,000	540	430	22,000	370	290	14,000	280	160	10,600	75	60
1	40,000	420	140	30,000	600	480	20,000	400	320	12,600	300	180	9,600	75	60
1.5	32,000	800	270	20,000	600	480	14,000	400	320	8,400	300	180	6,400	75	60
2	24,000	1,000	330	15,000	600	480	10,000	400	400	6,300	300	180	4,800	75	60
2.5	19,000	1,000	330	12,000	600	480	8,200	400	320	5,100	300	180	3,800	75	60
3	16,000	1,000	330	10,000	600	480	7,000	400	320	4,200	300	180	3,200	75	60
4	12,000	1,000	330	7,500	600	480	5,200	400	320	3,100	300	180	2,400	75	60
5	9,600	1,000	330	6,000	600	480	4,200	400	320	2,500	300	180	1,900	75	60
6	8,000	1,000	330	5,000	600	480	3,500	400	320	2,100	300	180	1,600	75	60
8	6,000	1,000	330	4,000	520	410	2,800	350	280	1,600	260	150	1,200	65	50
10	4,800	1,000	330	3,200	450	360	2,200	300	240	1,300	230	130	1,000	65	50
12	4,000	1,000	330	2,700	410	320	1,900	270	210	1,100	210	120	800	65	50
16	3,000	1,000	330	2,000	240	190	1,400	210	160	840	160	100	600	60	45
20	2,400	1,000	330	1,600	200	160	1,100	170	130	680	140	80	480	50	40
25	1,900	1,000	330	1,300	160	130	900	140	110	540	120	70	380	45	35

Depth of cut (D:直徑Dia) 切削量基準

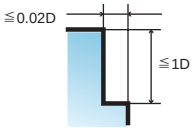
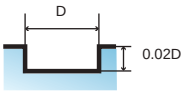


1. Please use SI coating tools for work materials of 50~60HRC.
2. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid isespecially effective.
3. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4. When drilling, please set the feed rate at 1/3 or below of the above value.

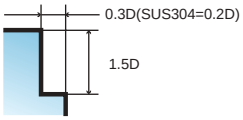
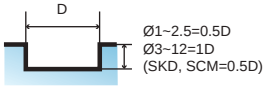
1.切削50~60 HRC 以上之材料時，請使用SI鍍膜之刀具。
2.切削沃斯田鐵系列不銹鋼時，請使用非水溶性切削油效果較好。
3.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
4.縱向進給時，進給速度請設定為上表之1/3以下。

Unit/單位: mm

● JSE,SUMIE,SUPE,MIE,SLE/MLE 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon steels, Alloy steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			Alloy steels ,Tool steels 調質鋼, SKD61, NAK等 Prehardened steels, AISI H13 合金鋼，工具鋼(30~45HRC)			Hardened steels SKD61,SKD11, NAK, STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	300m/min			200m/min			100m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	
		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝
1	40,000	800	640	30,000	600	480	30,000	240	190
2	40,000	1,600	1,280	30,000	1,200	960	15,900	240	190
3	30,000	1,800	1,440	21,200	1,200	960	10,600	240	190
4	23,800	1,900	1,520	15,900	1,200	960	7,900	240	190
5	19,000	1,900	1,520	12,700	1,200	960	6,300	240	190
6	15,900	1,900	1,520	10,600	1,200	960	5,300	240	190
8	11,900	1,550	1,240	7,900	990	790	4,000	220	175
10	9,500	1,330	1,060	6,300	860	680	3,200	200	160
12	7,900	1,200	960	5,300	750	600	2,600	200	160
Depth of cut (D:直徑Dia) 切削量基準	 								

• SUPE 3 Flutes Standard Cutting Conditions 切削條件表

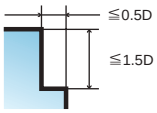
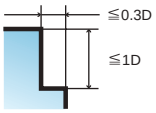
Work Material 被削材	Carbon Steels S50C 碳素鋼				Alloy Tool Steels, SCM, SKD 合金工具鋼				Stainless Steels, Titanium Alloys SUS304, SUS316等 不銹鋼, 鈦合金				Prehardened Steels, HPM, NAK 調質鋼(~40HRC)			
Cutting Speed 切削速度	~100m/min				~50m/min				~35m/min				~56m/min			
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度			Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度			Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度			Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度		
		Side Milling 側面	Slotting 溝	Drilling 縱向		Side Milling 側面	Slotting 溝	Drilling 縱向		Side Milling 側面	Slotting 溝	Drilling 縱向		Side Milling 側面	Slotting 溝	Drilling 縱向
1	15,000	400	200	70	15,000	210	100	40	10,000	200	70	-	15,000	200	100	50
1.5	13,000	500	250	70	13,000	270	120	40	7,000	250	70	-	13,000	250	130	50
2	11,000	600	300	100	8,000	350	140	50	5,000	250	70	-	10,000	300	150	70
2.5	10,000	700	400	100	7,000	450	160	60	4,000	250	70	-	8,000	350	170	90
3	9,600	800	550	200	4,200	550	200	100	3,600	250	100	-	5,800	400	250	100
4	7,200	900	650	210	3,200	500	250	120	2,800	250	100	-	4,400	400	250	110
5	5,700	1,000	700	260	2,500	450	250	120	2,200	300	120	-	3,500	500	300	120
6	4,800	1,200	720	300	2,000	400	300	150	1,800	300	120	-	3,000	600	330	130
8	3,600	1,000	760	300	1,600	400	300	120	1,400	300	120	-	2,200	600	330	100
10	3,000	900	800	300	1,300	350	200	100	1,100	300	100	-	1,700	400	200	80
12	2,600	850	740	280	1,100	340	180	80	900	270	100	-	1,500	340	180	70
Depth of cut (D:直徑Dia) 切削量基準	 															

1. Ues a rigid and precise machine and holder.
2. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
3. Air blow is recommended.
4. Non-water cutting fluid is recommended for cutting stainless steels.

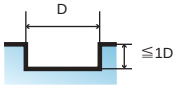
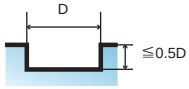
1.請使用剛性及精準度較佳之機械及夾頭。
2.當切削量過大或機械剛性不足時，請降低回轉速及進給速度。
3.請使用吹氣方式進行切削。
4.切削不銹鋼時，請使用非水溶性切削油。

Unit/單位: mm

• JNTA,SUNTA,NTA 3 Flutes Side Cutting 側面銑削

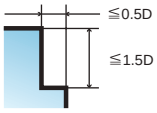
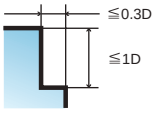
Work Material 被削材	SS400, AISI 1050, SCM 鑄鐵, FC250等 結構鋼, 碳素鋼(~30HRC)		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼(30~35HRC)		AISI 304, AISI 316等 沃斯田鐵系列不銹鋼		SKD61等 淬火鋼(45~50HRC)		耐熱合金英高鎳等	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
5	7600	555	4500	285	3800	195	3200	75	2500	53
6	6400	563	3700	293	3200	218	2700	83	2100	56
8	4800	585	2800	315	2400	255	2000	105	1600	71
10	3800	593	2200	315	1900	255	1600	113	1300	79
12	3200	593	1900	315	1600	240	1300	113	1100	83
16	2400	578	1400	293	1200	225	1000	113	800	83
20	1900	570	1100	278	1000	225	800	105	600	75
Depth of cut 切削深度										

• JNTA,SUNTA, NTA 3 Flutes Slot Cutting 溝加工

Work Material 被削材	SS400, AISI 1050, SCM 鑄鐵, FC250等 結構鋼, 碳素鋼(~30HRC)		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼(30~35HRC)		AISI 304, AISI 316等 沃斯田鐵系列不銹鋼		SKD61等 淬火鋼(45~50HRC)		耐熱合金英高鎳等	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
5	6400	428	3800	210	3200	143	1900	38	1300	19
6	5300	435	3200	218	2700	150	1600	41	1100	23
8	4000	450	2400	240	2000	165	1200	53	800	26
10	3200	450	1900	233	1600	165	1000	53	600	26
12	2700	450	1600	233	1300	158	800	56	500	30
16	2000	428	1200	240	1000	135	600	56	400	34
20	1600	405	1000	203	800	120	500	53	300	30
Depth of cut 切削深度										

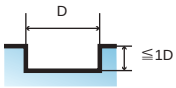
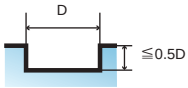
JNTA 產品規格表 P201 Specification page
SUNTA 產品規格表 P186 Specification page
NTA 產品規格表 P73 Specification page

• JNTA,SUNTA,NTA 4 Flutes Side Cutting 側面銑削

Work Material 被削材	SS400, AISI 1050, SCM 鑄鐵, FC250等 結構鋼, 碳素鋼(~30HRC)		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼(30~35HRC)		AISI 304, AISI 316等 沃斯田鐵系列不銹鋼		SKD61等 淬火鋼(45~50HRC)		耐熱合金英高鎳等	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
5	7,600	740	4,500	380	3,800	260	3,200	100	2,500	70
6	6,400	750	3,700	390	3,200	290	2,700	110	2,100	75
8	4,800	780	2,800	420	2,400	340	2,000	140	1,600	95
10	3,800	790	2,200	420	1,900	340	1,600	150	1,300	105
12	3,200	790	1,900	420	1,600	320	1,300	150	1,100	110
16	2,400	770	1,400	390	1,200	300	1,000	150	800	110
20	1,900	760	1,100	370	1,000	300	800	140	600	100
Depth of cut 切削深度										

JNTA 產品規格表 P201 Specification page
SUNTA 產品規格表 P186 Specification page
NTA 產品規格表 P73 Specification page

• JNTA,SUNTA, NTA 4 Flutes Slot Cutting 溝加工

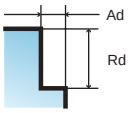
Work Material 被削材	SS400, AISI 1050, SCM 鑄鐵, FC250等 結構鋼, 碳素鋼(~30HRC)		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼(30~35HRC)		AISI 304, AISI 316等 沃斯田鐵系列不銹鋼		SKD61等 淬火鋼(45~50HRC)		耐熱合金英高鎳等	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
5	6,400	570	3,800	280	3,200	190	1,900	50	1,300	25
6	5,300	580	3,200	290	2,700	200	1,600	55	1,100	30
8	4,000	600	2,400	320	2,000	220	1,200	70	800	35
10	3,200	600	1,900	310	1,600	220	1,000	70	600	35
12	2,700	600	1,600	310	1,300	210	800	75	500	40
16	2,000	570	1,200	320	1,000	180	600	75	400	45
20	1,600	540	1,000	270	800	160	500	70	300	40
Depth of cut 切削深度										

1. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective; in cutting heat-resisting alloy, it is more effective to use water-soluble cutting fluid.
2. It can improve the speed and feed to cut non-deep depth.
3. If the installation rigidity of machine tool or working material is very low, or shaking andnoise happen , please in accordance with reducing the and feeding proportionally, or reduce the depth of cutting .
4. Suggest to right o'clock cutting when side working.

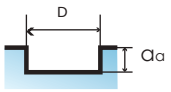
1.切削沃斯田鐵系列不銹鋼時，使用水溶性切削油效果較好，切削耐熱合金時，使用非水溶性切削油效果較好。
2.若切削深度很淺，可提高轉速和進給速度。
3.若機床設備或工件材料的安裝剛性很低，或出現震顫和噪音，請相應地同比例降低轉速和進給速度，或者請減少切削深度。
4.建議在側面加工時使用順銑。

Unit/單位: mm

• JXTA,SUXTA,XTA 3 Flutes Side Cutting 側面切削

Work Material 被削材	Cast iron FC FCD 鑄鐵		Mild Steels, Carbon Steels SS400 SS55C(~750N/mm) 一般構造用鋼，碳素鋼		Alloy Steels, Tool Steels SCM SKT SKS SKD (~30HRC) 合金鋼，工具鋼		Hardened Steels Prehardened Steels (Free-cutting) SKT SKD NAK55 HPM1 調質鋼 (30~38HRC) 調質鋼 (快削)		Hardened Steels Stainless Steels SUS304 SKD 調質鋼 (38~45HRC) 不銹鋼	
Cutting Speed 切削速度	100~140m/min		80~120m/min		70~100m/min		50~80m/min		35~65m/min	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
6	6350	570	5300	480	4500	270	3450	210	2650	158
8	4750	570	4000	480	3400	308	2600	233	2000	180
10	3800	570	3200	480	2700	323	2050	248	1600	195
12	3200	578	2650	480	2250	113	1700	255	1350	203
14	2750	578	2250	488	1950	353	1500	270	1150	210
16	2400	578	2000	480	1700	360	1300	270	1000	210
18	2100	570	1750	473	1500	360	1150	263	900	203
20	1900	570	1600	458	1350	353	1050	263	800	195
Depth of cut 切削深度	Ad 1.5D, Rd 0.4D						Ad 1.5D, Rd 0.3D			

• JXTA,SUXTA,XTA 3 Flutes Slot Cutting 溝加工

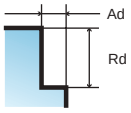
Work Material 被削材	Cast Iron FC FCD 鑄鐵		Mild Steels, Carbon Steels SS400 SS55C(~750N/mm) 一般構造用鋼，碳素鋼		Alloy Steels, Tool Steels SCM SKT SKS SKD (~30HRC) 合金鋼，工具鋼		Hardened Steels Prehardened Steels (Free-cutting) SKT SKD NAK55 HPM1 調質鋼 (30~38HRC) 調質鋼 (快削)		Hardened Steels Stainless Steels SUS304 SKD 調質鋼 (38~45HRC) 不銹鋼	
Cutting Speed 切削速度	80~120m/min		70~100m/min		55~85m/min		40~70m/min		30~60m/min	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	進給速度 Feed Rate (mm/min)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
6	5,300	480	4,500	405	3,700	225	2,900	173	2,400	143
8	4,000	480	3,400	405	2,800	255	2,200	195	1,800	165
10	3,200	480	2,700	405	2,250	270	1,750	210	1,450	173
12	2,650	480	2,250	405	1,850	278	1,450	217	1,200	180
14	2,250	473	1,950	428	1,600	285	1,250	225	1,000	180
16	2,000	480	1,700	405	1,400	293	1,100	233	900	188
18	1,750	473	1,500	405	1,250	300	950	218	800	180
20	1,600	480	1,350	383	1,100	293	900	225	700	173
Depth of cut 切削深度	Ad 0.75D Ad Max=12mm						Ad 0.5D			

1. Use air blow. When using cutting fluids. Use high-quality fluid with high smoke retardant properties.
2. When chattering occurs. Reduce the speed and feed simultaneously.
3. Use a rigid and precision machine and holder.

1.請採用吹氣冷卻方式或使用不易產生油煙的切削液。
2.在產生異常震動時，請降低轉速和進給速度。
3.請使用精度高剛性好的設備和夾具。

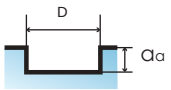
JXTA 產品規格表 P202 Specification page
SUXTA 產品規格表 P187 Specification page
XTA 產品規格表 P74 Specification page

• JXTA,SUXTA,XTA 4 Flutes Side Cutting 側面切削

Work Material 被削材	Cast iron FC FCD 鑄鐵		Mild Steels, Carbon Steels SS400 SS55C(~750N/mm) 一般構造用鋼，碳素鋼		Alloy Steels, Tool Steels SCM SKT SKS SKD (~30HRC) 合金鋼，工具鋼		Hardened Steels Prehardened Steels (Free-cutting) SKT SKD NAK55 HPM1 調質鋼 (30~38HRC) 調質鋼 (快削)		Hardened Steels Stainless Steels SUS304 SKD 調質鋼 (38~45HRC) 不銹鋼	
Cutting Speed 切削速度	100~140m/min		80~120m/min		70~100m/min		50~80m/min		35~65m/min	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
6	6,350	760	5,300	640	4,500	360	3,450	280	2,650	210
8	4,750	760	4,000	640	3,400	410	2,600	310	2,000	240
10	3,800	760	3,200	640	2,700	430	2,050	330	1,600	260
12	3,200	770	2,650	640	2,250	450	1,700	340	1,350	270
14	2750	770	2,250	650	1,950	470	1,500	360	1,150	280
16	2,400	770	2,000	640	1,700	480	1,300	360	1,000	280
18	2,100	760	1,750	630	1,500	480	1,150	350	900	270
20	1,900	760	1,600	610	1,350	470	1,050	350	800	260
Depth of cut 切削深度	Ad 1.5D, Rd 0.4D						Ad 1.5D, Rd 0.3D			

JXTA 產品規格表 P202 Specification page
SUXTA 產品規格表 P187 Specification page
XTA 產品規格表 P74 Specification page

• JXTA,SUXTA,XTA 4 Flutes Slot Cutting 溝加工

Work Material 被削材	Cast Iron FC FCD 鑄鐵		Mild Steels, Carbon Steels SS400 SS55C(~750N/mm) 一般構造用鋼，碳素鋼		Alloy Steels, Tool Steels SCM SKT SKS SKD (~30HRC) 合金鋼，工具鋼		Hardened Steels Prehardened Steels (Free-cutting) SKT SKD NAK55 HPM1 調質鋼 (30~38HRC) 調質鋼 (快削)		Hardened Steels Stainless Steels SUS304 SKD 調質鋼 (38~45HRC) 不銹鋼	
Cutting Speed 切削速度	80~120m/min		70~100m/min		55~85m/min		40~70m/min		30~60m/min	
(mm) 外徑	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	進給速度 Feed Rate (mm/min)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
6	5,300	640	4,500	540	3,700	300	2,900	230	2,400	190
8	4,000	640	3,400	540	2,800	340	2,200	260	1,800	220
10	3,200	640	2,700	540	2,250	360	1,750	280	1,450	230
12	2,650	640	2,250	540	1,850	370	1,450	290	1,200	240
14	2,250	630	1,950	570	1,600	380	1,250	300	1,000	240
16	2,000	640	1,700	540	1,400	390	1,100	310	900	250
18	1,750	630	1,500	540	1,250	400	950	290	800	240
20	1,600	640	1,350	510	1,100	390	900	300	700	230
Depth of cut 切削深度	Ad 0.75D Ad Max=12mm						Ad 0.5D			

1. Use air blow. When using cutting fluids. Use high-quality fluid with high smoke retardant properties.
2. When chattering occurs. Reduce the speed and feed simultaneously.
3. Use a rigid and precision machine and holder.

1.請採用吹氣冷卻方式或使用不易產生油煙的切削液。
2.在產生異常震動時，請降低轉速和進給速度。
3.請使用精度高剛性好的設備和夾具。

Unit/單位: mm

• UET 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Diameter D 值	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.0	13800	461	10675	346	8064	292
D1.5	12960	576	9900	456	7680	348
D2.0	11366	538	9830	461	6912	384
D2.5	10920	600	9660	504	6720	384
D3.0	9216	660	8580	576	5990	384
D3.5	8640	732	8220	624	5616	420
D4.0	8340	816	7620	696	5376	420
D4.5	7992	840	7320	720	5400	432
D5.0	7680	840	7020	720	5172	432
D5.5	7440	900	7080	780	4920	456
D6.0	7440	900	7080	780	4680	456
D6.5	7200	960	6840	852	4560	492
D7.0	7080	1020	6000	912	4440	504
D7.5	7080	1020	5520	912	4320	504
D8.0	5400	1140	3456	960	2220	564
D8.5	4920	1224	2940	1080	2100	600
D10.0	3480	1680	1800	900	1320	456
D10.5	3360	1680	1620	816	1200	420
D11.0	3240	1560	1500	600	1140	360
D11.5	3120	1560	1320	540	1020	300
D12.0	2940	1200	1224	504	948	252
D12.5	2520	1080	1140	456	816	240
D13.0	2160	840	1044	420	744	216
D14.0	2016	780	888	384	684	204
D15.0	1800	720	840	384	624	204
D16.0	1680	720	804	360	588	204
D17.0	1560	720	756	348	540	204
D18.0	1428	660	696	324	516	192
D19.0	1260	660	588	300	474	180
D20.0	1104	660	528	252	372	144
D25.0	936	480	456	198	336	144

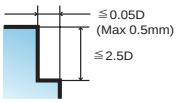
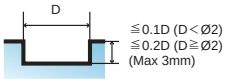
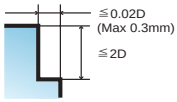
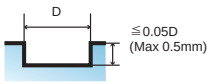
Unit/單位: mm

• SFUET 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	Below HRC30°		HRC30° ~35°		HRC35° ~40°		HRC40° ~45°		HRC45° ~65°	
Diameter D 值	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D1.0	16000	600	14800	500	13900	450	13000	400	10500	380
D2.0	14800	700	13900	650	12800	600	11150	580	9000	500
D3.0	12000	1100	11000	1000	9800	900	9000	800	7800	500
D4.0	11500	1600	9800	1350	9000	950	8500	750	7000	680
D5.0	10000	2000	9500	1700	8900	1300	7800	1000	5500	600
D6.0	10000	2000	9000	1650	8200	1200	7600	950	5000	550
D8.0	6500	2200	6000	1800	4500	1500	4000	1200	2500	650
D10.0	3800	1900	3000	1500	2500	1100	2000	900	1600	500
D12.0	3200	1800	2700	1500	2500	1200	2000	1000	1200	450

Unit/單位: mm

• SFULET,ULET,SUSL,SULET 4 Flutes Standard Cutting Conditions 切削條件表

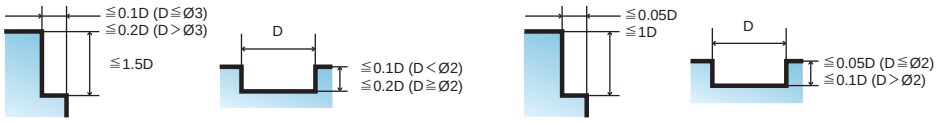
Work Material 被削材	Carbon Steels, Alloy SteelsS50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			(30~45HRC) Alloy Steels,Tool Steels 調質鋼, SKD61, NAK等 Prehardened Steels, AISI H13 合金鋼，工具鋼			Austenitic stainless Steels SUS304, SUS316等 AISI 304, AISI 316 沃斯田鐵系列不銹鋼			Hardened Steels SKD61, SKD11, NAK, STAVAX等 AISI H13 熱處理鋼(45~50HRC)			Non is essential please don't attempt Hardened Steels SKD11等 AISI D2 [非必要請勿嘗試] 熱處理鋼(50~60HRC)		
Cutting Speed 切削速度	35~50m/min			30~40m/min			20~30m/min			15~25m/min			15~20m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝
1	11,000	85	40	9,500	65	30	8,000	50		6,400	35	17	4,800	20	10
							6,400		20						
1.5	7,400	85	40	6,400	90	45	5,300	50		4,200	35	17	3,200	20	10
							4,240		20						
2	5,600	85	40	4,800	90	45	4,000	50		3,200	35	17	2,400	20	10
							3,200		20						
2.5	4,500	85	40	3,800	90	45	3,200	55		2,500	35	17	2,100	20	10
							2,560		22						
3	4,200	100	50	3,400	90	45	2,600	60		2,100	35	17	1,800	25	12
							2,080		24						
4	3,400	125	60	2,700	90	45	2,100	70		1,700	50	25	1,400	30	15
							1,680		28						
5	2,900	155	75	2,300	110	55	1,800	85		1,500	55	27	1,200	35	17
							1,440		34						
6	2,500	180	90	2,000	140	70	1,500	110		1,300	70	35	1,000	40	20
							1,200		44						
8	1,900	200	100	1,500	140	70	1,200	110		1,000	70	35	800	40	20
							960		44						
10	1,600	205	100	1,300	140	70	950	110		800	70	35	650	40	20
							760		44						
12	1,300	180	90	1,100	140	70	800	110		670	70	35	530	40	20
							640		44						
16	1,000	120	60	820	100	50	600	80		500	50	25	400	30	15
							480		32						
20	800	95	45	650	75	35	480	70		400	40	20	320	25	12
							384		28						
25	650	75	35	520	60	30	380	50		320	35	17	250	20	10
							280		20						
Depth of cut (D:直徑Dia) 切削量基準	 									 					

1. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
2. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
3. When drilling, please set the feed rate at 1/3 or below of the above value.

1.切削沃斯田鐵系列不銹鋼以及耐熱合金時，請使用非水溶性切削油效果較好。
2.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
3.縱向進給時，進給速度請設定為上表之1/3以下。

SUS 產品規格表 P237 Specification page
JSE 產品規格表 P198 Specification page
SUPE 產品規格表 P183 Specification page
SLE 產品規格表 P67-68 Specification page

• SUS,JSE,SUPE,SLE 4 Flutes Standard Cutting Conditions 切削條件表

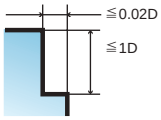
Work Material 被削材	Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			Alloy Steels,Tool Steels 調質鋼, SKD61, NAK等 Prehardened Steels, AISI H13 合金鋼，工具鋼(30~45HRC)			Austenitic stainless Steels SUS304, SUS316等 AISI 304, AISI 316 沃斯田鐵系列不銹鋼			Hardened Steels SKD61, SKD11, NAK, STAVAX等 AISI H13 熟處理鋼(45~50HRC)		
Cutting Speed 切削速度	50~100m/min			50~70m/min			30~60m/min			30~50m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝
1	30,000	900	720	20,000	600	480	12,600	450	270	15,000	180	140
1.5	20,000	900	720	14,000	600	480	8,400	450	270	10,000	180	140
2	15,000	900	720	10,000	600	480	6,300	450	270	8,000	180	140
2.5	12,000	900	720	8,200	600	480	5,100	450	270	6,100	180	140
3	10,000	900	720	7,000	600	480	4,200	450	270	5,000	180	140
4	7,500	900	720	5,200	600	480	3,100	450	270	4,000	180	140
5	6,000	900	720	4,200	600	480	2,500	450	270	3,200	180	140
6	5,000	900	720	3,500	600	480	2,100	450	270	2,700	180	140
8	4,000	780	620	2,800	520	410	1,600	390	230	2,000	160	125
10	3,200	680	540	2,200	450	360	1,300	340	200	1,600	140	110
12	2,700	620	490	1,900	410	320	1,100	310	180	1,300	120	95
16	2,000	360	280	1,400	310	240	840	240	140	1,000	100	80
20	1,600	300	240	1,100	250	200	680	210	120	800	90	70
25	1,300	240	190	900	210	160	540	180	100	640	70	55
Depth of cut (D:直徑Dia) 切削量基準												

1. Please use SI coating tools for work materials of 50~60HRC.
2. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
3. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4. When drilling, please set the feed rate at 1/3 or below of the above value.

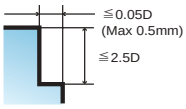
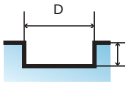
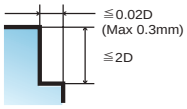
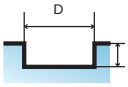
1.切削50~60 HRC 以上之材料時，請使用SI鍍膜之刀具。
2.切削沃斯田鐵系列不銹鋼以及耐熱合金時，請使用非水溶性切削油效果較好。
3.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
4.縱向進給時，進給速度請設定為上表之1/3以下。

Unit/單位: mm

• SUS,JSE,SUPE,SLE 4 Flutes High-Speed Milling Conditions 高速切削條件表

Work Material 被削材	Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)		Alloy Steels,Tool Steels 調質鋼, SKD61, NAK等 Prehardened steels, AISI H13 合金鋼，工具鋼(30~45HRC)		Hardened steels SKD61, SKD11, NAK, STAVAX等 AISI H13 熱處理鋼(45~50HRC)	
Cutting Speed 切削速度	300m/min		200m/min		100m/min	
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
1	40,000	1,200	30,000	900	30,000	360
2	40,000	2,400	30,000	1,800	23,800	530
3	30,000	2,700	21,200	1,800	15,900	530
4	23,800	2,850	15,900	1,800	11,900	530
5	19,000	2,850	12,700	1,800	9,500	530
6	15,900	2,850	10,600	1,800	7,900	530
8	11,900	2,325	7,900	1,485	5,900	470
10	9,500	2,000	6,300	1,290	4,700	410
12	7,900	1,800	5,300	1,125	3,900	360
16	6,000	1,000	4,000	880	3,000	300
20	4,800	900	3,200	720	2,400	270
25	3,800	700	2,500	580	1,900	200
Depth of cut (D:直徑Dia) 切削量基準						

• SULPE 4 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			(30~45HRC) Alloy Steels,Tool Steels 調質鋼, SKD61, NAK等 Prehardened Steels, AISI H13 合金鋼，工具鋼			Austenitic stainless Steels SUS304, SUS316等 AISI 304, AISI 316 沃斯田鐵系列不銹鋼			Hardened Steels SKD61, SKD11, NAK, STAVAX等 AISI H13 熱處理鋼(45~50HRC)			Non is essential please don't attempt Hardened Steels SKD11等 AISI D2 [非必要請勿嘗試] 熱處理鋼(50~60HRC)		
Cutting Speed 切削速度	35~50m/min			30~40m/min			20~30m/min			15~25m/min			15~20m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝
1	11,000	85	40	9,500	65	30	8,000	50		6,400	35	17	4,800	20	10
							6,400		20						
1.5	7,400	85	40	6,400	90	45	5,300	50		4,200	35	17	3,200	20	10
							4,240		20						
2	5,600	85	40	4,800	90	45	4,000	50		3,200	35	17	2,400	20	10
							3,200		20						
2.5	4,500	85	40	3,800	90	45	3,200	55		2,500	35	17	2,100	20	10
							2,560		22						
3	4,200	100	50	3,400	90	45	2,600	60		2,100	35	17	1,800	25	12
							2,080		24						
4	3,400	125	60	2,700	90	45	2,100	70		1,700	50	25	1,400	30	15
							1,680		28						
5	2,900	155	75	2,300	110	55	1,800	85		1,500	55	27	1,200	35	17
							1,440		34						
6	2,500	180	90	2,000	140	70	1,500	110		1,300	70	35	1,000	40	20
							1,200		44						
8	1,900	200	100	1,500	140	70	1,200	110		1,000	70	35	800	40	20
							960		44						
10	1,600	205	100	1,300	140	70	950	110		800	70	35	650	40	20
							760		44						
12	1,300	180	90	1,100	140	70	800	110		670	70	35	530	40	20
							640		44						
16	1,000	120	60	820	100	50	600	80		500	50	25	400	30	15
							480		32						
20	800	95	45	650	75	35	480	70		400	40	20	320	25	12
							384		28						
25	650	75	35	520	60	30	380	50		320	35	17	250	20	10
							280		20						
Depth of cut (D:直徑Dia) 切削量基準	 ≦0.05D (Max 0.5mm) ≦2.5D			 D ≦0.1D (D＜Ø2) ≦0.2D (D≧Ø2) (Max 3mm)						 ≦0.02D (Max 0.3mm) ≦2D			 D ≦0.05D (Max 0.5mm)		

1. In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
2. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
3. When drilling, please set the feed rate at 1/3 or below of the above value.

1.切削沃斯田鐵系列不銹鋼以及耐熱合金時，請使用非水溶性切削油效果較好。
2.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
3.縱向進給時，進給速度請設定為上表之1/3以下。

Unit/單位: mm

• UVT Multi Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter D 值	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D3.0	14040	1498	6760	749
D4.0	10920	1778	5200	842
D5.0	9360	2013	4628	983
D6.0	8320	2714	4160	1358
D8.0	4640	2714	2400	1358
D10.0	3360	2668	2000	1358
D12.0	2480	2246	1520	1123
D16.0	1440	1685	1080	842
D20.0	612	576	504	456
D25.0	468	360	342	216

產品規格表 P75
Specification page

• ULVT Long Flutes Multi Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter D 值	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D3.0	5200	599	62704	300
D4.0	4640	711	2080	337
D5.0	3360	805	1851	393
D6.0	3080	1086	1664	543
D8.0	2240	1086	1248	543
D10.0	1800	1067	998	543
D12.0	1320	899	832	449
D16.0	680	570	624	337
D20.0	510	480	420	380
D25.0	390	300	285	180

產品規格表 P76
Specification page

• SFUVT Multi Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC45° ~ 52°		HRC52° ~ 62°	
Diameter D 值	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D3.0	17550	1872	8450	936
D4.0	13650	2223	6500	1053
D5.0	11700	2516	5785	1229
D6.0	10400	3393	5200	1697
D8.0	5800	3393	3000	1697
D10.0	4200	3335	2500	1697
D12.0	3100	2808	1900	1404
D16.0	1800	2106	1350	1053

產品規格表 P77
Specification page

• SFULVT Multi Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC45° ~ 52°		HRC52° ~ 62°	
Diameter D 值	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D3.0	6500	749	3380	374
D4.0	5800	889	2600	421
D5.0	4200	1006	2314	492
D6.0	3850	1357	2080	679
D8.0	2800	1357	1560	679
D10.0	2250	1334	1248	679
D12.0	1650	1123	1040	562
D16.0	850	842	780	421

Unit/單位: mm

• UMIB 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Radius of Ball Nose R 徑	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.15R	25000	200	25000	198
D0.2R	25000	275	25000	248
D0.25R	25000	330	25000	297
D0.3R	25000	418	25000	376
D0.35R	25000	495	25000	446
D0.4R	25000	561	25000	505
D0.45R	25000	638	25000	574

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意：為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。

1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make **nBS** efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再進行切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使 **nBS**發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用非水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高 30%-50%。

• SFUMIB 2 Flutes Cutting Condition 切削條件表

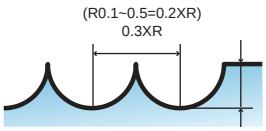
Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 60°	
Radius of Ball Nose R 徑	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.15R	25000	220	25000	198
D0.2R	25000	275	25000	248
D0.25R	25000	330	25000	297
D0.3R	25000	418	25000	376
D0.35R	25000	495	25000	446
D0.4R	25000	561	25000	505
D0.45R	25000	638	25000	574
D0.5R	21000	640	17000	610

Unit/單位: mm

• SBS,JSB,ACB,SUMIB, SUBT,MIB,SLB,SULBT 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon Steels S50C 碳素鋼		Alloy Steels Prehardened Steels SCM SKD SUS HPM NAK 合金鋼，調質鋼		Hardened Steels SKD61(~50HRC) 調質鋼		Aluminum 鋁		Copper 銅	
Cutting Speed 切削速度	150m/min		120~150m/min		80~100m/min		150~m/min		100~150m/min	
R	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
D0.15R	40,000	400	40,000	360	40,000	330	40,000	440	40,000	400
D0.2R	40,000	500	40,000	480	40,000	500	40,000	480	40,000	480
D0.25R	40,000	620	40,000	610	40,000	620	40,000	540	40,000	540
D0.3R	40,000	750	40,000	750	40,000	750	40,000	600	40,000	600
D0.4R	40,000	960	40,000	1,000	36,000	900	40,000	800	40,000	800
D0.5R	40,000	1,200	38,000	1,200	29,000	900	40,000	1,000	40,000	830
D0.75R	30,000	1,270	25,500	1,100	19,000	700	40,000	1,360	30,000	1,160
D1R	24,000	1,160	19,000	800	14,300	600	40,000	2,000	24,000	1,200
D1.25R	19,000	1,000	15,300	670	11,500	510	38,000	2,400	19,000	1,200
D1.5R	16,000	930	13,000	600	9,600	460	32,000	2,400	16,000	1,200
D1.75R	13,700	930	11,400	580	8,200	450	27,300	2,400	13,600	1,200
D2R	12,000	930	10,000	570	7,200	450	24,000	2,400	12,000	1,200
D2.5R	9,600	930	8,000	560	5,700	450	19,000	2,400	9,600	1,200
D3R	8,000	930	6,400	540	4,800	450	16,000	2,400	8,000	1,200
D4R	6,000	900	4,800	540	3,600	450	12,000	2,400	6,000	1,200
D5R	4,800	900	3,800	540	2,900	450	9,600	2,300	4,800	1,150
D6R	4,000	900	3,200	540	2,400	450	8,000	2,100	4,000	1,050
D7R	3,400	900	2,750	540	2,050	450	6,800	2,000	3,400	1,000
D8R	3,000	900	2,400	540	1,800	450	6,000	2,000	3,000	1,000
D10R	2,400	900	1,900	520	1,450	450	4,800	2,000	2,400	1,000
D12.5R	1,900	720	1,520	450	1,160	420	3,840	1,900	1,920	940

Depth of cut (R:球頭半徑) 切削量基準



~0.16XR R≦0.3 (~45HRC)
~0.25XR R≦3 (~45HRC)
~0.17XR R≧4 (~45HRC)
~0.05XR (~50HRC)

1. When slotting, reduce the feed by 60% from above values.
2. Length of overhang is 4 times dia, as standard. When it is longer then 4 times dia, follow figures of above table.
3. Use Oil-mist coolant or Air blow.
4. Adjust both spindle speed and feed according to milling conditions and machine rigidity.

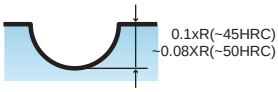
1.溝加工時之進給速度，請設定為上述值之60%。
2.刀具夾持突出量以4D為基準，超出上述場合時，請將切削條件作適度之調整。
3.請使用油霧(Oil-mist)冷卻或吹氣方式(Air blow)進行切削。
4.主軸回轉速及床台進給速度，請以相同比例作適度調整。

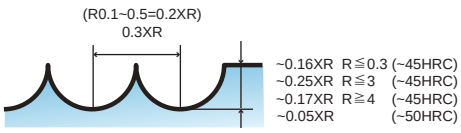
SBS 產品規格表 P244 Specification page
JSB 產品規格表 P203 Specification page
ACB 產品規格表 P159-160 Specification page
SUMIB 產品規格表 P188 Specification page
SUBT 產品規格表 P189 Specification page
MIB 產品規格表 P78-79 Specification page
SLB 產品規格表 P89-90 Specification page
SULBT 產品規格表 P190 Specification page

• SBS,JSB,ACB,SUMIB, SUBT,MIB,SLB,SULBT 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon Steels S50C 碳素鋼		Alloy Steels Prehardened Steels SCM SKD SUS HPM NAK 合金鋼，調質鋼		Hardened Steels SKD61(~50HRC) 調質鋼		Aluminum 鋁		Copper 銅	
Cutting Speed 切削速度	150m/min		120~150m/min		80~100m/min		150~m/min		100~150m/min	
R	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
D0.15R	40,000	400	40,000	360	40,000	330	40,000	440	40,000	400
D0.2R	40,000	500	40,000	480	40,000	500	40,000	480	40,000	480
D0.25R	40,000	620	40,000	610	40,000	620	40,000	540	40,000	540
D0.3R	40,000	750	40,000	750	40,000	750	40,000	600	40,000	600
D0.4R	40,000	960	40,000	1,000	36,000	900	40,000	800	40,000	800
D0.5R	40,000	1,200	38,000	1,200	29,000	900	40,000	1,000	40,000	830
D0.75R	30,000	1,270	25,500	1,100	19,000	700	40,000	1,360	30,000	1,160
D1R	24,000	1,160	19,000	800	14,300	600	40,000	2,000	24,000	1,200
D1.25R	19,000	1,000	15,300	670	11,500	510	38,000	2,400	19,000	1,200
D1.5R	16,000	930	13,000	600	9,600	460	32,000	2,400	16,000	1,200
D1.75R	13,700	930	11,400	580	8,200	450	27,300	2,400	13,600	1,200
D2R	12,000	930	10,000	570	7,200	450	24,000	2,400	12,000	1,200
D2.5R	9,600	930	8,000	560	5,700	450	19,000	2,400	9,600	1,200
D3R	8,000	930	6,400	540	4,800	450	16,000	2,400	8,000	1,200
D4R	6,000	900	4,800	540	3,600	450	12,000	2,400	6,000	1,200
D5R	4,800	900	3,800	540	2,900	450	9,600	2,300	4,800	1,150
D6R	4,000	900	3,200	540	2,400	450	8,000	2,100	4,000	1,050
D7R	3,400	900	2,750	540	2,050	450	6,800	2,000	3,400	1,000
D8R	3,000	900	2,400	540	1,800	450	6,000	2,000	3,000	1,000
D10R	2,400	900	1,900	520	1,450	450	4,800	2,000	2,400	1,000
D12.5R	1,900	720	1,520	450	1,160	420	3,840	1,900	1,920	940

Depth of cut (R:球頭半徑) 切削量基準



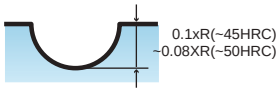
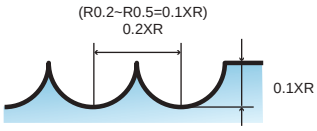


1. When slotting, reduce the feed by 60% from above values.
2. Length of overhang is 4 times dia., as standard. When it is longer then 4 times dia., follow figures of above table.
3. Use Oil-mist coolant or Air blow.
4. Adjust both spindle speed and feed according to milling conditions and machine rigidity.

1.溝加工時之進給速度，請設定為上述值之60%。
2.刀具夾持突出量以4D為基準，超出上述場合時，請將切削條件作適度之調整。
3.請使用油霧(Oil-mist)冷卻或吹氣方式(Air blow)進行切削。
4.主軸回轉速及床台進給速度，請以相同比例作適度調整。

Unit/單位: mm

• SBS,JSB,ACB,SUMIB, SUBT,MIB,SLB,SULBT 2 Flutes Standard Cutting Conditions 高速切削條件表

Work Material 被削材	Carbon Steels S50C 碳素鋼		Alloy Steels SCM, SKD, SUS 合金鋼		Prehardened Steels HPM, NAK 調質鋼		Hardened Steels SKD61(~50HRC) 調質鋼	
Cutting Speed 切削速度	250m/min		200m/min		180m/min		100m/min	
R	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
D0.15R	~ 40,000	~ 1,200	~ 40,000	~ 960	~ 40,000	~ 800	~ 40,000	350
D0.2R	~ 40,000	~ 1,200	~ 40,000	~ 960	~ 40,000	~ 800	~ 40,000	480
D0.25R	~ 40,000	~ 1,200	~ 40,000	~ 960	~ 40,000	~ 800	~ 40,000	520
D0.3R	~ 40,000	~ 1,200	~ 40,000	~ 960	~ 40,000	~ 800	~ 40,000	560
D0.4R	~ 40,000	~ 2,400	~ 40,000	~ 2,000	~ 40,000	~ 1,760	40,000	1,000
D0.5R	~ 40,000	~ 2,400	~ 40,000	~ 2,000	~ 40,000	~ 1,760	32,000	1,500
D0.75R	~ 40,000	~ 3,700	~ 40,000	~ 3,000	38,000	2,700	21,300	1,500
D1R	40,000	5,000	32,000	3,200	29,000	2,900	16,000	1,500
D1.25R	32,000	5,000	25,000	3,200	23,000	2,900	12,800	1,500
D1.5R	27,000	5,000	21,000	3,200	19,000	2,900	10,600	1,500
D1.75R	23,000	5,000	18,000	3,200	16,400	2,900	9,100	1,500
D2R	20,000	4,000	16,000	3,200	14,000	2,900	8,000	1,500
D2.5R	16,000	3,500	12,800	2,500	11,500	2,300	6,400	1,300
D3R	13,500	3,000	10,600	2,000	9,500	1,800	5,300	1,200
D4R	10,000	3,000	8,000	2,000	7,200	1,800	4,000	1,200
D5R	8,000	3,000	6,400	2,000	5,700	1,800	3,200	1,200
D6R	6,700	2,500	5,300	1,800	4,800	1,600	2,700	1,200
D8R	5,000	2,000	4,000	1,500	3,600	1,300	2,000	800
D10R	4,000	1,500	3,200	1,200	2,900	1,000	1,600	800
D12.5R	3,200	1,200	2,550	900	2,300	700	1,280	760
Depth of cut 切削量基準 (R:球頭半徑)								

1.When slotting, reduce the feed by 60% from above values.
2.Length of overhang is 4 times dia. as standard. When it is longer then 4 times dia., follow figures of above table.
3. Recommend Oil-mist coolant or Air blow.
4.If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
5.Use a rigid machine and holder.

1.溝加工時之進給速度，請設定為上述值之60%。
2.刀具夾持突出量以4D為基準，超出上述場合時，請將切削條件作適度之調整。
3.請使用油霧(Oil-mist)冷卻或吹氣方式(Air blow)進行切削。
4.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
5.請使用較具剛性之機械設備及夾頭。

SFULNBT 產品規格表 P99 Specification page
ULNBT 產品規格表 P97 Specification page

• SFULNBT,ULNBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter - efficient length	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.25 - 2	25000	250	22500	225
D0.25 - 4	23000	220	20700	198
D0.25 - 6	17500	200	15750	180
D0.3 - 2	25000	320	22500	288
D0.3 - 4	23000	250	20700	252
D0.3 - 6	17500	220	15750	198
D0.4 - 4	18000	400	16200	360
D0.4 - 6	17000	380	15300	342
D0.4 - 8	16000	300	14400	270
D0.5 - 6	12000	420	10800	378
D0.5 - 8	10500	330	9450	297
D0.5 - 10	9300	300	8370	270
D0.5 - 12	8800	260	7920	234
D0.6 - 6	11500	420	10350	378
D0.6 - 8	9800	330	8820	297
D0.6 - 10	8500	300	7650	270
D0.6 - 12	7800	260	7020	234
D0.7 - 6	10500	520	9450	468
D0.7 - 10	9500	380	8550	342
D0.7 - 16	8300	290	7470	261
D0.75 - 6	13000	600	11700	540
D0.75 - 8	11000	550	9900	495
D0.75 - 10	9900	470	8910	423
D0.75 - 12	8800	390	7920	351
D0.75 - 14	8100	280	7290	252
D0.75 - 16	7800	200	7020	180
D0.75 - 18	6900	190	6210	171
D0.75 - 20	5500	190	4950	171
D0.8 - 6	13000	600	11700	540
D0.8 - 8	11000	550	9900	495
D0.8 - 10	9900	470	8910	423
D0.8 - 12	8800	390	7920	351

Unit/單位: mm

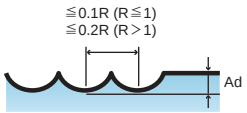
• SFULNBT,ULNBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
Diameter - efficient length	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.8 - 14	8100	280	7290	252
D0.8 - 16	7800	200	7020	180
D0.8 - 18	6900	190	6210	171
D0.8 - 20	5500	190	4950	171
D0.9 - 8	12000	750	10800	675
D0.9 - 14	8500	670	7650	603
D0.9 - 20	7200	320	6480	288
D1 - 8	11000	800	9900	720
D1 - 10	8500	730	7650	657
D1 - 12	7900	680	7110	412
D1 - 14	6600	650	5940	585
D1 - 16	6100	520	5490	468
D1 - 18	5600	420	5040	378
D1 - 20	4800	300	4320	270
D1.25 - 8	11000	850	9900	765
D1.25 - 12	7900	710	7100	639
D1.25 - 16	6100	640	5490	576
D1.25 - 20	4800	420	4320	378
D1.5 - 10	13000	850	11700	765
D1.5 - 12	12000	650	10800	585
D1.5 - 16	10600	480	9540	411
D1.5 - 20	9700	400	8730	396
D1.5 - 25	7200	380	6480	342
D2 - 12	12000	650	10800	585
D2 - 16	10600	490	9540	441
D2 - 20	9700	440	8730	396
D2 - 25	7200	380	6480	342
D2 - 30	5400	300	4860	270

Unit/單位: mm

ACBL 產品規格表 P165 Specification page
SULNBT 產品規格表 P191 Specification page

• ACBL,SULNBT 2 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材		Carbon Steels S50C(~225HB) 碳素鋼		Alloy Steels SCM, SK, SUS (225~325HB) 合金鋼		Prehardened Steels Hardened steels NAK.SKD(30~45HRC) 調質鋼		Hardened steels SKD11.61.SKT (40~50HRC) 調質鋼	
Cutting Speed 切削速度		50~65m/min		40~55m/min		30~50m/min		30~40m/min	
R	Ad Depth of cut (mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
D0.25R	0.003~0.01	32,000	640	32,000	640	26,000	300	20,000	240
D0.3R	0.006~0.03	32,000	830	27,000	700	21,000	340	16,000	260
D0.5R	0.005~0.08	19,000	870	16,000	740	13,000	420	10,000	320
D0.75R	0.06~0.12	13,000	940	10,500	760	8,500	440	6,500	340
D1R	0.03~0.21	10,000	1,000	8,000	800	6,000	420	5,000	350
D1.5R	0.03~0.23	6,600	730	5,300	580	4,000	310	3,300	260
D2R	0.01~0.28	5,000	660	4,000	530	3,000	260	2,500	230
Depth of cut (R:球頭半徑) 切削量基準									

1. Use a rigid machine and holder.
2. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
3. Use cutting fluid with retardant.

1.請使用較具剛性之機械設備及夾頭。
2.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
3.請使用不容易冒煙之切削油劑。

Unit/單位: mm

• UPBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC45° ~ 52°		HRC52° ~ 62°	
Mode	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
UPBT101520	8800	260	7920	234
UPBT151520	6900	190	4950	171
UPBT201025	5600	420	5040	378
UPBT251025	4800	420	4320	378
UPBT301030	7200	380	6480	342
UPBT401035	7200	380	6480	342
UPBT402545	5400	300	4860	270
UPBT502550	9984	1280	7040	768
UPBT603038	9728	1216	6400	704
UPBT803038	5120	1536	3200	832
UPBT904042	2560	1152	2048	640

Unit/單位: mm

• ULPBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30° ~ 50°		HRC50° ~ 55°	
MODE 型號	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
ULPBT200560	4800	300	4320	270
ULPBT201060	4800	300	4320	270
ULPBT201560	4800	300	4320	270
ULPBT202057	4800	300	4320	270
ULPBT300560	7200	380	6480	342
ULPBT301060	7200	380	6480	342
ULPBT301557	7200	380	6480	342
ULPBT302043	7200	380	6480	342
ULPBT400560	5400	300	4860	270
ULPBT401507	5400	300	4860	270
ULPBT401538	5400	300	4860	270
ULPBT402029	5400	300	4860	270

Unit/單位: mm

• UBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC52°		HRC60°	
Radius of Ball Nose R 徑	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.5R	20480	768	16640	512	13440	486
D0.75R	19500	820	15700	680	12700	560
D1.0R	18944	896	14272	742	11520	640
D1.25R	17000	1060	12800	950	10500	640
D1.5R	15360	1408	11520	1024	9984	640
D2.0R	14720	2048	10880	960	8960	870
D2.5R	13800	2560	9984	1280	7040	768
D3.0R	12800	2560	9728	1216	6400	704
D3.5R	9300	2680	6800	1420	4500	780
D4.0R	8320	2816	5120	1536	3200	832
D4.5R	6590	2600	4100	1380	2800	750
D5.0R	4864	2432	2560	1152	2048	640
D6.0R	3800	2300	2560	1280	1536	576
D7.0R	2200	1250	1580	690	980	420
D8.0R	1650	780	1050	520	700	360
D10.0R	1100	600	680	410	490	245
D12.5R	860	500	530	260	385	190

Unit/單位: mm

• SFUBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	Below HRC30°		HRC30° ~ 45°		HRC45° ~ 65°	
Radius of Ball Nose R 徑	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.5R	25600	960	20800	640	16800	608
D1.0R	23680	1120	17840	928	14400	800
D1.5R	19200	1760	14400	1280	12480	800
D2.0R	18400	2560	13600	1200	11200	1088
D2.5R	16000	3200	12480	1600	8800	960
D3.0R	16000	3200	12160	1520	8000	880
D4.0R	10400	3520	6400	1920	4000	1040
D5.0R	6080	3040	3200	1440	2560	800
D6.0R	5120	2880	3200	1600	1920	720

Unit/單位: mm

• UBTSX 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Radius of Ball Nose R 徑	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.5R	20480	768	16640	512	13440	486
D0.75R	19500	820	15700	680	12700	560
D1.0R	18944	896	14272	742	11520	640
D1.25R	17000	1060	12800	950	10500	640
D1.5R	15360	1408	11520	1024	9984	640
D2.0R	14720	2048	10880	960	8960	870
D2.5R	13800	2560	9984	1280	7040	768
D3.0R	12800	2560	9728	1216	6400	704
D3.5R	9300	2680	6800	1420	4500	780
D4.0R	8320	2816	5120	1536	3200	832
D4.5R	6590	2600	4100	1380	2800	750
D5.0R	4864	2432	2560	1152	2048	640
D6.0R	3800	2300	2560	1280	1536	576
D7.0R	2200	1250	1580	690	980	420
D8.0R	1650	780	1050	520	700	360
D10.0R	1100	600	680	410	490	245
D12.5R	860	500	530	260	385	190

Unit/單位: mm

• SFUBTSX 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	Below HRC30°		HRC30° ~ 45°		HRC45° ~ 65°	
Radius of Ball Nose R 徑	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.5R	30720	1152	24960	768	20160	730
D1.0R	28416	1344	21408	1113.6	17280	960
D1.5R	23040	2112	17280	1536	14976	960
D2.0R	22080	3072	16320	1440	13440	1305
D2.5R	19200	3840	14976	1920	10560	1152
D3.0R	19200	3840	14592	1824	9600	1056
D4.0R	12480	4224	7680	2304	4800	1248
D5.0R	7296	3648	3840	1728	3072	960
D6.0R	6144	3456	3840	1920	2304	864

Unit/單位: mm

• ULBTS & ULBTM & ULBTL 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC52°		HRC60°	
Radius of Ball Nose R 徑	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.5R	20480	768	16640	512	13440	486
D0.75R	19500	820	15700	680	12700	560
D1.0R	18944	896	14272	742	11520	640
D1.25R	17000	1060	12800	950	10500	640
D1.5R	15360	1408	11520	1024	9984	640
D2.0R	14720	2048	10880	960	8960	870
D2.5R	13800	2560	9984	1280	7040	768
D3.0R	12800	2560	9728	1216	6400	704
D3.5R	9300	2680	6800	1420	4500	780
D4.0R	8320	2816	5120	1536	3200	832
D4.5R	6590	2600	4100	1380	2800	750
D5.0R	4864	2432	2560	1152	2048	640
D6.0R	3800	2300	2560	1280	1536	576
D7.0R	2200	1250	1580	690	980	420
D8.0R	1650	780	1050	520	700	360
D10.0R	1100	600	680	410	490	245
D12.5R	860	500	530	260	385	190

Unit/單位: mm

• SFULBT 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	Below HRC30°		HRC30° ~ 45°		HRC45° ~ 65°	
Radius of Ball Nose R 徑	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.5R	25600	960	20800	640	16800	608
D1.0R	23680	1120	17840	928	14400	800
D1.5R	19200	1760	14400	1280	12480	800
D2.0R	18400	2560	13600	1200	11200	1088
D2.5R	16000	3200	12480	1600	8800	960
D3.0R	16000	3200	12160	1520	8000	880
D4.0R	10400	3520	6400	1920	4000	1040
D5.0R	6080	3040	3200	1440	2560	800
D6.0R	5120	2880	3200	1600	1920	720

Unit/單位: mm

• UBT,ULBT 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC52°		HRC60°	
Radius of Ball Nose R 徑	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D0.5R	18432	691	14976	461	12096	438
D0.75R	17550	738	14130	612	11430	504
D1.0R	17050	806	12845	668	10368	576
D1.25R	15300	954	11520	855	9450	576
D1.5R	13824	1267	10368	922	8986	576
D2.0R	13248	1843	9792	864	8064	783
D2.5R	12420	2304	8986	1152	6336	691
D3.0R	11520	2304	8755	1094	5760	634
D3.5R	8370	2412	6120	1278	4050	702
D4.0R	7488	2534	4608	1382	2880	749
D4.5R	5931	2340	3690	1241	2520	675
D5.0R	4378	2189	2304	1037	1843	576
D6.0R	3420	2070	2304	1152	1382	518
D7.0R	1980	1125	1422	621	882	378
D8.0R	1485	702	945	468	630	324
D10.0R	990	540	612	369	441	221
D12.5R	774	450	477	234	347	171

• SFUBT 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC30° ~45°		HRC45° ~65°	
Radius of Ball Nose R 徑	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分	RPM 轉/分	mm/min. mm/分
D0.5R	23040	864	18720	576	15120	547
D1.0R	21312	1008	16056	835	12960	720
D1.5R	17280	1584	12960	1152	11232	720
D2.0R	16560	2304	12240	1080	10080	979
D2.5R	14400	2880	11232	1440	7920	864
D3.0R	14400	2880	10944	1368	7200	792
D4.0R	9360	3168	5760	1728	3600	936
D5.0R	5472	2736	2880	1296	2304	720
D6.0R	4608	2592	2880	1440	1728	648

Unit/單位: mm

• URTA 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.0 x 0.1R	11088	549	8120	364	5488	252
D1.0 x 0.2R	11088	549	8120	364	5488	252
D1.0 x 0.3R	11088	549	8120	364	5488	252
D1.5 x 0.2R	9800	672	7728	392	4760	280
D1.5 x 0.3R	9800	672	7728	392	4760	280
D2.0 x 0.1R	8960	840	7056	504	4032	280
D2.0 x 0.2R	8960	840	7056	504	4032	280
D2.0 x 0.3R	8960	840	7056	504	4032	280
D3.0 x 0.1R	6370	882	4082	588	3675	245
D3.0 x 0.2R	6370	882	4802	588	3675	245
D3.0 x 0.3R	6370	882	4802	588	3675	245
D4.0 x 0.2R	6125	980	4557	515	3332	245
D4.0 x 0.3R	6125	980	4557	515	3332	245
D2.0 x 0.5R	7840	588	6370	441	4508	294
D3.0 x 0.5R	6370	980	4802	735	3675	245
D4.0 x 0.5R	6125	980	4557	515	3332	245
D6.0 x 0.5R	5635	1470	4312	980	2254	368
D8.0 x 0.5R	4239	1666	2622	833	1887	402
D10.0 x 0.5R	2695	1372	1568	539	809	284
D12.0 x 0.5R	2279	1421	1078	466	637	260
D3.0 x 1R	7326	1127	5522	845	4226	282
D4.0 x 1R	7044	1127	5241	592	3832	282
D6.0 x 1R	6480	1691	4959	1127	2592	423
D8.0 x 1R	4875	1916	3015	958	2170	462
D10.0 x 1R	3099	1568	1803	620	930	327
D12.0 x 1R	2621	1634	1240	698	733	299
D6.0 x 1.5R	6762	1764	5174	1176	2705	441
D8.0 x 1.5R	5086	1999	3146	1000	2264	482
D10.0 x 1.5R	3234	1646	1882	647	970	341
D12.0 x 1.5R	2734	1705	1294	559	764	312
D6.0 x 2R	7326	1911	5606	1274	2930	478
D8.0 x 2R	5510	2166	3408	1083	2452	522
D10.0 x 2R	3504	1784	2038	701	1051	369
D12.0 x 2R	2962	1847	1401	605	828	338
D8.0 x 3R	5722	2249	3539	1125	2548	542
D10.0 x 3R	3638	1852	2117	728	1092	384
D12.0 x 3R	3076	1918	1455	629	860	351

Unit/單位: mm

• UCRS 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.0 x 0.1R	15840	784	11600	520	7840	360
D1.0 x 0.2R	15840	784	11600	520	7840	360
D1.0 x 0.3R	15840	784	11600	520	7840	360
D1.5 x 0.2R	14000	960	11040	560	6800	400
D1.5 x 0.3R	14000	960	11040	560	6800	400
D2.0 x 0.1R	12800	1200	10080	720	4760	400
D2.0 x 0.2R	12800	1200	10080	720	5760	400
D2.0 x 0.3R	12800	1200	10080	720	5760	400
D3.0 x 0.1R	9100	1260	6860	840	5250	350
D3.0 x 0.2R	9100	1260	6860	840	5250	350
D3.0 x 0.3R	9100	1260	6860	840	5250	350
D4.0 x 0.2R	8750	1400	6860	735	4760	350
D4.0 x 0.3R	8750	1400	6510	735	4760	350
D2.0 x 0.5R	11200	840	9100	630	6440	420
D3.0 x 0.5R	9100	1400	6860	1050	5250	350
D4.0 x 0.5R	8750	1400	6510	735	4760	350
D6.0 x 0.5R	8050	2100	6160	1400	3220	525
D8.0 x 0.5R	6055	2380	3745	1190	2695	574
D10.0 x 0.5R	3850	1960	2240	770	1155	406
D12.0 x 0.5R	3255	2030	1540	665	910	371
D3.0 x 1R	10465	1610	7889	1208	6038	403
D4.0 x 1R	10063	1610	7487	846	5474	403
D6.0 x 1R	9258	2415	7084	1610	3703	604
D8.0 x 1R	6964	2737	4307	1369	3100	660
D10.0 x 1R	4428	2240	2576	886	1329	467
D12.0 x 1R	3744	2335	1771	998	1047	427
D6.0 x 1.5R	9660	2520	7392	1680	3864	630
D8.0 x 1.5R	7266	2856	4494	1428	3234	689
D10.0 x 1.5R	4620	2352	2688	924	1386	487
D12.0 x 1.5R	3906	2436	1848	798	1092	445
D6.0 x 2R	10465	2730	8008	1820	4186	683
D8.0 x 2R	7872	3094	4869	1547	3504	746
D10.0 x 2R	5005	2548	2945	1001	1502	528
D12.0 x 2R	4232	2639	5005	865	1183	482
D8.0 x 3R	8175	3213	5056	1607	3640	775
D10.0 x 3R	5198	2646	3024	1040	1560	548
D12.0 x 3R	4395	2741	2079	898	1229	501

Unit/單位: mm

• SFUCRS 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC40°		HRC50°		HRC55°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D2.0 x 0.1R	11200	1050	9240	770	8820	630	6860	525	5040	350
D2.0 x 0.2R	11200	1050	9240	770	8820	630	6860	525	5040	350
D2.0 x 0.3R	11200	1050	9240	770	8820	630	6860	525	5040	350
D3.0 x 0.1R	9100	1260	7700	1050	6860	840	5740	735	5250	350
D3.0 x 0.2R	9100	1260	7700	1050	6860	840	5740	735	5250	350
D3.0 x 0.3R	9100	1260	7700	1050	6860	840	5740	735	5250	350
D4.0 x 0.2R	8750	1400	7350	1260	6510	735	5495	595	4760	350
D4.0 x 0.3R	8750	1400	7350	1260	6510	735	5495	595	4760	350
D2.0 x 0.5R	11200	840	10150	770	9100	630	7700	525	6440	420
D3.0 x 0.5R	9100	1400	7700	1260	6860	1050	5740	770	5250	350
D4.0 x 0.5R	8750	1400	7350	1260	6510	735	5495	595	4760	350
D6.0 x 0.5R	8050	2100	7000	1820	6160	1400	5040	1050	3220	525
D8.0 x 0.5R	6055	2380	5565	1890	3745	1190	3255	840	2695	574
D10.0 x 0.5R	3850	1960	2940	1330	2240	770	1890	665	1155	406
D12.0 x 0.5R	3255	2030	2415	1190	1540	665	1260	560	910	371
D3.0 x 1R	10465	1610	8855	1449	7889	1208	6601	886	6038	403
D4.0 x 1R	10063	1610	8453	1450	7487	846	6320	685	5474	403
D6.0 x 1R	9258	2415	8050	2093	7084	1610	5796	1208	3703	604
D8.0 x 1R	6964	2737	6400	2174	4307	1369	3744	966	3100	660
D10.0 x 1R	4428	2240	3381	1530	2576	886	2174	765	1329	467
D12.0 x 1R	3744	2335	2778	1369	1771	998	1449	644	1047	427
D6.0 x 1.5R	9660	2520	8400	2184	7392	1680	6048	1260	3864	630
D8.0 x 1.5R	7266	2856	6778	2268	4494	1428	3906	1008	3234	689
D10.0 x 1.5R	4620	2352	3528	1596	2688	924	2268	798	1386	487
D12.0 x 1.5R	3906	2436	2898	1428	1848	798	1512	672	1092	445
D6.0 x 2R	10465	2730	9100	2366	8088	1820	6552	1365	4186	683
D8.0 x 2R	7872	3094	7235	2457	4869	1547	4232	3504	3504	746
D10.0 x 2R	5005	2548	3822	1729	2912	1001	2457	1502	1502	528
D12.0 x 2R	4232	2639	3140	1547	2002	865	1638	1183	1183	482
D8.0 x 3R	8175	3213	7513	2552	5056	1607	4395	1134	3640	775
D10.0 x 3R	5198	2646	3969	1796	3024	1040	2552	898	1560	548
D12.0 x 3R	4395	2741	3261	1607	2079	898	1701	756	1229	501

Unit/單位: mm

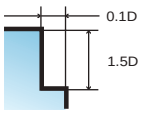
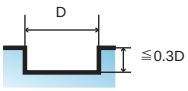
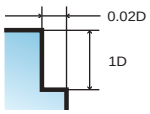
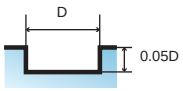
產品規格表 P116
Specification page

• SFUCRM 2 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC40°		HRC50°		HRC55°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D3.0 x 0.1R	5460	756	4620	630	4116	504	3444	441	3150	210
D3.0 x 0.2R	5460	756	4620	630	4116	504	3444	441	3150	210
D3.0 x 0.3R	5460	756	4620	630	4116	504	3444	441	3150	210
D4.0 x 0.3R	5250	840	4410	756	3906	441	3297	357	2856	210
D2.0 x 0.5R	6720	504	6090	462	5460	378	4620	315	3864	252
D3.0 x 0.5R	5460	840	4620	756	4116	630	3444	462	3150	210
D4.0 x 0.5R	5250	840	4410	756	3906	441	3297	357	2856	210
D6.0 x 0.5R	4830	1260	4200	1092	3696	840	3024	630	1932	315
D8.0 x 0.5R	3633	1428	3339	1134	2247	714	1953	504	1617	344
D10.0 x 0.5R	2310	1176	1764	798	1344	462	1134	399	693	244
D12.0 x 0.5R	1953	1218	1449	714	924	399	756	336	546	223
D3.0 x 1R	6279	966	5313	869	4733	725	3961	531	3623	242
D4.0 x 1R	6600	966	5072	870	4492	507	3792	411	3284	242
D6.0 x 1R	5555	1449	4830	1256	4250	966	3478	725	2222	362
D8.0 x 1R	4178	1642	3840	1304	2584	821	2246	580	1860	396
D10.0 x 1R	2657	1344	2029	918	1546	531	1304	459	797	280
D12.0 x 1R	2246	1401	1667	821	1063	599	869	386	628	256
D6.0 x 1.5R	5796	1512	5040	1310	4435	1008	3629	756	2318	378
D8.0 x 1.5R	4360	1714	4007	1361	2696	857	2344	605	1940	413
D10.0 x 1.5R	2772	1411	2117	958	1613	554	1361	479	832	292
D12.0 x 1.5R	2344	1462	1739	857	1109	479	907	403	6555	267
D6.0 x 2R	6279	1638	5460	1420	4805	1092	3931	819	2512	410
D8.0 x 2R	4723	1856	4341	1474	2921	928	2539	2102	2102	448
D10.0 x 2R	3003	1529	2293	1037	1747	601	1474	901	901	317
D12.0 x 2R	2539	1583	1884	928	1201	519	983	710	710	289
D8.0 x 3R	4905	1928	4508	1531	3034	964	2637	680	2184	465
D10.0 x 3R	3119	1588	2381	1077	1814	624	1531	539	936	329
D12.0 x 3R	2637	1644	1956	964	1247	539	1021	454	737	301

Unit/單位: mm

• SURTA 3 Flutes Standard Cutting Conditions 切削條件表

Work Material 被削材	Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 碳素鋼，合金鋼(~30HRC)			Alloy Steels, Tool Steels 調質鋼, SKD61, NAK等 Prehardened Steels, AISI H13 合金鋼，工具鋼(30~45HRC)			Austenitic stainless Steels SUS304, SUS316等 AISI 304, AISI 31G 沃斯田鐵系列不銹鋼			Hardened Steels SKD61, SKD11, NAK, STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	50~100m/min			50~70m/min			30~60m/min			20~40m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度		Speed (min^{-1}) 迴轉數	Feed Rate(mm/min) 進給速度		Speed (min^{-1}) 迴轉數	Feed Rate(mm/min) 進給速度		Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	
		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝		Side Milling 側面	Slotting 溝
2	11,000	180	180	7,200	110	110	6,000	90	90	4,800	45	45
3	8,500	200	160	5,300	130	100	4,400	110	66	3,200	55	44
4	7,200	360	290	4,400	220	180	3,000	180	110	2,400	67	54
5	6,000	380	300	3,600	230	180	2,400	190	110	1,900	70	56
6	5,300	420	340	3,200	240	190	2,200	210	130	1,600	75	60
8	4,000	450	360	2,400	240	190	1,600	220	130	1,200	65	50
10	3,200	390	310	1,900	190	150	1,300	190	110	1,000	65	50
12	2,700	330	260	1,600	160	130	1,000	150	90	800	65	50
切削量基準 Depth of cut (D:直徑Dia)	 						 					

▲ Caution

1. Please use SI coating tools for work materials of 50~60HRC.
2. In cutting Austenitic stainless Steels, the use of non-water-soluble cutting fluid is especially effective.
3. If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4. When drilling, please set the feed rate at 1/3 or below of the above value.

▲ 注意事項

1.切削50~60 HRC 以上之材料時，請使用SI鍍膜之刀具。
2.切削沃斯田鐵系列不銹鋼時，請使用非水溶性切削油效果較好。
3.機械設備或工件的夾持剛性不足、出現震動時，請以相同比例按上表降低回轉數及進給速度。
4.縱向進給時，進給速度請設定為上表之1/3以下。

PBTA 2 FLUTES Standard Cutting Conditons 切削條件表

Working material hardness 被切削材硬度	HRC45° ~52°		HRC52° ~ 55°	
Mode	Rotational speed 轉速	Feeding speed 進給	Rotational speed 轉速	Feeding speed 進給
	RPM 轉/分	mm/min mm/分	RPM 轉/分	mm/min mm/分
PBTA0101T	8800	260	7920	234
PBTA0151T	6900	190	4950	171
PBTA0201T	5600	420	5040	378
PBTA0205T	5600	420	4320	378
PBTA0301T	7200	380	6480	342
PBTA0305T	7200	380	6480	342
PBTA0401T	7200	380	6480	342
PBTA0405T	5400	300	4860	270
PBTA0605T	9728	1280	7040	768
PBTA0603T	9728	1216	6400	704
PBTA0805T	5120	1536	3200	832
PBTA0803T	5120	1152	2048	640

Unit/單位: mm

• URTA 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D3.0 x 0.1R	7280	1008	5488	672	4200	280
D3.0 x 0.2R	7280	1008	5488	672	4200	280
D3.0 x 0.3R	7280	1008	5488	672	4200	280
D4.0 x 0.2R	7000	1120	5208	588	3808	280
D4.0 x 0.3R	7000	1120	5208	588	3808	280
D3.0 x 0.5R	7280	1120	5488	840	4200	280
D4.0 x 0.5R	7000	1120	5208	588	3808	280
D6.0 x 0.5R	6440	1680	4928	1120	2576	420
D8.0 x 0.5R	4844	1904	2996	952	2156	459
D10.0 x 1R	3080	1568	1792	616	924	325
D12.0 x 1R	2604	1624	1323	532	728	297
D3.0 x 1R	3872	1288	6311	966	4830	322
D4.0 x 1R	8050	1588	5989	676	4379	322
D6.0 x 1R	7406	1932	5667	1288	2962	483
D8.0 x 1R	5571	2190	3446	1095	2480	528
D10.0 x 1R	3541	1792	2016	708	1063	374
D12.0 x 1R	2995	1868	1417	798	837	342
D6.0 x 1.5R	7728	2016	5914	1344	3091	504
D8.0 x 1.5R	5813	2285	3595	1142	2587	551
D10.0 x 1.5R	3696	1882	2150	739	1109	390
D12.0 x 1.5R	3125	1949	1478	638	874	356
D6.0 x 2R	8372	2184	6406	1456	3349	546
D8.0 x 2R	6297	2475	3895	1238	2803	597
D10.0 x 2R	4004	2038	2330	801	1201	422
D12.0 x 2R	3385	2111	1602	692	946	386
D8.0 x 2.5R	6540	2570	4045	1285	2912	620
D10.0 x 2.5R	4158	2117	2419	832	1248	438
D12.0 x 2.5R	3516	2192	1663	718	983	401

Unit/單位: mm

• SFURTA 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC40°		HRC50°		HRC55°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.0 x 0.1R	11880	588	10500	510	8700	390	7200	336	5880	270
D1.0 x 0.2R	11880	588	10500	510	8700	390	7200	336	5880	270
D1.0 x 0.3R	11880	588	10500	510	8700	390	7200	336	5880	270
D1.5 x 0.2R	10500	720	9120	540	8280	420	6300	360	5100	300
D1.5 x 0.3R	10500	720	9120	540	8280	420	6300	360	5100	300
D2.0 x 0.1R	9600	900	7920	660	7560	540	5880	450	4320	300
D2.0 x 0.2R	9600	900	7920	660	7560	540	5880	450	4320	300
D2.0 x 0.3R	9600	900	7920	660	7560	540	5880	450	4320	300
D3.0 x 0.1R	7800	1080	6600	900	5880	720	4920	630	4500	300
D3.0 x 0.2R	7800	1080	6600	900	5880	720	4920	630	4500	300
D3.0 x 0.3R	7800	1080	6600	900	5880	720	4920	630	4500	300
D4.0 x 0.2R	7500	1200	6300	1080	5580	630	4710	510	4080	300
D4.0 x 0.3R	7500	1200	6300	1080	5580	630	4710	510	4080	300
D2.0 x 0.5R	9600	720	8700	660	7800	540	6000	450	5520	360
D3.0 x 0.5R	7800	1200	6600	1080	5880	900	4920	660	4500	300
D4.0 x 0.5R	7500	1200	6300	1080	5580	630	4710	510	4080	300
D6.0 x 0.5R	6900	1800	6000	1560	5280	1200	4320	900	2760	450
D8.0 x 0.5R	5190	2040	4770	1620	3210	1020	2790	720	2310	492
D10.0 x 0.5R	3300	1680	2520	1140	1920	660	1620	570	990	348
D12.0 x 0.5R	2790	1740	2070	1020	1320	570	1080	480	780	318
D3.0 x 1R	8970	1380	7590	1242	6762	1035	5658	759	5175	345
D4.0 x 1R	8625	1380	7245	1243	6417	725	5417	587	4692	345
D6.0 x 1R	7935	2070	6900	1794	6072	1380	4968	1035	3174	518
D8.0 x 1R	5969	2346	5486	1863	3692	1173	3209	828	2657	566
D10.0 x 1R	3795	1920	2898	1311	2208	759	1863	656	1139	400
D12.0 x 1R	3209	2001	2381	1173	1518	855	1242	522	897	366
D6.0 x 1.5R	6900	2160	7200	1872	6336	1440	5184	1080	3312	540
D8.0 x 1.5R	6228	2448	5724	1944	3852	1224	3348	864	2772	590
D10.0 x 1.5R	3960	2016	3024	1368	2304	792	1944	684	1188	418
D12.0 x 1.5R	3348	2088	2484	1224	1584	684	1296	576	936	382
D6.0 x 2R	8970	2340	7800	2028	6864	1560	5616	1170	3588	585
D8.0 x 2R	6747	2652	6201	2106	4173	1326	3627	3003	3003	640
D10.0 x 2R	4290	2184	3276	1482	2496	858	2106	1287	1287	452
D12.0 x 2R	3627	2262	2691	1326	1716	741	1404	1014	1014	413
D8.0 x 3R	7007	2754	6440	2187	4334	1377	3767	972	3120	664
D10.0 x 3R	4455	2268	3402	1539	2592	891	2187	770	1337	470
D12.0 x 3R	3767	2349	2795	1377	1782	770	1458	648	1053	430

Unit/單位: mm

• UCR 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
MODE 型號	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
UCR0603-nBS	7360	1920	5700	1280	3130	510
UCR0605-nBS	8280	2160	6340	1440	3310	540
UCR0610-nBS	9520	2484	7290	1660	3810	620
UCR0803-nBS	6230	2448	3850	1225	2780	590
UCR0805-nBS	6574	2580	4066	1290	2930	623
UCR0810-nBS	7560	2972	4676	1485	3365	716
UCR1005-nBS	4810	2128	2432	836	1254	440
UCR1010-nBS	4810	2432	2797	960	1442	507
UCR1015-nBS	5020	2553	2918	1003	1505	530
UCR1020-nBS	5434	2766	3162	1088	1630	573
UCR1205-nBS	3534	2205	1675	722	990	403
UCR1210-nBS	4064	2535	1923	1083	1136	464
UCR1215-nBS	4240	2645	2006	1085	1186	484
UCR1220-nBS	4594	2865	2174	1087	1284	524

Attention : In order to get better cutting surface and lengthen the life-time of the end mill, please use high accuracy, high rigidity and dynamic equilibrium of holder.

請特別注意：為了得到較佳之切削表面及延長刀具壽命，請務必使用高精度、高剛性、動平衡佳之刀把夾治具。

1. Before using the end mill, please examine the end mill to lean towards and put, when the precision of the leaning towards of end mill exceeds 0.01mm, please cut after correcting.
2. It is better that end mill stretches out shorter from chuck, when the end mill stretches out longer, please adjust the rotational speed, feeding speed or cutting amount.
3. Unusual vibrations or sound happen when cutting, please adjust and lower the rotational speed of the main shaft one by one, feeding speed and cutting amount until improving the situation, or change the high-quality end mill.
4. It is the best way to cool steel material by spraying or air in order to make **nBS** efficiently; we commend to adopt non-water cutting liquid to cool the stainless steel, titanium alloy or heat-resisting alloy.
5. Cutting will be influenced by work piece, machine and software; the above-mentioned data are only for reference, please improve feeding speed by 30%~50% up after cutting situation steadily.

1. 使用本刀具前請測刀具偏擺，刀具之偏擺精度超過0.01mm時，請改正後再進行切削。
2. 刀具伸出夾頭之長度越短越好，刀具之伸出量若伸出較長時，請自行調降轉速、進給速度或切削量。
3. 在切削中如果產生異常之震動或聲音時，請逐一調降主軸轉速，進給速度與切削量至情況改善為止，或更換高品質刀把。
4. 鋼料冷卻以噴霧式或噴氣式為最佳選用方式，以使 **nBS**發揮最佳效果，不銹鋼鈦合金或耐熱合金建議採用非水溶性切削液。
5. 切削方式依工件、機器、軟件之影響，以上之數據僅供參考，待切削狀況穩定後再將進給速度往上提高 30%-50%。

• SFUCRM 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC40°		HRC50°		HRC55°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D3.0 x 0.1R	6006	831	5082	693	4527	554	3788	485	3465	231
D3.0 x 0.2R	6006	831	5802	693	4527	554	3788	485	3465	231
D3.0 x 0.3R	6006	831	5082	693	4527	554	3788	485	3465	231
D4.0 x 0.3R	5775	924	4851	831	4296	485	3626	392	3141	231
D2.0 x 0.5R	7392	554	6699	508	6006	415	5082	346	4250	277
D3.0 x 0.5R	6006	924	5082	831	4527	693	3788	508	3465	231
D4.0 x 0.5R	5775	924	4581	831	4296	485	3626	392	3141	231
D6.0 x 0.5R	5313	1386	4620	1201	4065	924	3326	693	2125	346
D8.0 x 0.5R	3996	1570	3672	1247	2471	785	2148	554	1778	378
D10.0 x 0.5R	2541	1293	1940	877	1478	508	1247	438	762	268
D12.0 x 0.5R	2148	1339	1593	785	1016	438	831	369	600	245
D3.0 x 1R	6906	1062	5844	955	5206	797	4357	584	3985	266
D4.0 x 1R	6641	1062	5579	957	4941	557	4171	452	3612	266
D6.0 x 1R	6110	1593	5313	1381	4675	1062	3825	797	2444	398
D8.0 x 1R	4595	1806	4224	1434	2842	903	2470	638	2046	398
D10.0 x 1R	2922	1478	2231	1009	1700	584	1431	504	876	308
D12.0 x 1R	2470	1541	1833	903	1169	658	955	424	690	281
D6.0 x 1.5R	6375	1663	5544	1441	4878	1108	3991	831	2549	415
D8.0 x 1.5R	4796	1885	4407	1497	2965	942	2578	665	2134	454
D10.0 x 1.5R	3049	1552	2328	1053	1774	609	1479	526	915	321
D12.0 x 1.5R	2578	1608	1912	942	1219	526	997	443	720	293
D6.0 x 2R	6900	1801	6006	1502	5285	1201	4324	900	2763	451
D8.0 x 2R	5195	2041	4775	1621	3213	1020	2792	2312	2312	492
D10.0 x 2R	3303	1681	2522	1140	1921	661	1621	991	991	384
D12.0 x 2R	2792	1741	2072	1020	1321	570	1081	781	781	317
D8.0 x 3R	5395	2120	4958	1684	3337	1060	2900	748	2402	511
D10.0 x 3R	3430	1746	2619	1184	1995	686	1684	592	1029	361
D12.0 x 3R	2900	1808	2151	1060	1371	592	1123	499	810	331

Unit/單位: mm

• UCRS 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D3.0 x 0.1R	10400	1440	7840	960	6000	400
D3.0 x 0.2R	10400	1440	7840	960	6000	400
D3.0 x 0.3R	10400	1440	7840	960	6000	400
D4.0 x 0.2R	10000	1600	7440	840	5440	400
D4.0 x 0.3R	10000	1600	7440	840	5440	400
D3.0 x 0.5R	10400	1600	7840	1200	6000	400
D4.0 x 0.5R	10000	1600	7440	840	5440	400
D6.0 x 0.5R	9200	2400	7040	1600	3680	600
D8.0 x 0.5R	6920	2420	4280	1360	3080	656
D10.0 x 0.5R	4400	2240	2560	880	1320	464
D12.0 x 0.5R	3720	2320	1760	760	1040	424
D3.0 x 1R	11960	1840	9016	1380	6900	460
D4.0 x 1R	11500	1840	8556	966	6256	460
D6.0 x 1R	10580	2760	8096	1840	4232	690
D8.0 x 1R	7958	3128	4922	1564	3542	754
D10.0 x1R	5060	2560	2944	1012	1518	534
D12.0 x 1R	4278	2668	2024	1140	1196	488
D6.0 x 1.5R	11040	2880	8448	1920	4416	720
D8.0 x 1.5R	8304	3264	5136	1632	3696	787
D10.0 x 1.5R	5280	2688	3072	1056	1584	557
D12.0 x 1.5R	4464	2784	2112	912	1248	509
D6.0 x 2R	11960	3120	9152	5080	4784	780
D8.0 x 2R	8996	3536	5564	1768	4004	853
D10.0 x 2R	5720	2912	3328	1144	1716	603
D12.0 x 2R	4836	3016	2288	988	1352	551
D8.0 x 3R	9342	3672	5778	1836	4160	886
D10.0 x 3R	5940	3024	3456	1188	1782	626
D12.0 x 3R	5022	3132	2376	1026	1404	573

Unit/單位: mm

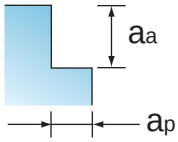
產品規格表 P136
Specification page

• SFUCRS 4 Flutes Cutting Condition 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC40°		HRC50°		HRC55°		HRC60°	
Diameter × Radius D × R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min. mm/分
D1.0 x 0.1R	19800	980	17500	850	14500	650	12000	560	9800	450
D1.0 x 0.2R	19800	980	17500	850	14500	650	12000	560	9800	450
D1.0 x 0.3R	19800	980	17500	850	14500	650	12000	560	9800	450
D1.5 x 0.2R	17500	1200	15200	900	13800	700	10500	600	8500	500
D1.5 x 0.3R	17500	1200	15200	900	13800	700	10500	600	8500	500
D2.0 x 0.1R	16000	1500	13200	1100	12600	900	9800	750	7200	500
D2.0 x 0.2R	16000	1500	13200	1100	12600	900	9800	750	7200	500
D2.0 x 0.3R	16000	1500	13200	1100	12600	900	9800	750	7200	500
D3.0 x 0.1R	13000	1800	11000	1500	9800	1200	8200	1050	7500	500
D3.0 x 0.2R	13000	1800	11000	1500	9800	1200	8200	1050	7500	500
D3.0 x 0.3R	13000	1800	11000	1500	9800	1200	8200	1050	7500	500
D4.0 x 0.2R	12500	2000	10500	1800	9300	1050	7850	850	6800	500
D4.0 x 0.3R	12500	2000	10500	1800	9300	1050	7850	850	6800	500
D2.0 x 0.5R	16000	1200	14500	1100	13000	900	11000	750	9200	600
D3.0 x 0.5R	13000	2000	11000	1800	9800	1500	8200	1100	7500	500
D4.0 x 0.5R	12500	2000	10500	1800	9300	1050	7850	850	6800	500
D6.0 x 0.5R	11500	3000	10000	2600	8800	2000	7200	1500	4600	750
D8.0 x 0.5R	8650	3400	7950	2700	5350	1700	4650	1200	3850	820
D10.0 x 0.5R	5500	2800	4200	1900	3200	1100	2700	950	1650	580
D12.0 x 0.5R	4650	2900	3450	1700	2200	950	1800	800	1300	530
D3.0 x1R	14950	2300	12650	2070	11270	1725	9430	1265	8625	575
D4.0 x 1R	14375	2300	12075	2072	10695	1208	9028	978	7820	575
D6.0 x 1R	13225	3450	11500	2990	10120	2300	8280	1725	5290	863
D8.0 x 1R	9948	3910	9143	3105	6153	1955	5348	1380	4428	943
D10.0 x1R	6325	3200	4830	2185	3680	1265	3105	1093	1898	667
D12.0 x 1R	5348	3335	3968	1955	2530	1425	2070	920	1495	610
D6.0 x 1.5R	13800	3600	12000	3120	10560	2400	8640	1800	5520	900
D8.0 x 1.5R	10380	4080	9540	3240	6420	2040	5580	1440	4620	984
D10.0 x 1.5R	6600	3360	5040	2280	3840	1320	3240	1140	1980	696
D12.0 x 1.5R	5580	3480	4140	2040	2640	1140	2160	960	1560	636
D6.0 x 2R	14950	3900	13000	3380	11440	2600	9360	1950	5980	975
D8.0 x 2R	11245	4420	10335	3510	6955	2210	6045	5005	5005	1066
D10.0 x 2R	7150	3640	5460	2470	4160	1430	3510	2145	2145	754
D12.0 x 2R	6045	3770	4485	2210	2860	1235	2340	1690	1690	689
D8.0 x 3R	11678	4590	10733	3645	7223	2295	6278	1620	5200	1107
D10.0 x 3R	7425	3780	5670	2565	4320	1485	3645	1283	2228	783
D12.0 x 3R	6278	3915	4658	2295	2970	1283	2340	1080	1755	716

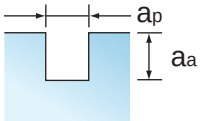
Unit/單位: mm

• AA 3 Flutes 切削條件表 (Side milling) 側銑

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金		Copper alloy C1100 銅	
Cutting Speed 切削速度	200m/min		200m/min		75m/min	
Type No. 型號	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度
AA 0303	21000	950	21000	950	7950	320
AA 0403	15500	1080	15500	1080	5950	350
AA 0503	12500	1100	12500	1100	4750	380
AA 0603	10500	1200	10500	1200	3950	400
AA 0803	7950	1300	7950	1300	2950	450
AA 1003	6350	1500	6350	1500	2350	480
AA 1203	5300	1550	5300	1550	1950	510
AA 1603	3950	1550	3950	1550	1450	510
AA 2003	3150	1550	3150	1550	1150	510
Depth of cut 加工深度	*Side milling（側銑）  a_p=0.1D a_a=1.5D					

產品規格表 P161
Specification page

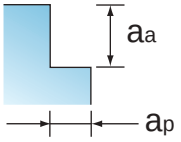
• AA 3 Flutes 切削條件表 (Slotting) 溝銑

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金		Copper alloy C1100 銅	
Cutting Speed 切削速度	200m/min		200m/min		75m/min	
Type No. 型號	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度
AA 0303	21000	670	21000	670	7950	325
AA 0403	15500	700	15500	700	5950	365
AA 0503	12500	745	12500	745	4750	385
AA 0603	10500	820	10500	820	3950	405
AA 0803	7950	865	7950	865	2950	455
AA 1003	6350	970	6350	970	2350	475
AA 1203	5300	1030	5300	1030	1950	510
AA 1603	3950	1030	3950	1030	1450	510
AA 2003	3150	1030	3150	1030	1150	510
Depth of cut 加工深度	 a_p=1.0D a_a=0.5D					

- Use a rigid and precise machine and holder.
- Use a water soluble cutting fluid.
- Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

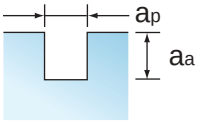
產品規格表 P168
Specification page

• CRAA 3 Flutes 切削條件表 (Side milling) 側銑

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金		Copper alloy C1100 銅	
Type No. 型號	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度
CRAA 03--	21000	950	21000	950	7950	320
CRAA 04--	15500	1080	15500	1080	5950	350
CRAA 06--	10500	1200	10500	1200	3950	400
CRAA 08--	7950	1300	7950	1300	2950	450
CRAA 10--	6350	1500	6350	1500	2350	480
CRAA 12--	5300	1550	5300	1550	1950	510
CRAA 16--	3950	1550	3950	1550	1450	510
CRAA 20--	3150	1550	3150	1550	1150	510
Depth of cut 加工深度	*Side milling（側銑） ap=0.1D aa=1.5D 					

產品規格表 P168
Specification page

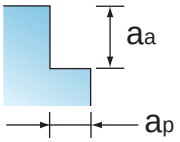
• CRAA 3 Flutes 切削條件表 (Slotting) 溝銑

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金		Copper alloy C1100 銅	
Type No. 型號	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度
CRAA 03--	21000	670	21000	670	7950	325
CRAA 04--	15500	700	15500	700	5950	365
CRAA 06--	10500	820	10500	820	3950	405
CRAA 08--	7950	865	7950	865	2950	455
CRAA 10--	6350	970	6350	970	2350	475
CRAA 12--	5300	1030	5300	1030	1950	510
CRAA 16--	3950	1030	3950	1030	1450	510
CRAA 20--	3150	1030	3150	1030	1150	500
Depth of cut 加工深度	 ap=1.0D aa=0.5D					

- Use a rigid and precise machine and holder.
- Use a Water soluble cutting fluid.
- Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.

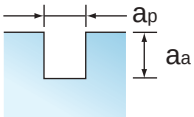
Unit/單位: mm

• CRAA 3 Flutes 切削條件表 (High Speed Side Milling) 高速側面切削

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金		Copper alloy C1100 銅	
Type No. 型號	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度
CRAA 03--	40000	2080	24000	1260	17000	625
CRAA 04--	32000	2550	19200	1550	14300	800
CRAA 06--	26500	3500	15900	2150	10600	959
CRAA 08--	20000	3750	12000	2250	8000	1130
CRAA 10--	16000	4300	9600	2580	6350	1150
CRAA 12--	13300	4400	7980	2650	5300	1250
CRAA 16--	10000	4400	6000	2650	4000	1250
CRAA 20--	8000	4400	4800	2650	3200	1250
Depth of cut 加工深度	*Side milling（側銑） a_p=0.1D a_a=1D 					

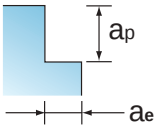
產品規格表 P168
Specification page

• CRAA 3 Flutes切削條件表 (High Speed Slotting) 高速溝切削

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金	
Type No. 型號	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (mm^{-1}) 迴轉速度	Feed (mm/min) 進給速度
CRAA 03--	40000	1450	24000	800
CRAA 04--	32000	1680	19200	1000
CRAA 06--	26500	2400	15900	1450
CRAA 08--	20000	2500	12000	1500
CRAA 10--	16000	2800	9600	1700
CRAA 12--	13300	2950	7980	1780
CRAA 16--	10000	3000	6000	1800
CRAA 20--	8000	3000	4800	1800
Depth of cut 加工深度	 a_p=1.0D a_a=0.25D			

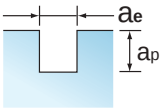
產品規格表 P163
Specification page

• AUE Series Cutting 3 Flutes Condition(Side Milling) 切削條件表(側銑)

Work Material 被削材		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金		Copper 銅	
Max Cutting Speed(V) 最大切削速度(V)		240m/min		87m/min	
TYPE NO.	Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
AUE0253	2.5	30,000	2,600	11,000	800
AUE0303	3	25,000	2,900	9,250	1,000
AUE0403	4	18,750	3,300	6,950	1,300
AUE0503	5	15,000	3,700	5,550	1,600
AUE0603	6	12,500	4,150	4,650	2,000
AUE0803	8	9,400	3,150	3,500	1,520
AUE1003	10	7,500	2,500	2,800	1,200
AUE1203	12	6,250	2,100	2,300	1,000
AUE1603	16	4,700	1,550	1,750	760
AUE2003	20	3,750	1,250	1,400	600
Depth of cut 切削基準量 (D=直徑Dia)		AP=2.0D AE=0.5D 			
		V線速度	235.5	V線速度	87.92
		Z刃數	3	Z刃數	3
		f	0.11	f	0.10

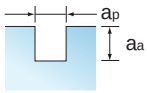
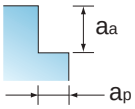
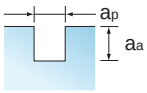
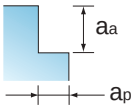
產品規格表 P163
Specification page

• AUE Series Cutting 3 Flutes Condition(Slotting)切削條件表(溝銑)

Work Material 被削材		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金		Copper 銅	
Max Cutting Speed(V) 最大切削速度(V)		250m/min		90m/min	
TYPE NO.	Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
AUE0253	2.5	20,000	1,500	11,800	850
AUE0303	3	18,000	1,800	9,840	990
AUE0403	4	15,000	2,300	7,440	1,100
AUE0503	5	13,000	2,800	5,920	1,200
AUE0603	6	12,000	4,000	4,960	1,350
AUE0803	8	10,000	3,040	3,680	1,050
AUE1003	10	8,000	2,400	2,960	850
AUE1203	12	6,660	2,000	2,480	700
AUE1603	16	5,000	1,300	1,840	500
AUE2003	20	4,000	1,000	1,520	400
Depth of cut 切削基準量 (D=直徑Dia)		AP=1.5D AE=1.0D 			
		V線速度	251.2	V線速度	92.944
		Z刃數	3	Z刃數	3
		f	0.10	f	0.14

Unit/單位: mm

• JANT,ANT 3 Flutes 切削條件表

Work Material 被削材	Aluminum alloy expanding material A7075 鋁合金		Aluminum alloy casting<Sil 13% 鋁合金	
Velocity	250-400 mm/min		150-250 mm/min	
Type No. 型號	f (mm / Tooth)			
ANT 0603	0.043	0.054	0.036	0.045
ANT 0803	0.055	0.069	0.047	0.058
ANT 1003	0.068	0.085	0.057	0.071
ANT 1203	0.080	0.100	0.066	0.083
ANT 1403	0.092	0.115	0.077	0.096
ANT 1603	0.105	0.131	0.087	0.109
ANT 2003	0.130	0.162	0.108	0.135
ANT 2503	0.160	0.200	0.134	0.167
Depth of cut 加工深度	*Slotting（溝銑）  ap=1.0D aa=1.0D	*Side milling（側銑）  ap=0.5D aa=1.5D	*Slotting（溝銑）  ap=1.0D aa=1.0D	*Side milling（側銑）  ap=0.5D aa=1.5D

產品規格表 P248
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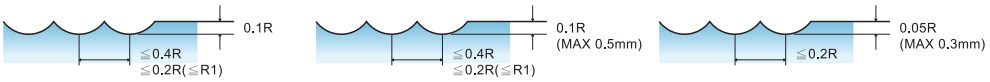
• KTGS 2 Flutes Standard Cutting Conditions 標準切削條件表

Work material 被削材	Alloy steels, Tool steels, Prehardened steels, SCM, SKD61, SKD11, NAK, AISI H3 ,AISI D2 ect. 合金鋼、工具鋼、預硬鋼（~45HRC）					Hardened steels, SKD61, SKD11, STAVAX, AISI H13 ect. 調質鋼（45~55HRC）				Hardened steels, SKD11, SKH, SKS, ASP23, AISI H13 ect. 調質鋼（55~62HRC）			
R（mm）球頭半徑	Inclination of Machining Surface 加工面傾斜角	Speed（min^{-1}）迴轉速度	Feed（mm/min）進給速度	切削量（mm） Pf Pick feed	切削量（mm） Ad Milling Amount	Speed（min^{-1}）迴轉速度	Feed（mm/min）進給速度	切削量（mm） Pf Pick feed	切削量（mm） Ad Milling Amount	Speed（min^{-1}）迴轉速度	Feed（mm/min）進給速度	切削量（mm） Pf Pick feed	切削量（mm） Ad Milling Amount
D0.5R	α≦15°	40000	3120	≦0.2R	≦0.1R	35000	2340	≦0.2R	≦0.1R	21000	1300	≦0.2R	≦0.05R
	α＞15°	35000	2080	≦0.2R	≦0.1R	30000	1430	≦0.2R	≦0.1R	15000	740	≦0.2R	≦0.05R
D0.75R	α≦15°	40000	3900	≦0.2R	≦0.1R	30000	2470	≦0.2R	≦0.1R	14000	1160	≦0.2R	≦0.05R
	α＞15°	30000	2210	≦0.4R	≦0.1R	25000	1560	≦0.4R	≦0.1R	10000	610	≦0.2R	≦0.05R
D1R	α≦15°	35000	3900	≦0.4R	≦0.1R	25000	2340	≦0.4R	≦0.1R	11000	1040	≦0.2R	≦0.05R
	α＞15°	25000	2210	≦0.4R	≦0.1R	20000	1430	≦0.4R	≦0.1R	8000	560	≦0.2R	≦0.05R
D1.25R	α≦15°	33000	3900	≦0.4R	≦0.1R	22000	2210	≦0.4R	≦0.1R	9300	920	≦0.2R	≦0.05R
	α＞15°	24000	2210	≦0.4R	≦0.1R	17000	1300	≦0.4R	≦0.1R	6500	480	≦0.2R	≦0.05R
D1.5R	α≦15°	30000	3900	≦0.4R	≦0.1R	20000	2210	≦0.4R	≦0.1R	8000	870	≦0.2R	≦0.05R
	α＞15°	23000	2210	≦0.4R	≦0.1R	15000	1300	≦0.4R	≦0.1R	5600	450	≦0.2R	≦0.05R
D2R	α≦15°	25000	3900	≦0.4R	≦0.1R	17000	2210	≦0.4R	≦0.1R	6400	830	≦0.2R	≦0.05R
	α＞15°	20000	2210	≦0.4R	≦0.1R	13000	1300	≦0.4R	≦0.1R	4500	440	≦0.2R	≦0.05R
D2.5R	α≦15°	23000	3900	≦0.4R	≦0.1R	15000	2210	≦0.4R	≦0.1R	5000	710	≦0.2R	≦0.05R
	α＞15°	17000	2210	≦0.4R	≦0.1R	11000	1300	≦0.4R	≦0.1R	3500	380	≦0.2R	≦0.05R
D3R	α≦15°	20000	3900	≦0.4R	≦0.1R	13000	2210	≦0.4R	≦0.1R	4200	690	≦0.2R	≦0.05R
	α＞15°	15000	2210	≦0.4R	≦0.1R	10000	1300	≦0.4R	≦0.1R	2900	350	≦0.2R	≦0.05R
D4R	α≦15°	15000	3900	≦0.4R	≦0.1R	10000	2210	≦0.4R	≦0.1R	3200	700	≦0.2R	≦0.05R
	α＞15°	11000	2210	≦0.4R	≦0.1R	7500	1300	≦0.4R	≦0.1R	2200	360	≦0.2R	≦0.05R
D5R	α≦15°	12000	3770	≦0.4R	≦0.1R	8000	2080	≦0.4R	≦0.1R	2500	660	≦0.2R	≦0.05R
	α＞15°	9000	2080	≦0.4R	≦0.1R	6000	1170	≦0.4R	≦0.1R	1800	350	≦0.2R	≦0.05R
D6R	α≦15°	10000	3250	≦0.4R	≦0.1R	6600	1820	≦0.4R	≦0.1R	2100	570	≦0.2R	≦0.05R
	α＞15°	7500	1820	≦0.4R	≦0.1R	5000	1040	≦0.4R	≦0.1R	1500	300	≦0.2R	≦0.05R
Depth of cut 加工深度													

產品規格表 P248
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• KTGS 2 Flutes High Speed Milling Conditions 高速切削條件表

D0.5R	粗（R）	40000	3120	0.2	0.05	40000	2470	0.15	0.04	30000	1560	0.1	0.03
	精（F）	40000	3900	0.1	0.05	40000	3120	0.8	0.04	30000	1950	0.6	0.03
D1R	粗（R）	40000	6240	0.2	0.2	40000	4940	0.2	0.15	20000	2080	0.15	0.12
	精（F）	40000	7800	0.2	0.1	40000	6240	0.1	0.1	20000	2600	0.1	0.06
D2R	粗（R）	30000	6240	0.4	0.3	30000	4940	0.3	0.2	20000	2470	0.25	0.15
	精（F）	30000	7800	0.2	0.15	30000	6240	0.2	0.1	20000	3120	0.2	0.1
D3R	粗（R）	20000	5200	0.6	0.4	20000	4160	0.5	0.3	16000	2470	0.3	0.2
	精（F）	20000	6500	0.2	0.2	20000	5200	0.2	0.2	16000	3120	0.2	0.2
D4R	粗（R）	16000	4940	1	0.8	16000	3900	0.8	0.6	10000	1820	0.7	0.5
	精（F）	16000	6240	0.2	0.2	16000	4940	0.2	0.2	10000	2340	0.2	0.2
D5R	粗（R）	12000	4680	2	1	12000	3640	1	0.8	8000	1560	1	0.7
	精（F）	12000	5850	0.3	0.3	12000	4680	0.2	0.2	8000	2080	0.2	0.2
D6R	粗（R）	10000	3900	3	1.2	10000	3120	1.5	1.2	6400	1248	1.5	1
	精（F）	10000	4870	0.3	0.3	10000	3900	0.2	0.2	6400	1560	0.2	0.2
Depth of cut 加工深度													

▲ Caution

1. α is the inclination of machining surface.
2. If the rigidity of the machine or the work material installation is very low, or chattering and noise are generated, please reduce the revolutin and the feed rate propotionately.
3. Cutting condition may be considerably different due to the overhang(milling depth and neck length),depth of cut, and machine tools.
4. If the depth of cut is shallow, the revolution and feed rate can be incerased.

▲ 注意事項

1. α 為加工面的傾斜角。
2. 機械設備或工件的夾持剛性不足、出現震動或異常聲音時，請以相同比例按上表降低迴轉數及進給速度。此外，重視加工精度時，建議降低進給速度。
3. 有時候切削條件會因為刀具伸出長度、材料、機械設備的差異性而需要做調整，上表僅供一般情況參考用。
4. 切削深度較小時，可以提高迴轉數及進給速度。

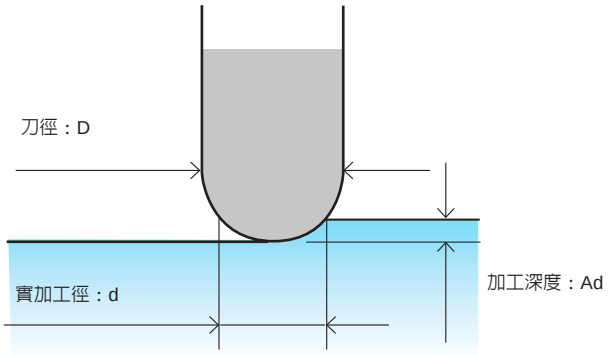
Unit/單位: mm

• KTGS 2 Flutes Ball End Milling Actual Diameter 球型銑刀實際加工直徑速查表

R R半徑	D 刀徑	Depth of cut（mm）加工深度														
Radius	Dia	0.01	0.02	0.03	0.04	0.05	0.08	0.1	0.15	0.2	0.3	0.5	0.8	1	2	3
0.1	0.2	0.087	0.12	0.143	0.16	0.173	0.196	0.2								
0.2	0.4	0.125	0.174	0.211	0.24	0.265	0.32	0.35	0.39	0.4						
0.3	0.6	0.154	0.215	0.262	0.299	0.332	0.41	0.45	0.52	0.57	0.6					
0.4	0.8	0.178	0.25	0.304	0.349	0.387	0.48	0.53	0.62	0.69	0.77					
0.5	1	0.199	0.28	0.341	0.392	0.436	0.54	0.6	0.71	0.8	0.92	1				
1	2	0.282	0.398	0.486	0.56	0.624	0.78	0.87	1.05	1.2	1.43	1.73	1.96	2		
1.5	3	0.346	0.488	0.597	0.688	0.768	0.97	1.08	1.31	1.5	1.8	2.24	2.65	2.83		
2	4	0.399	0.564	0.69	0.796	0.889	1.12	1.25	1.52	1.74	2.11	2.65	3.2	3.46	4	
2.5	5	0.447	0.631	0.722	0.891	0.995	1.25	1.4	1.71	1.96	2.37	3	3.67	4	4.9	
3	6	0.489	0.692	0.846	0.977	1.091	1.38	1.54	1.87	2.15	2.62	3.32	4.08	4.47	5.66	6
4	8	0.565	0.799	0.978	1.129	1.261	1.59	1.78	2.17	2.5	3.04	3.87	4.8	5.29	6.93	7.75
5	10	0.632	0.894	1.094	1.262	1.411	1.78	1.99	2.43	2.8	3.41	4.36	5.43	6	8	9.17
6	12	0.693	0.979	1.198	1.383	1.546	1.95	2.18	2.67	3.07	3.75	4.8	5.99	6.63	8.94	10.39
7	14	0.748	1.058	1.295	1.495	1.67	2.11	2.36	2.88	3.32	4.05	5.2	6.5	7.21	9.8	11.49
8	16	0.8	1.131	1.384	1.598	1.786	2.26	2.52	3.08	3.56	4.34	5.57	6.97	7.75	10.58	12.49
9	18	0.848	1.199	1.468	1.695	1.895	2.39	2.68	3.27	3.77	4.61	5.92	7.42	8.25	11.31	13.42
10	20	0.894	1.264	1.548	1.787	1.997	2.52	2.82	3.45	3.98	4.86	6.24	7.84	8.72	12	14.28

Caculation of Actual Dia

$$d=2\sqrt{Ad\,(D-Ad)}$$

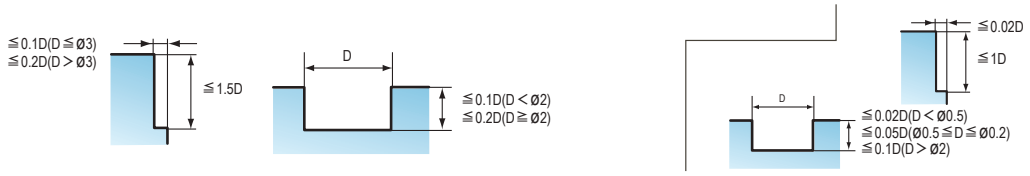


產品規格表 P242
Specification page

• SES 2Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Copper 銅			Carbon Steel, Alloy Steel S50C,SCM,鑄鐵FC250等 AISI 1049,Cast iron 炭素鋼，合金鋼（~30HRC）			（30~45HRC） Alloy Steels, Tool Steels 調質鋼SKD61,NAK等 Prehardened steels, AISI H13 合金鋼、工具鋼、預硬鋼			Austenitic stainless steels SUS304, SUS316等 AISI 304,AISI 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61,SKD11,NAK,STAVAX 等AISI H13 熱處理鋼（45~50HRC）		
Cutting Speed 切削速度	80~150m/min			50~100m/min			50~70m/min			30~60m/min			20~40m/min		
Diameter 直徑(mm)	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝
8	6000	1000	330	4000	520	410	2800	350	280	1600	260	150	1200	65	50
10	4800	1000	330	3200	450	360	2200	300	240	1300	230	130	1000	65	50
12	4000	1000	330	2700	410	320	1900	270	210	1100	210	120	800	65	50
16	3000	1000	330	2000	240	190	1400	210	160	840	160	100	600	60	45
20	2400	1000	330	1600	200	160	1100	170	130	680	140	80	480	50	40

Depth of cut (D:直徑Dia) 切削量基準

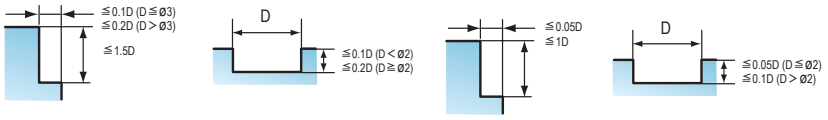


產品規格表 P242
Specification page

• SES 4Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Carbon Steels, Alloy Steels S50C, SCM, 鑄鐵FC250等 AISI 1049, Cast iron 炭素鋼，合金鋼（~30HRC）			（30~45HRC） Alloy Steels, Tool Steels 調質鋼SKD61, NAK等 Prehardened steels, AiSi H13 合金鋼、工具鋼、預硬鋼			Austenitic stainless steels SUS304, SUS316等 AISI 304, AiSi 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61, SKD11, NAK, STAVAX等 AiSi H13 熱處理鋼（45~50HRC）		
Cutting Speed 切削速度	50~100m/min			50~70m/min			30~60m/min			20~40m/min		
Diameter 直徑(mm)	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝	Speed (min⁻¹) 迴轉數	Feed Rate（mm/min） 進給速度 Side Milling 側面	Slotting 溝
8	4000	780	620	2800	520	410	1600	390	230	2000	160	125
10	3200	680	540	2200	450	360	1300	340	200	1600	140	110
12	2700	620	490	1900	410	320	1100	310	180	1300	120	95
16	2000	360	280	1400	310	240	840	240	140	1000	100	80
20	1600	300	240	1100	250	200	680	210	120	800	90	70

Depth of cut (D:直徑Dia) 切削量基準



▲ Caution

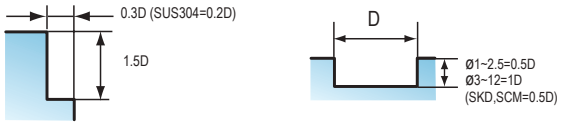
1.In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
2.If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
3.When drilling, please set the feed rate at 1/3 or below of the above value.

▲ 注意事項

1.切削沃斯田鐵系列不銹鋼以及耐熱合金時，請使用非水溶性切削油效果較好。
2.機械設備或工作的夾持剛性不足、出現震動時，請以相同比例按上表降低迴轉數及進給速度。
3.縱向進給時，進給速度請設定為上表之1/3以下。

Unit/單位: mm

• PES 3Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Carbon Steels S50C 炭素鋼				Alloy Tool Steels, SCM, SKD 合金工具鋼				Stainless Steels, Titanium Alloys SUS304, SUS316等 不銹鋼,鈦合金				Prehardened Steels, HPM, NAK 調質鋼(~40HRC)			
Cutting Speed 切削速度	~100m/min				~50m/min				~35m/min				~56m/min			
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度			Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度			Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度			Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度		
		Side Milling 側面	Slotting 溝	Drilling 縱向		Side Milling 側面	Slotting 溝	Drilling 縱向		Side Milling 側面	Slotting 溝	Drilling 縱向		Side Milling 側面	Slotting 溝	Drilling 縱向
8	3600	1000	760	300	1600	400	300	120	1400	300	120	-	2200	600	330	100
10	3000	900	800	300	1300	350	200	100	1100	300	100	-	1700	400	200	80
12	2600	850	740	280	1100	340	180	80	900	270	100	-	1500	340	180	70
Depth of cut (D:直徑Dia) 切削量基準																

▲ Caution

1.Use a rigid and precise machine and holder.
2.Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
3.Air blow is recommended.
4.Non-water cutting fluid is recommended for cutting stainless steels.

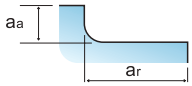
▲ 注意事項

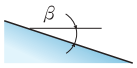
1.請使用剛性及精準度較佳之機械及夾頭。
2.當切削量過大或機械剛性不足時，請降低回轉速及進給速度。
3.請使用吹氣方式進行切削。
4.切削不銹鋼時，請使用非水溶性切削油。

• KCRS 4 Flutes High Speed Milling Conditions 高速切削條件表

Work material 被削材	Mild steels arbom steels, Cast iron SS400, S55c, FC250 (~750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, KT,SKS,SKD (~30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels US304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Mill DIA. (mm) 直徑	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度
D10×R2	6030	13300	6030	12060	6030	12060	4510	9070	4510	8170	3040	3610
D11×R2	5510	12060	5510	11020	5510	11020	4130	8260	4130	7410	2750	3320
D12×R3	5030	13300	5030	12060	5030	12060	3800	9070	3800	8170	2520	3610
D13×R3	4650	12250	4650	11210	4650	11210	3460	8360	3460	7550	2330	3370

加工深度 Depth of cut





aa	ar
0.1 x R	0.3D

	aa	ar
R≦2	0.1 x R	0.3D
2＜R	0.2mm	0.3D

	aa	ar
R≦2	0.05 x R	0.3D
2＜R	0.1mm	0.3D

▲ Caution

Sparks generated during operation or caused by tool breakage can cause fire. Be sure to use all proper fire-prevention measures.The conditions below are for high speed/high precision machining centers.

1.Use a rigid and precise machine and holder.
2.These milling conditions based on milling with circular interpolation at corners. For milling without circular interpolation (such as right angle corners), reduce the speed to 50~70% and the cutting depth to 50~80% of the above conditions.
3.We recommend using an air blow or MQL(mist).
4.Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5.When KCRS enter in Z axis, reduce the feed speed to 30~60% of the above conditions with machining incline angle (β) ≦2°.
6.These milling conditions are for a tool extension length：less than 4×D. For a longer tool extension, reduce the speed, feed rate, and the cutting depth in accordance with the respective coefficients, to prevent chattering.

▲ 注意事項

在操作或由於工具發熱而損壞所引起的火花易起火災。
請務必使用適當的防火措施。
以上條件適用於高速精密加工機器。

1.使用一台堅固且準確的機器和刀把。
2.這些研磨條件須以有R角的研磨為基礎，研磨無R角的角度（如90度垂直研磨），將使速度降低到50~70%及減低切割深度50~80%。
3.我們建議使用一種吹風或者油霧。
4.請根據實際切削條件調整速度，進給率及切削深度。
5.在上述條件下操作傾斜角度（β）≦2° 時，當KCRS進入Z軸裡，請降低進給速度30~60%。
6.這些研磨條件適用於工具延展長度：少於4×D。對於一個延展性長的工具來說，協調個別係數，降低速度、進給率和切削深度以防止吵雜聲。

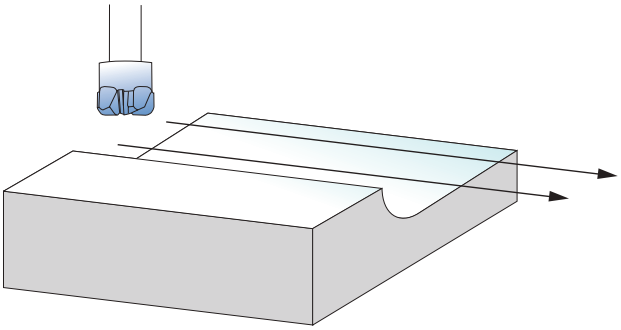
Tool extension coefficients 工具突出量係數

Overshank Length 工具突出量	Milling Speed 切削速度	aa 軸方向切削	Feed Speed 進給速度
L/D≦4	100	100	100
L/D≦5	60~80	60~80	70~90
L/D≦6	40~60	40~60	60~80

Ultra-high speed conditions 超高速條件用

When milling flat areas with a stable load, the speed and the feed rate of the high-speed conditions can be further increased to 150-200%. The ultra-high speed conditions are for a tool extension length:less than 4xD. If the tool extension length is over 4 D, do not refer to it.

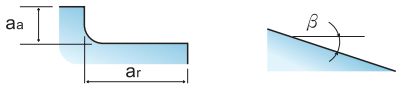
在高速及穩定負荷下研磨平坦區域，速度和進給率能更進一步增加150-200%。在高速條件適用於一個工具擴展長度：少於4XD。如果工具擴展長度是在4D上方，請勿參照該條件。



• KCRS 4 Flutes Regular Milling（Low-speed, high-feed milling）標準切削條件表

Work material 被削材	Mild steels Carbon steels, Cast iron SS400, S55c, FC250 （~750N/mm2） 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD （~30HRC） 合金鋼、工具鋼		Hardened steels, Prehardened steels （Free-cutting） SKT, SKD, NAK55, HPM1 調質鋼（30~38HRC）		Hardened steels, Stainless steels SUS304, SKD 調質鋼（38~45HRC）		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼（45~55HRC）		Hardened steels, 調質鋼（55~60HRC）	
Mill DIA. (mm) 直徑	Speed （min^{-1}） 迴轉速度	Feed (mm/min) 進給速度	Speed （min^{-1}） 迴轉速度	Feed (mm/min) 進給速度	Speed （min^{-1}） 迴轉速度	Feed (mm/min) 進給速度	Speed （min^{-1}） 迴轉速度	Feed (mm/min) 進給速度	Speed （min^{-1}） 迴轉速度	Feed (mm/min) 進給速度	Speed （min^{-1}） 迴轉速度	Feed (mm/min) 進給速度
D8×R2	3800	6650	3800	6030	3040	4840	2660	4230	1900	2710	1140	1090
D9×R2	3370	5890	3370	5370	2710	4320	2370	3750	1660	2420	1000	950
D10×R2	3040	6650	3040	6030	2420	4840	2140	4230	1520	2710	910	1090
D11×R2	2750	6030	2750	5510	2180	4420	1950	3840	1380	2470	830	1000
D12×R3	2520	6650	2520	6030	2000	4840	1760	4230	1280	2710	750	1090
D13×R3	2330	6130	2330	5600	1850	4460	1610	3900	1140	2520	700	1000

加工深度 Depth of cut



	a_a	a_r
R≦2	0.2 x R	0.5D
2＜R	0.5mm	0.5D

	a_a	a_r
R≦2	0.2 x R	0.5D
2＜R	0.4mm	0.5D

	a_a	a_r
R≦2	0.1 x R	0.5D
2＜R	0.2mm	0.5D

▲ Caution

Sparks generated during operation or heat caused by tool breakage can cause fire.
Be sure to use all proper fire-prevention measures.
The conditions below are for high speed/high precision machining centers.

▲ 注意事項

在操作或由於工具發熱而損壞所起的火花易起火災。
請務必使用適當的防火措施。
以下條件適用於高速精密加工機器。

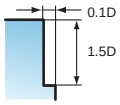
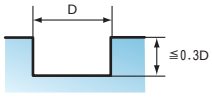
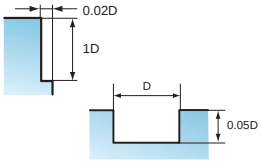
1.Use a rigid and precise machine and holder.
2.These milling conditions based on milling with circular interpolation at corners. For milling without circular interpolation（such as right angle corners）, reduce the speed to 50~70% and the cutting depth to 50~80% of the above conditions.
3.We recommend using an air blow or MQL(mist）.
4.Please adjust the speed, feed and cutting depth according to actual cutting conditions.
5.When KCRS enters in Z axis, reduce the feed speed to 30~60% of the above conditions with machining incline angle（β）≦2°.
6.These milling conditions are for a tool extension length：less than 4×D. For a longer tool extension, reduce the speed, feed rate, and the cutting depth in accordance with therespective coefficients, to prevent chattering.

1.使用一台堅固且準確的機器和刀把。
2.這些研磨條件須以有R角的研磨為基礎，研磨無R角的角度（如90度垂直研磨），將使速度降低到50~70%及減低切割深度50~80%。
3.我們建議使用一種吹風或者油霧。
4.請根據實際切削條件調整速度，進給率及切削深度。
5.在上述條件下操作傾斜角度（β）≦2°時，當KCRS進入Z軸裡，請降低進給速度30~60%。
6.這些研磨條件適用於工具延展長度：少於4×D。對於一個延展性長的工具來說，協調個別係數，降低速度、進給率和切削深度以防止吵雜聲。

Tool extension coefficients 工具突出量係數

Overshank Length 工具突出量	Milling Speed 切削速度	a_a 軸方向切削	Feed Speed 進給速度
L/D≦4	100	100	100
L/D≦5	80~100	70~90	80~90
L/D≦6	60~80	50~70	60~80

• RTAS 2 Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Carbon Steels, Alloy Steels S50C,SCM,鑄鐵FC250等 AiSi 1049, Cast iron 炭素鋼，合金鋼（~30HRC）			Alloy Steels, Tool Steels 調質鋼SKD61, NAK等 Prehardened steels, AiSi H13 合金鋼、工具鋼、預硬鋼（30~45HRC）			Austenitic stainless steels SUS304, SUS316等 AiSi 304, AiSi 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61, SKD11, NAK, STAVAX等 AiSi H13 熱處理鋼（45~50HRC）		
Cutting Speed 切削速度	50~100m/min			50~70m/min			30~60m/min			20~40m/min		
Diameter 直徑(mm)	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度 Side Milling 側面	Slotting 溝	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度 Side Milling 側面	Slotting 溝	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度 Side Milling 側面	Slotting 溝	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度 Side Milling 側面	Slotting 溝
8	4000	450	360	2400	240	190	1600	220	130	1200	65	50
10	3200	390	310	1900	190	150	1300	190	110	1000	65	50
12	2700	330	260	1600	160	130	1000	150	90	800	65	50
Depth of cut (D:直徑Dia) 切削量基準	 											

產品規格表 P245
Specification page

• RTAS 2 Flutes High-Speed Milling Conditions 高速切削條件表

Work material 被削材	Carbon Steels, Alloy Steels S50C,SCM,鑄鐵FC250等 AiSi 1049, Castiron 炭素鋼，合金鋼（~30HRC）		Alloy Steels, Tool Steels 調質鋼SKD61, NAK等 Prehardened steels, AiSi H13 合金鋼、工具鋼、預硬鋼（30~45HRC）		Hardened steels SKD61, SKD11, NAK, STAVAX等 AiSi H13 熱處理鋼（45~55HRC）	
Cutting Speed 切削速度	250m/min		150m/min		100m/min	
Diameter 直徑(mm)	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度	Speed（min^{-1}）迴轉數	Feed Rate（mm/min）進給速度
8	9900	1290	6000	750	4000	220
10	7900	1100	4800	650	3200	200
12	6600	1000	4000	560	2600	200
(mm) Ad Milling Amount 軸方向切削量	Ad=0.05D		Ad=0.03D		Ad=0.02D	

▲ Caution

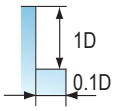
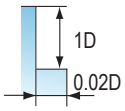
1.Please use SI coating tools for work materials of 50~60HRC.
2.In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
3.If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4.When drilling, please set the feed rate at 1/3 or below of the above value.

▲ 注意事項

1.切削50~60HRC以上之材料時，請使用SI鍍膜之刀具。
2.切削沃斯田鐵系列不銹鋼時，請使用非水溶性切削油效果較好。
3.機械設備或工作的夾持剛性不足、出現震動時，請以相同比例按上表降低迴轉數及進給速度。
4.縱向進給時，進給速度請設定為上表1/3以下。

Unit/單位: mm

• RTAS 4 Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Carbon Steels, Alloy Steels S50C,SCM,鑄鐵FC250等 AiSi 1049, Cast iron 炭素鋼，合金鋼（~30HRC）			(30~45HRC) Alloy Steels, Tool Steels 調質鋼SKD61, NAK等 Prehardened steels, AiSi H13 合金鋼、工具鋼、預硬鋼			Austenitic stainless steels SUS304, SUS316等 AiSi 304, AiSi 316 沃斯田鐵系列不銹鋼			Hardened steels SKD61, SKD11, NAK, STAVAX 等 AiSi H13 熱處理鋼（45~50HRC）			Hardened steels SKD11, 等 AiSi D2 熱處理鋼（55~60HRC）		
Cutting Speed 切削速度	50~100m/min			50~70m/min			30~60m/min			20~40m/min			15~30m/min		
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度 Side Milling 側面	Feed Rate (mm/min) 進給速度 Slotting 溝
8	4000	680		2400	360		2000	330		1600	130		800	70	
10	3200	590		1900	290		1600	290		1300	120		650	65	
12	2700	500		1600	240		1300	230		1100	100		530	55	
Depth of cut (D:直徑Dia) 切削量基準	側面Side Milling 									側面Side Milling 					

產品規格表 P245
Specification page

• RTAS 4 Flutes High-Speed Milling Conditions 高速切削條件表

Work material 被削材	Carbon Steels, Alloy Steels S50C,SCM,鑄鐵 FC250等 AiSi 1049, Castiron 炭素鋼，合金鋼（~30HRC）		Alloy Steel, Tool Steel 預硬鋼, SKD61, NAK等 Pre-hardnad steel AiSi H13 合金鋼，工具鋼（30~45HRC）		Hardened steels SKD61, SKD11, NAK, STAVAX等 AiSi H13 熱處理鋼（45~55HRC）		Hardened steels SKD11等AiSi D2 熱處理鋼（55~60HRC）	
Cutting Speed 切削速度	300m/min		200m/min		150m/min		50m/min	
Diameter 直徑(mm)	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度
8	11900	2325	7900	1485	5900	470	2000	175
10	9500	2000	6300	1290	4700	410	1600	160
12	7900	1800	5300	1125	3900	360	1300	135
(mm) Ad Milling Amount 軸方向切削量	Ad=0.05D		Ad=0.03D		Ad=0.02D		Ad=0.02D	

▲ Caution

1.Please use Si coating tools for work materials of 50~60HRC.
2.In cutting Austenitic stainless steels, the use of non-water-soluble cutting fluid is especially effective.
3.If the rigidity of the machine or the work material installation is very low, or chattering is generated, please reduce the revolution and the feed rate proportionately.
4.When drilling, please set the feed rate at 1/3 or below of the above value.

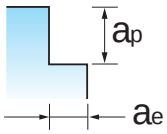
▲ 注意事項

1.切削50~60HRC以上之材料時，請使用SI鍍膜之刀具。
2.切削沃斯田鐵系列不銹鋼時，請使用非水溶性切削油效果較好。
3.機械設備或工作的夾持剛性不足、出現震動時，請以相同比例按上表降低迴轉數及進給速度。
4.縱向進給時，進給速度請設定為上表1/3以下。

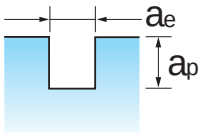
• AES5 2 Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Aluminum 1070 鋁				Aluminum Alloy 2017.5052.7075 鋁合金				Aluminum Alloy Cast AC8C 鍛造鋁			
Cutting Speed 切削速度	300m/min		220m/min		330m/min		240m/min		250m/min		160m/min	
Diameter 直徑(mm)	Side Milling 側面		Slotting 溝		Side Milling 側面		Slotting 溝		Side Milling 側面		Slotting 溝	
	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/in) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/in) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/in) 進給速度
8	12000	1650	8800	1125	13000	2400	9600	1200	9900	1800	6400	750
10	9600	1650	7000	1200	10500	2550	7600	1275	8000	1950	5100	825
12	8000	1800	5800	1200	8800	2550	6400	1350	6600	1950	4200	900

Depth of cut (D:直徑Dia) 切削量基準



AP≦0.5D
AE≦0.2D



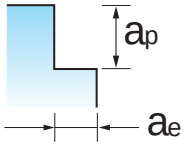
AP≦0.5D

Unit/單位: mm

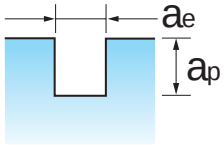
• AES5 3 Flutes Standard Cutting Conditions 切削條件表

Work material 被削材	Aluminum 1070 鋁				Aluminum Alloy 2017.5052.7075 鋁合金				Aluminum Alloy Cast AC8C 鍛造鋁			
Cutting Speed 切削速度	300m/min		220m/min		330m/min		240m/min		250m/min		160m/min	
Diameter 直徑(mm)	Side Milling 側面		Slotting 溝		Side Milling 側面		Slotting 溝		Side Milling 側面		Slotting 溝	
	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/min) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/in) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/in) 進給速度	Speed (min^{-1}) 迴轉數	Feed Rate (mm/in) 進給速度
8	12000	1100	8800	750	13000	1600	9600	800	9900	1200	6400	500
10	9600	1100	7000	800	10500	1700	7600	850	8000	1300	5100	550
12	8000	1200	5800	800	8800	1700	6400	900	6600	1300	4200	600

Depth of cut (D:直徑Dia) 切削量基準



AP≦0.5D
AE≦0.2D



AP≦0.5D

產品規格表 P247
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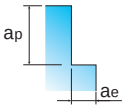
• FHPCS 4 Flutes Side Milling 側面切削

Work material 被削材	Mild steels Carbon steels, Cast iron SS400, S55c, FC250 (~750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (~30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels,Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100m/min		78m/min		66m/min		62m/min		60m/min		30m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度
3	8480	975	6640	760	5600	560	5280	555	4828	485	2560	190
4	6360	1000	4960	820	4200	565	3960	590	3800	515	1920	190
5	5080	1050	3960	845	3360	590	3160	630	3040	535	1520	190
6	4240	1250	3320	945	2800	700	2640	660	2560	545	1280	190
8	3200	1250	2480	895	2120	660	1960	640	1920	555	960	175
10	2560	1100	2000	855	1680	605	1560	590	1520	525	764	160
12	2120	1100	1640	850	1400	565	1320	535	1280	475	636	160
16	1600	955	1240	745	1040	500	1000	445	960	400	476	160
20	1280	765	1000	595	840	455	788	395	764	355	380	160
Depth of cut 加工深度					ap: 1.5D, ae: 0.2D		ap: 1.5D, ae: 0.1D		ap: 1D, ae: 0.05D			

產品規格表 P247
Specification page

• FHPCS 4 Flutes Slotting 溝切削

Work material 被削材	Mild steels Carbon steels, Cast iron SS400, S55c, FC250 (~750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (~30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels,Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100m/min		78m/min		66m/min		62m/min		60m/min		30m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度
3	6800	705	5080	959	4680	455	4400	400	3560	320	1680	110
4	5080	705	3800	675	3520	455	3320	450	2680	360	1280	120
5	4080	715	3040	660	2800	475	2640	475	2120	385	1000	125
6	3400	715	2560	560	2320	500	2200	495	1800	400	840	125
8	2560	660	1920	550	1760	545	1640	515	1320	415	636	125
10	2040	610	1520	535	1400	475	1320	470	1080	380	508	115
12	1680	610	1280	475	1160	450	1120	440	880	355	424	115
16	1280	610	960	430	880	370	840	370	668	300	320	88
20	1000	510	764	380	700	350	664	330	536	265	256	89
Depth of cut 加工深度	ap=0.5D								ap=0.05D			

▲ Caution

1. Use a rigid and precise machine and holder.
2. Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
3. Please use a suitable fluid with high smoke retardant properties.
4. During Dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and the eliminate chip packing.

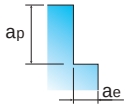
▲ 注意事項

1. 請使用準確性和高剛性之機器及刀把
2. 當切削深度過大或機器剛性不足請調整轉速
3. 請使用有效抑止煙霧之流體
4. 在乾式切削時請使用吹氣去除切削範圍之廢屑

Unit/單位: mm

• FHPCS 4 Flutes High Speed Side Milling 高速側面切削

The conditions below are for high speed / high precision machining centers.

Work material 被削材	Mild steels Carbon steels, Cast iron SS400, S55c, FC250 (~750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		合金鋼、工具鋼 Alloy steels, Tool steels, SCM, SKT,SKS,SKD (~30HRC)		調質鋼 (30~38HRC) Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1		調質鋼 (38~45HRC) Hardened steels,Stainless steels SUS304, SKD		調質鋼 (45~55HRC) Hardened steels, Titanium alloys, Heat resistant alloys steels,		調質鋼 (55~60HRC) Hardened steels,	
Cutting Speed 切削速度	100m/min		78m/min		66m/min		62m/min		60m/min		30m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度
3	16960	2150	16960	2400	16960	1300	12720	1150	8480	680	6800	440
4	12720	2050	12720	2300	12720	1300	9520	1250	6360	795	5080	460
5	10160	1900	10160	2150	10160	1250	7640	1350	5080	840	4080	510
6	8480	3050	8480	2650	8480	2000	6360	1450	4240	910	3400	610
8	6360	2800	6360	2400	6360	1900	4760	1400	3200	860	2560	575
10	5080	2550	5080	2200	5080	1850	3800	1350	2560	830	2040	510
12	4240	2550	4240	2200	4240	1800	3200	1350	2120	830	1680	510
16	3200	1900	3200	1900	3200	1700	2400	1350	1600	830	1280	510
20	2560	1550	2560	1550	2560	1550	1920	1150	1280	730	1000	510
Depth of cut 加工深度												

	ap	ae
D<Ø6	1.5D	0.02D
Ø6≦D	1.5D	0.05D

aeMax=0.5mm

	ap	ae
D<Ø6	1.5D	0.01D
Ø6≦D	1.5D	0.02D

aeMax=0.5mm

	ap	ae
D<Ø6	1D	0.01D
Ø6≦D	1D	0.02D

aeMax=0.5mm

▲ Caution

Sparks generated during operation or heat caused by tool breakage can cause fire. Be sure to use all proper fire-prevention measures.

▲ 注意事項

當刀具斷裂而持續使用即會產生火花及發熱，
請確實遵守預防火災之措失。

產品規格表 P247
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• FHPCS 4 Flutes High Speed Slotting 高速溝切削

The conditions below are for high speed / high precision machining centers.

Work material 被削材	Mild steels Carbon steels, Cast iron SS400,S55c, FC250 (~750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (~30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels,Stainless steels SUS304, SKD 調質鋼 (38~45HRC)	
Cutting Speed 切削速度	100m/min		78m/min		66m/min		62m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed (mm/min) 送速度
3	10160	1050	8480	935	7640	745	5080	460
4	7640	1150	6360	1000	5720	745	4120	560
5	6120	1200	5600	1100	5080	865	3320	595
6	2920	1550	4680	1150	4240	910	2960	670
8	3800	1450	3520	1300	3200	985	2240	690
10	3040	1400	2800	1200	2560	865	1800	635
12	2560	1250	2320	1150	2120	815	1480	595
16	1920	1050	1760	965	1600	675	1120	500
20	1520	840	1400	770	1280	635	880	445
Depth of cut 加工深度								

ap=0.2D
apMax=3mm

▲ Caution

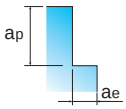
1.Use a rigid and precise machine and holder.
2.Please adjust the speed and feed when the cutting depth is large or when machines with low rigidity are used.
3.Please use a suitable fluid with high smoke retardant properties.
4.During Dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and the eliminate chip packing.

▲ 注意事項

1.請使用準確性和高剛性之機器及刀把
2.當切削深度過大或機器剛性不足請調整轉速
3.請使用有效抑止煙霧之流體
4.在乾式切削時請使用吹氣去除切削範圍之廢屑

FHPC 產品規格表 P216 Specification page
CR-FHPC 產品規格表 P217 Specification page

• FHPC & CR-FHPC 4 Flutes Side Milling 側面切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100 m/min		78 m/min		66 m/min		62 m/min		60 m/min		30 m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
6	4240	1250	3320	945	2800	700	2640	660	2560	545	1280	190
8	3200	1250	2480	895	2120	660	1960	640	1920	555	960	175
10	2560	1100	2000	855	1680	605	1560	590	1520	525	764	160
12	2120	1100	1640	850	1400	565	1320	535	1280	475	636	160
16	1600	955	1240	745	1040	500	1000	445	960	400	476	160
20	1280	765	1000	595	840	455	788	395	764	355	380	160
Depth of cut 加工深度					ap: 1.5D, ae: 0.2D		ap: 1.5D, ae: 0.1D		ap: 1D, ae: 0.05D			

• FHPC & CR-FHPC 4 Flutes Slotting 溝切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100 m/min		78 m/min		66 m/min		62 m/min		60 m/min		30 m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
6	3400	715	2560	560	2320	500	2200	495	1800	400	840	125
8	2560	660	1920	550	1760	545	1640	515	1320	415	636	125
10	2040	610	1520	535	1400	475	1320	470	1080	380	508	115
12	1680	610	1280	475	1160	450	1120	440	880	355	424	115
16	1280	610	960	430	880	370	840	370	668	300	320	88
20	1000	510	764	380	700	350	664	330	536	265	256	89
Depth of cut 加工深度	ap=0.5D								ap=0.05D			

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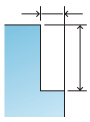
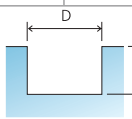
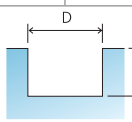
Unit/單位: mm

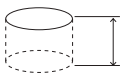
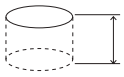
• HPSS 3 Flutes Side Milling 側面切削條件表

Working material 被切削材	Carbon steels,Alloy steels (~30HRC) S50C,SCM,SS 碳素鋼、合金剛		Mold steels (30~45HRC) SKD61 模具鋼		Stainless steels SUS304,SUS316 不銹鋼	
(mm) 外 徑	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度
2	11000	600	7200	310	6000	210
3	8500	770	5300	380	4400	220
4	7200	850	4400	480	3700	250
6	5300	940	3200	490	2700	270
8	4000	1000	2400	560	2000	280
10	3200	1000	1900	480	1600	300
12	2700	950	1600	440	1300	300
16	2000	720	1200	350	1000	260
20	1600	600	1000	290	800	240
切削基準	≦0.2D(D＞ø3) ≦0.1D(D≦ø3)  ≦1.5D					

• HPSS 3 Flutes Slot Milling 溝切削條件表

Working material 被切削材	Carbon steels,Alloy steels (~30HRC) S50C,SCM,SS 碳素鋼、合金剛		Mold steels (30~45HRC) SKD61 模具鋼		Stainless steels SUS304,SUS316 不銹鋼	
(mm) 外 徑	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度
2	11000	500	7200	260	6000	130
3	8500	640	5300	320	4200	130
4	7200	650	4400	370	3400	140
6	5300	720	3200	380	2200	140
8	4000	780	2400	430	1600	140
10	3200	770	1900	370	1300	150
12	2700	730	1600	340	1100	150
16	2000	600	1200	290	800	130
20	1600	500	1000	240	640	120
切削基準						

• HPSS 3 Flutes Plung Milling 垂直切削條件表

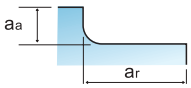
Working material 被切削材	Carbon steels,Alloy steels (~30HRC) S50C,SCM,SS 碳素鋼、合金剛		Mold steels (30~45HRC) SKD61 模具鋼		Stainless steels SUS304,SUS316 不銹鋼	
(mm) 外 徑	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度	rpm(mm⁻¹) 迴轉速度	Feed(mm/min) 進給速度
2	11000	200	7200	140	6000	30
3	8500	250	5300	180	4400	50
4	7200	300	4400	210	3700	60
6	5300	300	3200	210	2700	70
8	4000	320	2400	220	2000	80
10	3200	340	1900	240	1600	70
12	2700	320	1600	220	1300	70
16	2000	250	1200	180	1000	55
20	1600	200	1000	140	800	55
切削基準						

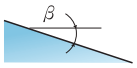
Unit/單位: mm

• KCR 4 Flutes High Speed Milling 高速切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
D2xR0.5	30250	9970	30400	9070	30400	9070	22800	6800	22800	6130	15200	2710
D3xR0.75	19950	11870	19950	11400	19950	11400	15200	7980	15200	7450	9980	3130
D4xR1	15200	12350	15200	11400	15200	11400	11400	8550	11400	7790	7550	3370
D5xR1.2	11870	13300	11870	11870	11870	11870	9070	9070	9070	8170	6030	3610
D6xR1.5	10070	13300	10070	12060	10070	12060	7550	9070	7550	8170	5030	3610
D7xR1.5	8650	11400	8650	10350	8650	10350	6460	7790	6460	6980	4320	3090
D8xR2	7550	13300	7550	12060	7550	12060	5650	9070	5650	8170	3800	3610
D9xR2	6700	11780	6700	10730	6700	10730	5030	8075	5030	7270	3370	3230
D10xR2	6030	13300	6030	12060	6030	12060	4510	9070	4510	8170	3040	3610
D11xR2	5510	12060	5510	11020	5510	11020	4130	8260	4130	7410	2750	3320
D12xR3	5030	13300	5030	12060	5030	12060	3800	9070	3800	8170	2520	3610
D13xR3	4650	12250	4650	11210	4650	11210	3460	8360	3460	7550	2330	3370

Depth of cut 加工深度





aa	ar
0.1 x R	0.3D

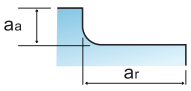
	aa	ar
R≦2	0.1 x R	0.3D
2＜R	0.2mm	0.3D

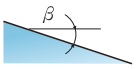
	aa	ar
R≦2	0.05 x R	0.3D
2＜R	0.1mm	0.3D

• KCR 4 Flutes Regular Milling (Low-speed,high-feed milling) 標準切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
D2xR0.5	15200	4990	15200	4510	11870	3610	10450	3180	7550	2040	4510	820
D3xR0.75	9970	5940	9970	5320	8070	4270	7080	3705	5030	2470	3040	940
D4xR1	7550	6270	7550	5700	6030	4560	5270	3990	3800	2610	2280	1000
D5xR1.2	6030	6650	6030	6030	4840	4840	4230	4230	3040	2710	1800	1090
D6xR1.5	5030	6650	5030	6030	4040	4840	3510	4230	2520	2710	1520	1090
D7xR1.5	4320	5700	4320	5180	3470	4130	3040	3610	2140	2330	1280	930
D8xR2	3800	6650	3800	6030	3040	4840	2660	4230	1900	2710	1140	1090
D9xR2	3370	5890	3370	5370	2710	4320	2370	3750	1660	2420	1000	950
D10xR2	3040	6650	3040	6030	2420	4840	2140	4230	1520	2710	910	1090
D11xR2	2750	6030	2750	5510	2180	4420	1950	3840	1380	2470	830	1000
D12xR3	2520	6650	2520	6030	2000	4840	1760	4230	1280	2710	750	1090
D13xR3	2330	6130	2330	5600	1850	4460	1610	3900	1140	2520	700	1000

Depth of cut 加工深度





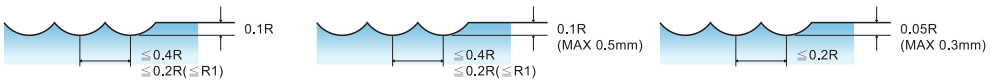
	aa	ar
R≦2	0.2 x R	0.5D
2＜R	0.5mm	0.5D

	aa	ar
R≦2	0.2 x R	0.5D
2＜R	0.4mm	0.5D

	aa	ar
R≦2	0.1 x R	0.5D
2＜R	0.2mm	0.5D

Unit/單位: mm

• KTG 2 Flutes Standard Cutting Conditions 標準切削條件表

Working material 被切削材	Alloy steels, Tool steels, SCM,SKD61,SKD11,NAK,AISI H13,AISI D2 ect 合金鋼、工具鋼、預硬鋼					Hardened steels, SKD61,SKD11,STAVAX,AISI H13 ect 調質鋼（45~55HRC）				Hardened steels, SKD11,SKH,SKS,ASP23,AISI H13 ect 調質鋼（55~60HRC）			
R(mm) 球頭半徑	Inclination of Machining Surface 加工面傾斜角	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount
D0.5R	$\alpha \leqq 15°$	40000	3120	≦0.2R	≦0.1R	35000	2340	≦0.2R	≦0.1R	21000	1300	≦0.2R	≦0.05R
	$\alpha > 15°$	35000	2080	≦0.2R	≦0.1R	30000	1430	≦0.2R	≦0.1R	15000	740	≦0.2R	≦0.05R
D0.75R	$\alpha \leqq 15°$	40000	3900	≦0.2R	≦0.1R	30000	2470	≦0.2R	≦0.1R	14000	1160	≦0.2R	≦0.05R
	$\alpha > 15°$	30000	2210	≦0.4R	≦0.1R	25000	1560	≦0.4R	≦0.1R	10000	610	≦0.2R	≦0.05R
D1R	$\alpha \leqq 15°$	35000	3900	≦0.4R	≦0.1R	25000	2340	≦0.4R	≦0.1R	11000	1040	≦0.2R	≦0.05R
	$\alpha > 15°$	25000	2210	≦0.4R	≦0.1R	20000	1430	≦0.4R	≦0.1R	8000	560	≦0.2R	≦0.05R
D1.25R	$\alpha \leqq 15°$	33000	3900	≦0.4R	≦0.1R	22000	2210	≦0.4R	≦0.1R	9300	920	≦0.2R	≦0.05R
	$\alpha > 15°$	24000	2210	≦0.4R	≦0.1R	17000	1300	≦0.4R	≦0.1R	6500	480	≦0.2R	≦0.05R
D1.5R	$\alpha \leqq 15°$	30000	3900	≦0.4R	≦0.1R	20000	2210	≦0.4R	≦0.1R	8000	870	≦0.2R	≦0.05R
	$\alpha > 15°$	23000	2210	≦0.4R	≦0.1R	15000	1300	≦0.4R	≦0.1R	5600	450	≦0.2R	≦0.05R
D2R	$\alpha \leqq 15°$	25000	3900	≦0.4R	≦0.1R	17000	2210	≦0.4R	≦0.1R	6400	830	≦0.2R	≦0.05R
	$\alpha > 15°$	20000	2210	≦0.4R	≦0.1R	13000	1300	≦0.4R	≦0.1R	4500	440	≦0.2R	≦0.05R
D2.5R	$\alpha \leqq 15°$	23000	3900	≦0.4R	≦0.1R	15000	2210	≦0.4R	≦0.1R	5000	710	≦0.2R	≦0.05R
	$\alpha > 15°$	17000	2210	≦0.4R	≦0.1R	11000	1300	≦0.4R	≦0.1R	3500	380	≦0.2R	≦0.05R
D3R	$\alpha \leqq 15°$	20000	3900	≦0.4R	≦0.1R	13000	2210	≦0.4R	≦0.1R	4200	690	≦0.2R	≦0.05R
	$\alpha > 15°$	15000	2210	≦0.4R	≦0.1R	10000	1300	≦0.4R	≦0.1R	2900	350	≦0.2R	≦0.05R
D4R	$\alpha \leqq 15°$	15000	3900	≦0.4R	≦0.1R	10000	2210	≦0.4R	≦0.1R	3200	700	≦0.2R	≦0.05R
	$\alpha > 15°$	11000	2210	≦0.4R	≦0.1R	7500	1300	≦0.4R	≦0.1R	2200	360	≦0.2R	≦0.05R
D5R	$\alpha \leqq 15°$	12000	3770	≦0.4R	≦0.1R	8000	2080	≦0.4R	≦0.1R	2500	660	≦0.2R	≦0.05R
	$\alpha > 15°$	9000	2080	≦0.4R	≦0.1R	6000	1170	≦0.4R	≦0.1R	1800	350	≦0.2R	≦0.05R
D6R	$\alpha \leqq 15°$	10000	3250	≦0.4R	≦0.1R	6600	1820	≦0.4R	≦0.1R	2100	570	≦0.2R	≦0.05R
	$\alpha > 15°$	7500	1820	≦0.4R	≦0.1R	5000	1040	≦0.4R	≦0.1R	1500	300	≦0.2R	≦0.05R
Depth of cut 加工深度													

• KTG 2 Flutes High Speed Milling Conditions 高速切削條件表

Working material 被切削材	Alloy steels, Tool steels, SCM,SKD61,SKD11,NAK,AISI H13,AISI D2 ect 合金鋼、工具鋼、預硬鋼					Hardened steels, SKD61,SKD11,STAVAX,AISI H13 ect 調質鋼（45~55HRC）				Hardened steels, SKD11,SKH,SKS,ASP23,AISI H13 ect 調質鋼（55~60HRC）			
R(mm) 球頭半徑	Milling Conditioning	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount
0.5R	粗(R)	40000	3120	0.2	0.05	40000	2470	0.15	0.04	30000	1560	0.1	0.03
	精(F)	40000	3900	0.1	0.05	40000	3120	0.8	0.04	30000	1950	0.6	0.03
1R	粗(R)	40000	6240	0.2	0.2	40000	4940	0.2	0.15	20000	2080	0.15	0.12
	精(F)	40000	7800	0.2	0.1	40000	6240	0.1	0.1	20000	2600	0.1	0.06
2R	粗(R)	30000	6240	0.4	0.3	30000	4940	0.3	0.2	20000	2470	0.25	0.15
	精(F)	30000	7800	0.2	0.15	30000	6240	0.2	0.1	20000	3120	0.2	0.1
3R	粗(R)	20000	5200	0.6	0.4	20000	4160	0.5	0.3	16000	2470	0.3	0.2
	精(F)	20000	6500	0.2	0.2	20000	5200	0.2	0.2	16000	3120	0.2	0.2
4R	粗(R)	16000	4940	1	0.8	16000	3900	0.8	0.6	10000	1820	0.7	0.5
	精(F)	16000	6240	0.2	0.2	16000	4940	0.2	0.2	10000	2340	0.2	0.2
5R	粗(R)	12000	4680	2	1	12000	3640	1	0.8	8000	1560	1	0.7
	精(F)	12000	5850	0.3	0.3	12000	4680	0.2	0.2	8000	2080	0.2	0.2
6R	粗(R)	10000	3900	3	1.2	10000	3120	1.5	1.2	6400	1248	1.5	1
	精(F)	10000	4870	0.3	0.3	10000	3900	0.2	0.2	6400	1560	0.2	0.2
Depth of cut 加工深度													

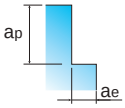
• BIG FOOT 2 Flutes 切削條件表

Working material 被切削材	Carbon steels, Cast iron S55c,FC250 碳素鋼、鑄鐵		Alloy steels, Mold steels, SCM,SKD 合金鋼、模具鋼		Prehardened steels (30~38HRC) 調質鋼		Tempered steels, Stainless steels (38~45HRC) 調質鋼、不銹鋼		Hardened steels (45~55HRC) 高硬度鋼		Hardened steels (55~60HRC) 高硬度鋼	
(mm) 外徑xA半徑	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度
BFR6x0.66	5300	1000	4800	780	4200	600	3700	430	3200	320	1600	120
BFR8x0.88	4250	965	3850	770	3350	590	3000	420	2600	310	1300	120
BFR10x0.9	3200	930	2900	760	2500	580	2200	410	1900	300	1000	120
BFR12x1.6	2700	910	2400	730	2100	560	1900	410	1600	300	800	110
BFR12x0.91	2700	820	2400	660	2100	500	1900	370	1600	270	800	100
BFR16x1.77	2000	800	1800	650	1600	510	1400	360	1200	260	600	100
BFR16x1.5	1600	700	1400	550	1300	460	1100	310	1000	240	480	80
Depth of cut 切削深度(mm)	0.1D										0.05D	
Conventional Condition 泛用切削條件	Adjust milling condition when unusual vibration,different sound occur by cutting. 切削過程發生不正常聲音或不正常震動，請修正切削條件。											

• BIG FOOT 2 Flutes 切削條件表

Working material 被切削材	Carbon steels, Cast iron S55c,FC250 碳素鋼、鑄鐵		Alloy steels, Mold steels, SCM,SKD 合金鋼、模具鋼		Prehardened steels (30~38HRC) 調質鋼		Tempered steels, Stainless steels (38~45HRC) 調質鋼、不銹鋼		Hardened steels (45~55HRC) 高硬度鋼		Hardened steels (55~60HRC) 高硬度鋼	
(mm) 外徑xA半徑	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度	Speed(mm^{-1}) 迴轉速度	Feed(mm/min) 進給速度
BFR6x0.66	17000	4100	16000	3800	13000	3100	12000	2300	12000	2000	8000	960
BFR8x0.88	13500	3600	13000	3400	10500	2750	9650	2000	9500	1750	6400	840
BFR10x0.9	10000	3000	10000	3000	8000	2400	7300	1800	7000	1500	4800	720
BFR12x1.6	8500	2000	8000	1900	6600	1600	6100	1200	5800	1000	4000	400
BFR12x0.91	9050	2100	8500	2000	8000	1900	6600	1600	6100	1200	4400	480
BFR16x1.77	6400	1800	6000	1700	5000	1400	4600	1100	4400	900	3000	430
BFR16x1.5	5100	1500	4800	1400	4000	1200	3700	900	3500	700	2400	360
Depth of cut 切削深度(mm)	0.05D										0.02D	
High Speed Cutting Condition 高速切削條件	(1)When using low speed machines,use the maximum speed asn adjust the feed rate. 當使用低轉速機器，請使用最高轉速並修正進給速度。 (2)Adjust milling condition when unusual vibration,different sound occur by cutting. 切削過程發生不正常聲音或不正常震動，請修正切削條件。											

• FHPM,FHPL,FHPS & FHP & CR-FHP 4 Flutes Side Milling 側面切削條件表

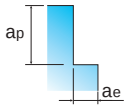
Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100 m/min		78 m/min		66 m/min		62 m/min		60 m/min		30 m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
3	10600	975	8300	760	7000	560	6600	555	6035	485	3200	190
4	79500	1000	6200	820	5250	565	4950	590	4750	515	2400	190
5	6350	1050	4950	845	4200	590	3950	630	3800	535	1900	190
6	5300	1250	4150	945	3500	700	3300	660	3200	545	1600	190
8	4000	1250	3100	895	2650	660	2450	640	2400	555	1200	175
10	3200	1100	2500	855	2100	605	1950	590	1900	525	955	160
12	2650	1100	2050	850	1750	565	1650	535	1600	475	795	160
16	2000	955	1550	745	1300	500	1250	445	1200	400	595	160
20	1600	765	1250	595	1050	455	985	395	955	355	475	160
Depth of cut 加工深度					ap: 1.5D, ae: 0.2D		ap: 1.5D, ae: 0.1D		ap: 1D, ae: 0.05D			

• FHPM,FHPL,FHPS & FHP & CR-FHP 4 Flutes Slotting 溝切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100 m/min		78 m/min		66 m/min		62 m/min		60 m/min		30 m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
3	8500	705	6350	959	5850	455	5500	400	4450	320	2100	110
4	6350	705	4750	675	4400	455	4150	450	3350	360	1600	120
5	5100	715	3800	660	3500	475	3300	475	2650	385	1250	125
6	4250	715	3200	560	2900	500	2750	495	2250	400	1050	125
8	3200	660	2400	550	2200	545	2050	515	1650	415	795	125
10	2550	610	1900	535	1750	475	1650	470	1350	380	635	115
12	2100	610	1600	475	1450	450	1400	440	1100	355	530	115
16	1600	610	1200	430	1100	370	1050	370	835	300	400	88
20	1250	510	955	380	875	350	830	330	670	265	320	89
Depth of cut 加工深度					ap=0.5D				ap=0.05D			

FHPM	FHPL	FHPS	FHP	CR-FHP
產品規格表 P212	產品規格表 P212	產品規格表 P208	產品規格表 P211	產品規格表 P213
Specification page	Specification page	Specification page	Specification page	Specification page

• FHPM,FHPL,FHPS & FHP & CR-FHP 4 Flutes High SpeedSide Milling 高速側面切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)		Hardened steels, Titanium alloys, Heat resistant alloys steels, 調質鋼 (45~55HRC)		Hardened steels, 調質鋼 (55~60HRC)	
Cutting Speed 切削速度	100 m/min		78 m/min		66 m/min		62 m/min		60 m/min		30 m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
3	21200	2150	21200	2400	21200	1300	15900	1150	10600	680	8500	440
4	15900	2050	15900	2300	15900	1300	11900	1250	79500	795	6350	460
5	12700	1900	12700	2150	12700	1250	9550	1350	6350	840	5100	510
6	10600	3050	10600	2650	10600	2000	7950	1450	5300	910	4250	610
8	7950	2800	7950	2400	7950	1900	5950	1400	4000	860	3200	575
10	6350	2550	6350	2200	6350	1850	4750	1350	3200	830	2550	510
12	5300	2550	5300	2200	5300	1800	4000	1350	2650	830	2100	510
16	4000	1900	4000	1900	4000	1700	3000	1350	2000	830	1600	510
20	3200	1550	3200	1550	3200	1550	2400	1150	1600	730	1250	510
Depth of cut 加工深度												

	ap	ae
D<Ø6	1.5D	0.02D
Ø6≦D	1.5D	0.05D

aeMax=0.5mm

	ap	ae
D<Ø6	1.5D	0.01D
Ø6≦D	1.5D	0.02D

aeMax=0.5mm

	ap	ae
D<Ø6	1D	0.01D
Ø6≦D	1D	0.02D

aeMax=0.5mm

• FHPM,FHPL,FHPS & FHP & CR-FHP 4 Flutes High SpeedSlotting高速溝切削條件表

Working material 被切削材	Mild steels Carbon steels, Cast iron SS400,S55c,FC250 (-750N/mm2) 一般構造用鋼、碳素鋼、鑄鐵		Alloy steels, Tool steels, SCM, SKT,SKS,SKD (-30HRC) 合金鋼、工具鋼		Hardened steels, Prehardened steels, (Free-cutting) SKT, SKD, NAK55, HPM1 調質鋼 (30~38HRC)		Hardened steels, Stainless steels SUS304, SKD 調質鋼 (38~45HRC)	
Cutting Speed 切削速度	100 m/min		78 m/min		66 m/min		62 m/min	
Mill DIA.(mm) 直徑	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度	Speed(mm^{-1}) 迴轉速度	Speed(mm/min) 送速度
3	12700	1050	10600	935	9550	745	6350	460
4	9550	1150	7950	1000	7150	745	5150	560
5	7650	1200	7000	1100	6350	865	4150	595
6	3650	1550	5850	1150	5300	910	3700	670
8	4750	1450	4400	1300	4000	985	2800	690
10	3800	1400	3500	1200	3200	865	2250	635
12	3200	1250	2900	1150	2650	815	1850	595
16	2400	1050	2200	965	2000	675	1400	500
20	1900	840	1750	770	1600	635	1100	445
Depth of cut 加工深度								

ap=0.2D
apmax=3mm

www.speedtiger.com.tw

Unit/單位: mm

● nACro 鑽頭 3SD切削條件 3SD Cutting condition
高速濕式加工 High speed drilling in wet condition

Work Material 被切削材料 / Drilling Condition 切削條件	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
Drill Dia.(mm) 直徑	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
3	16000	1700	11000	1100	7400	780	5300	480	11000	660
5	9600	1700	6400	1100	4500	780	3200	480	6400	640
8	6000	1600	4000	1100	2800	750	2000	460	4000	640
10	4800	1500	3200	1000	2200	710	1600	440	3200	640
12	4000	1500	2700	1000	1900	700	1300	410	2700	640
16	3000	1300	2000	900	1400	630	1000	380	2000	620

● nACro 鑽頭 3SD切削條件 3SD Cutting condition
乾式加工 Drilling in dry condition

Work Material 被切削材料 / Drilling Condition 切削條件	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
Drill Dia.(mm) 直徑	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
3	8500	640	6900	520	3700	280	2700	160	6900	410
5	5100	640	4100	520	2200	280	1600	160	4100	410
8	3200	610	2600	500	1400	270	1000	150	2600	410
10	2500	590	2100	480	1100	260	800	150	2100	400
12	2100	560	1700	460	900	250	700	140	1700	400
16	1600	510	1300	420	700	200	500	130	1300	400

▲ Caution

1.Use air blow for cooling and the chip exclusion in dry condition.
2.Aluminum alloys, Light metals, Stainless steels are not recommended.
3.Adjust drilling condition when an unusual vibration, different sound occur by cutting.
4.When using low speed machines, use the maximum speed and adjust the feed rate.

▲ 注意事項

1.採用乾式加工的場合，為了冷卻及除去切削，請進行氣吹。
2.不適合鋁合金、輕金屬、不銹鋼的加工。
3.因工件和加工設備的關係出現震動和異常聲響時，請根據情況變更切削條件。
4.加工設備的轉速達不到基準的切削條件時，請使用最高轉速，此時進給速度也要同比率下調。

● nACro 鑽頭 5SD切削條件 5SD Cutting condition
高速濕式加工 High speed drilling in wet condition

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
3	16000	1550	11000	1000	7400	700	5300	430	11000	600
5	9600	1550	6400	1000	4500	700	3200	430	6400	580
8	6000	1450	4000	1000	2800	680	2000	420	4000	580
10	4800	1350	3200	900	2200	640	1600	400	3200	580
12	4000	1350	2700	900	1900	630	1300	370	2700	580
16	3000	1100	2000	800	1400	570	1000	340	2000	560

● nACro 鑽頭 5SD切削條件 5SD Cutting condition
乾式加工 Drilling in dry condition

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
3	8500	580	6900	470	3700	250	2700	150	6900	370
5	5100	580	4100	470	2200	250	1600	150	4100	370
8	3200	550	2600	450	1400	240	1000	140	2600	370
10	2500	530	2100	430	1100	240	800	140	2100	360
12	2100	500	1700	410	900	230	700	130	1700	360
16	1600	460	1300	380	700	200	500	120	1300	360

▲ Caution

1.Use air blow for cooling and the chip exclusion in dry condition.
2.Aluminum alloys, Light metals, Stainless steels are not recommended.
3.Adjust drilling condition when an unusual vibration, different sound occur by cutting.
4.When using low speed machines, use the maximum speed and adjust the feed rate.

▲ 注意事項

1.採用乾式加工的場合，為了冷卻及除去切削，請進行氣吹。
2.不適合鋁合金、輕金屬、不銹鋼的加工。
3.因工件和加工設備的關係出現震動和異常聲響時，請根據情況變更切削條件。
4.加工設備的轉速達不到基準的切削條件時，請使用最高轉速，此時進給速度也要同比率下調。

Unit/單位: mm

產品規格表 P266
Specification page

濕式加工 Drilling in wet condition

SPEED TIGER

• Carbide 鑽頭 油孔型 (3SDC用)
Carbide Drills with Coolant-hole

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
5	9600	1700	6400	1100	4500	780	3200	480	6400	640
8	6000	1600	4000	1100	2800	750	2000	460	4000	640
10	4800	1500	3200	1000	2200	710	1600	440	3200	640
12	4000	1500	2700	1000	1900	700	1300	410	2700	640
16	3000	1300	2000	900	1400	630	1000	380	2000	620

產品規格表 P270
Specification page

• Carbide 鑽頭 油孔型 (5SDC用)
Carbide Drills with Coolant-hole

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
5	9600	1550	6400	1000	4500	700	3200	430	6400	580
8	6000	1450	4000	1000	2800	680	2000	400	4000	580
10	4800	1350	3200	900	2200	640	1600	400	3200	580
12	4000	1350	2700	900	1900	630	1300	370	2700	580
16	3000	1200	2000	800	1400	570	1000	340	2000	560

產品規格表 P274
Specification page

• Carbide 鑽頭 油孔型 (8SDC用)
Carbide Drills with Coolant-hole

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
5	9600	1310	6400	840	4500	590	3200	350	6400	420
8	6000	1210	4000	840	2800	570	2000	320	4000	420
10	4800	1110	3200	740	2200	530	1600	320	3200	420
12	4000	1110	2700	740	1900	520	1300	290	2700	420
16	3000	960	2000	640	1400	460	1000	260	2000	400

Unit/單位: mm

產品規格表 P266
Specification page

半乾式加工 Drilling in Oil Mist

• Carbide 鑽頭 油孔型 (3SDC用)
Carbide Drills with Coolant-hole

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
5	5800	790	3800	520	2700	360	1900	210	3800	380
8	3600	740	2400	500	1700	350	1200	200	2400	380
10	2900	730	1900	470	1300	330	1000	200	1900	370
12	2400	690	1600	460	1100	330	800	180	1600	370
16	1800	620	1200	420	800	270	600	170	1200	370

產品規格表 P270
Specification page

• Carbide 鑽頭 油孔型 (5SDC用)
Carbide Drills with Coolant-hole

Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
5	5800	720	3800	470	2700	330	1900	200	3800	340
8	3600	670	2400	460	1700	320	1200	190	2400	340
10	2900	660	1900	420	1300	310	1000	190	1900	330
12	2400	620	1600	420	1100	300	800	170	1600	330
16	1800	560	1200	380	800	250	600	160	1200	330

產品規格表 P274
Specification page

• Carbide 鑽頭 油孔型 (8SDC用)
Carbide Drills with Coolant-hole

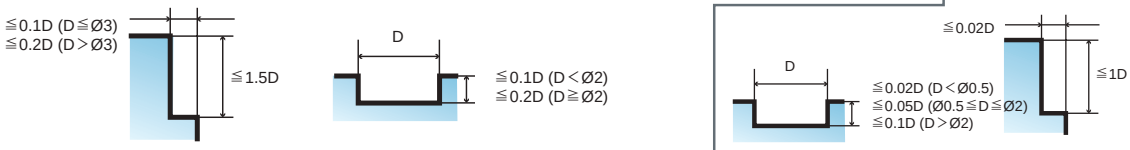
Work Material 被切削材料 / Drilling Condition 切削條件 / Drill Dia.(mm) 直徑	Structural Steels, Carbon Steels, Cast Irons SS,SC,FC 結構鋼、碳素鋼、灰口鑄鐵		Alloy Steels, Pre-hardened Steels SCM,NAK 合金鋼、預硬化鋼		Mold Steels, Hardened Steels (30~40HRC) 模具鋼、調質鋼		Hardened Steels (40~50HRC) 高硬度鋼		Ductile Cast Irons (FCD450) 球墨鑄鐵	
	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度	Rotation min^{-1} 轉速	Feed mm/min 進給速度
5	5800	580	3800	380	2700	260	1900	150	3800	250
8	3600	530	2400	360	1700	250	1200	140	2400	240
10	2900	520	1900	330	1300	250	1000	140	1900	240
12	2400	480	1600	320	1100	230	800	120	1600	230
16	1800	420	1200	280	800	190	600	110	1200	230

Unit/單位: mm

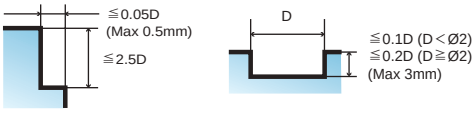
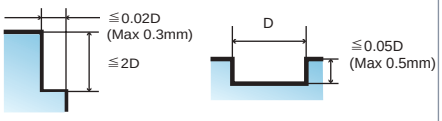
• TTA 2 FLUTES Standard Cutting Conditons 切削條件表

WORK MATERIAL 被切削材	Copper 銅			Carbon Steels,Alloy Steels,S50C,SCM, 鑄鐵FC250等 AISI 1049,Cast iron 碳素鋼，合金鋼(~30HRC)			(30~45HRC) Alloy Steels,Tool Steels, 調質鋼,SKD61,NAK等 Prehardened steels,AISI H13 合金鋼,工具鋼			Austenitic stainless steels SUS0304,SUS316等 沃斯田鐵系列不鏽鋼			Hardened steels SKD61,SKD11,NAK,STAVAX 等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	80~150m/min			50~100m/min			50~70m/min			30~60m/min			20~40m/min		
Shank 柄徑(mm)	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	
		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑
4	12,000	1,000	330	7,500	600	480	5,200	400	320	3,100	300	180	2,400	75	60
6	8,000	1,000	330	5,000	600	480	3,500	400	320	2,100	300	180	1,600	75	60
8	6,000	1,000	330	4,000	520	410	2,800	350	280	1,600	260	150	1,200	65	50
10	4,800	1,000	330	3,200	450	360	2,200	300	240	1,300	230	130	1,000	65	50
12	4,000	1,000	330	2,700	410	320	1,900	270	210	1,100	210	120	800	65	50
16	3,000	1,000	330	2,000	240	190	1,400	210	160	840	160	100	600	60	45

DEPTH OF CUT 加工深度

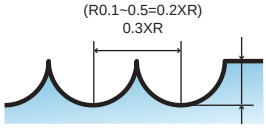


• LTTA 2 FLUTES Standard Cutting Conditons 切削條件表

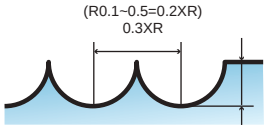
WORK MATERIAL 被切削材	Carbon Steels,Alloy Steels,S50C,SCM, 鑄鐵FC250等 AISI 1049,Cast iron 碳素鋼，合金鋼(~30HRC)			(30~45HRC) Alloy Steels,Tool Steels,調質鋼,SKD61,NAK等 Prehardened steels,AISI H13 合金鋼,工具鋼			Austenitic stainless steels SUS0304,SUS316等 沃斯田鐵系列不鏽鋼			Hardened steels SKD61,SKD11,NAK,STAVAX等 AISI H13 熱處理鋼(45~50HRC)		
Cutting Speed 切削速度	30~50m/min			30~40m/min			20~30m/min			15~25m/min		
Shank 柄徑(mm)	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度		SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	
		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑		Side Milling 側銑	Slotting 溝銑
4	3,400	80	60	2,700	65	45	2,100	50		1,700	35	25
							1,600		30			
6	2,500	120	60	2,000	100	50	1,500	75		1,300	50	25
							1,100		30			
8	1,900	130	60	1,500	100	50	1,200	80		1,000	50	25
							900		30			
10	1,600	130	60	1,300	100	50	950	75		800	50	25
							710		30			
12	1,300	120	60	1,100	100	50	800	75		670	50	25
							600		30			
DEPTH OF CUT 加工深度												

Unit/單位: mm

● TBTA 2 FLUTES Standard Cutting Conditons 切削條件表

WORK MATERIAL 被切削材	Carbon Steels S50C 碳素鋼		Alloy Steels Prehardened Steels SCM SKD HPM NAK 合金鋼、調質鋼		Hardened Steels SKD61(~50HRC) 調質鋼		Aluminum 鋁		Copper 銅	
Cutting Speed 切削速度	150m/min		120~150m/min		80~100m/min		150~m/min		100~150m/min	
Shank 柄徑(mm)	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度
4	12,000	930	10,000	570	7,200	450	24,000	2,400	12,000	1,200
6	8,000	930	6,400	540	4,800	450	16,000	2,400	8,000	1,200
8	6,000	900	4,800	540	3,600	450	12,000	2,400	6,000	1,200
10	4,800	900	3,800	540	2,900	450	9,600	2,300	4,800	1,150
DEPTH OF CUT 加工深度	0.1xR(~45HRC) ~0.08XR(~50HRC)				 (R0.1~0.5=0.2XR) 0.3XR ~0.16XR R≦0.3 (~45HRC) ~0.25XR R≦3 (~45HRC) ~0.17XR R≧4 (~45HRC) ~0.05XR (~50HRC)					

• SBS 4 FLUTES Standard Cutting Conditons 切削條件表

WORK MATERIAL 被切削材	Carbon Steels S50C 碳素鋼		Alloy Steels Prehardened Steels SCM SKD HPM NAK 合金鋼、調質鋼		Hardened Steels SKD61(~50HRC) 調質鋼		Aluminum 鋁		Copper 銅	
Cutting Speed 切削速度	150m/min		120~150m/min		80~100m/min		150~m/min		100~150m/min	
R	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度
D0.15R	40,000	800	40,000	720	40,000	660	40,000	880	40,000	800
D0.2R	40,000	1,000	40,000	960	40,000	1,000	40,000	960	40,000	960
D0.25R	40,000	1,240	40,000	1,220	40,000	1,240	40,000	1,080	40,000	1,080
D0.3R	40,000	1,500	40,000	1,500	40,000	1,500	40,000	1,200	40,000	1,200
D0.4R	40,000	1,920	40,000	2,000	36,000	1,800	40,000	1,600	40,000	1,600
D0.5R	40,000	2,400	38,000	2,400	29,000	1,800	40,000	2,000	40,000	1,660
D0.75R	30,000	2,540	25,500	2,200	19,000	1,400	40,000	2,720	30,000	2,320
D1R	24,000	2,320	19,000	1,600	14,300	1,200	40,000	4,000	24,000	2,400
D1.25R	19,000	2,000	15,300	1,340	11,500	1,020	38,000	4,800	19,000	2,400
D1.5R	16,000	1,860	13,000	1,200	9,600	920	32,000	4,800	16,000	2,400
D1.75R	13,700	1,860	11,400	1,160	8,200	900	27,300	4,800	13,600	2,400
D2R	12,000	1,860	10,000	1,140	7,200	900	24,000	4,800	12,000	2,400
D2.5R	9,600	1,860	8,000	1,120	5,700	900	19,000	4,800	9,600	2,400
D3R	8,000	1,860	6,400	1,080	4,800	900	16,000	4,800	8,000	2,400
D4R	6,000	1,800	4,800	1,080	3,600	900	12,000	4,800	6,000	2,400
D5R	4,800	1,800	3,800	1,080	2,900	900	9,600	4,600	4,800	2,300
D6R	4,000	1,800	3,200	1,080	2,400	900	8,000	4,200	4,000	2,100
D7R	3,400	1,800	2,750	1,080	2,050	900	6,800	4,000	3,400	2,000
D8R	3,000	1,800	2,400	1,080	1,800	900	6,000	4,000	3,000	2,000
D10R	2,400	1,800	1,900	1,040	1,450	900	4,800	4,000	2,400	2,000
D12.5R	1,900	1,440	1,520	900	1,160	420	3,840	3,800	1,920	940
DEPTH OF CUT 加工深度	0.1xR(~45HRC) ~0.08XR(~50HRC)				 (R0.1~0.5=0.2XR) 0.3XR; ~0.16XR R≦0.3 (~45HRC); ~0.25XR R≦3 (~45HRC); ~0.17XR R≧4 (~45HRC); ~0.05XR (~50HRC)					

Unit/單位: mm

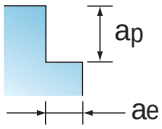
● JRTA 4 FLUTES Standard Cutting Conditons 切削條件表

Working material hardness 被切削材硬度	HRC30°		HRC50°		HRC55°	
Diameter x Radius D x R	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min mm/分	Rotational speed 轉速 RPM 轉/分	Feeding speed 進給 mm/min mm/分
D3.0 x 0.1R	7280	1008	5488	672	4200	280
D3.0 x 0.2R	7280	1008	5488	672	4200	280
D3.0 x 0.3R	7280	1008	5488	672	4200	280
D4.0 x 0.2R	7000	1120	5208	588	3808	280
D4.0 x 0.3R	7000	1120	5208	588	3808	280
D3.0 x 0.5R	7280	1120	5488	840	4200	280
D4.0 x 0.5R	7000	1120	5208	588	3808	280
D6.0 x 0.5R	6440	1680	4928	1120	2576	420
D8.0 x 0.5R	4844	1904	2996	952	2156	459
D10.0 x 1R	3080	1568	1792	616	924	325
D12.0 x 1R	2604	1624	1323	532	728	297
D3.0 x 1R	3872	1288	6311	966	4830	322
D4.0 x 1R	8050	1588	5989	676	4379	322
D6.0 x 1R	7406	1932	5665	1288	2962	483
D8.0 x 1R	5571	2190	3446	1095	2480	528
D10.0 x 1R	3541	1792	2016	708	1063	374
D12.0 x 1R	2995	1868	1417	798	837	342
D6.0 x 1.5R	7728	2016	5914	1344	3091	504
D8.0 x 1.5R	5813	2285	3595	1142	2587	551
D10.0 x 1.5R	3696	1882	2150	739	1109	390
D12.0 x 1.5R	3125	1949	1478	638	874	356
D6.0 x 2R	8372	2184	6406	1456	3349	546
D8.0 x 2R	6297	2475	3895	1238	2803	597
D10.0 x 2R	4004	2038	2330	801	1201	422
D12.0 x 2R	3385	2111	1602	692	946	386
D8.0 x 2.5R	6540	2570	4045	1285	2912	620
D10.0 x 2.5R	4158	2117	2419	832	1248	438
D12.0 x 2.5R	3516	2192	1663	718	983	401

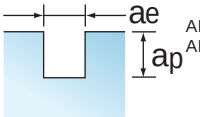
Unit/單位: mm

AE5 產品規格表 P142-143 Specification page
JAE 產品規格表 P199 Specification page
AET 產品規格表 P147-148 Specification page

● AE5 JAE AET 2T Series Cutting Condition(Side Milling) 切削條件表(側銑)

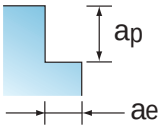
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	140m/min		380m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	14,770	2,100	39,910	6,380
4	11,080	1,580	29,940	4,790
5	8,860	1,260	23,950	3,830
6	7,380	1,060	19,960	3,190
8	5,550	790	15,000	2,400
10	4,430	630	11,980	1,920
12	3,690	530	9,980	1,600
16	2,770	400	7,490	1,200
20	2,220	320	5,980	960
25	1,780	260	4,790	770
Depth of cut 切削基準量 (D=直徑Dia)	*Side milling（側銑）  AP=2.0D AE=0.5D			
	V線速度	140	V線速度	380
	Z刃數	2	Z刃數	2
	f	0.07	f	0.08

● AE5 JAE AET 2T Series Cutting Condition(Slotting) 切削條件表(溝銑)

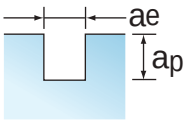
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	90m/min		310m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	9,740	700	32,910	2630
4	7,300	520	24,680	1970
5	5,850	420	19,750	1580
6	4,870	350	16,450	1320
8	3,660	260	12,340	990
10	2,960	210	9,870	790
12	2,440	180	8,230	660
16	1,820	130	6,170	490
20	1,460	100	4,940	400
25	1,170	90	3,950	320
Depth of cut 切削基準量 (D=直徑Dia)	*Slotting（溝銑）  AP=2.0D AE=1.0D			
	V線速度	90	V線速度	310
	Z刃數	2	Z刃數	2
	f	0.04	f	0.04

Unit/單位: mm

● CE 2T Series Cutting Condition(Side Milling) 切削條件表(側銑)

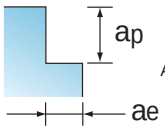
Work Material 被削材		COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)		140m/min		380m/min	
TYPE NO.	Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
CE0302	3	14,770	1,060	39,910	3,190
CE0402	4	11,080	790	29,940	2,390
CE0502	5	8,860	630	23,950	1,920
CE0602	6	7,380	530	19,960	1,600
CE0802	8	5,550	400	15,000	1,200
CE1002	10	4,430	320	11,980	960
CE1202	12	3,690	260	9,980	800
CE1602	16	2,770	200	7,490	600
CE2002	20	2,220	160	5,980	480
Depth of cut 切削基準量 (D=直徑Dia)		*Side milling（側銑）  AP=2.0D AE=0.5D			
		V線速度	140	V線速度	380
		Z刃數	2	Z刃數	2
		f	0.04	f	0.04

● CE 2T Series Cutting Condition(Slotting) 切削條件表(溝銑)

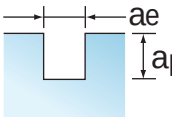
Work Material 被削材		COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)		90m/min		310m/min	
TYPE NO.	Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
CE0302	3	9,740	350	32,910	1320
CE0402	4	7,300	260	24,680	990
CE0502	5	5,850	210	19,750	790
CE0602	6	4,870	180	16,450	660
CE0802	8	3,660	130	12,340	490
CE1002	10	2,960	100	9,870	390
CE1202	12	2,440	90	8,230	330
CE1602	16	1,820	60	6,170	250
CE2002	20	1,460	60	4,940	200
Depth of cut 切削基準量 (D=直徑Dia)		*Slotting（溝銑）  AP=2.0D AE=1.0D			
		V線速度	90	V線速度	310
		Z刃數	2	Z刃數	2
		f	0.02	f	0.02

AEL5 產品規格表 P142-143 Specification page
ALET 產品規格表 P149 Specification page

AEL5 ALET 2T Series Cutting Condition(Side Milling) 切削條件表(側銑)

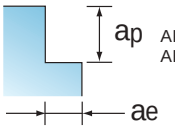
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	70m/min		190m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	7,540	650	20,380	1,960
4	5,660	480	15,290	1,460
5	4,530	390	12,230	1,180
6	3,770	320	10,190	980
8	2,780	240	7,500	720
10	2,260	190	6,110	580
12	1,890	160	5,100	490
16	1,420	120	3,820	370
20	1,130	100	3,060	300
25	900	80	2,450	230
Depth of cut 切削基準量 (D=直徑Dia)	*Side milling（側銑）  AP=4.5D AE=0.05D			
	V線速度	70	V線速度	190
	Z刃數	2	Z刃數	2
	f	0.04	f	0.05

AEL5 ALET 2T Series Cutting Condition(Slotting) 切削條件表(溝銑)

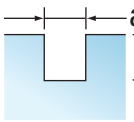
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	50m/min		160m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	5,030	220	16,990	820
4	3,770	160	12,740	610
5	3,020	130	10,190	490
6	2,510	110	8,490	410
8	1,890	80	6,370	310
10	1,480	60	5,100	240
12	1,260	60	4,250	200
16	940	40	3,180	150
20	750	30	2,550	120
25	600	20	2,040	100
Depth of cut 切削基準量 (D=直徑Dia)	*Slotting（溝銑）  AP=2.0D AE=1.0D			
	V線速度	50	V線速度	160
	Z刃數	2	Z刃數	2
	f	0.02	f	0.02

Unit/單位: mm

● AE5 JAE AET 3T Series Cutting Condition(Side Milling) 切削條件表(側銑)

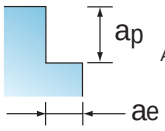
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	140m/min		380m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	14,770	3,160	39,910	9,580
4	11,080	2,370	29,940	7,180
5	8,860	1,900	23,950	5,750
6	7,380	1,580	19,960	4,790
8	5,550	1,190	15,000	3,600
10	4,430	940	11,980	2,870
12	3,690	790	9,980	2,390
16	2,770	590	7,490	1,800
20	2,220	470	5,980	1,440
25	1,780	380	4,790	1,150
Depth of cut 切削基準量 (D=直徑Dia)	*Side milling（側銑）  AP=2.0D AE=0.5D			
	V線速度	140	V線速度	380
	Z刃數	3	Z刃數	3
	f	0.07	f	0.08

● AE5 JAE AET 3T SeriesCutting Condition(Slotting) 切削條件表(溝銑)

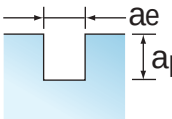
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	90m/min		310m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min-1)	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min-1)	Feed Rate 進給速度 (mm/min)
3	9,740	1,040	32,910	3950
4	7,300	780	24,680	2960
5	5,850	620	19,750	2370
6	4,870	520	16,450	1970
8	3,660	390	12,340	1480
10	2,960	320	9,870	1180
12	2,440	260	8,230	990
16	1,820	190	6,170	740
20	1,460	150	4,940	590
25	1,170	130	3,950	470
Depth of cut 切削基準量 (D=直徑Dia)	*Slotting（溝銑）  AP=2.0D AE=1.0D			
	V線速度	90	V線速度	310
	Z刃數	3	Z刃數	3
	f	0.04	f	0.04

AEL5 產品規格表 P150-151 Specification page
ALET 產品規格表 P154 Specification page

AEL5 ALET 3T Series Cutting Condition(Side Milling) 切削條件表(側銑)

Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	70m/min		190m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	7,540	970	20,380	2,940
4	5,660	730	15,290	2,200
5	4,530	580	12,230	1,760
6	3,770	480	10,190	1,460
8	2,780	360	7,500	1,080
10	2,260	290	6,110	880
12	1,890	240	5,100	740
16	1,420	180	3,820	550
20	1,130	140	3,060	440
25	900	120	2,450	350
Depth of cut 切削基準量 (D=直徑Dia)	*Side milling（側銑）  AP=4.5D AE=0.05D			
	V線速度	70	V線速度	190
	Z刃數	3	Z刃數	3
	f	0.04	f	0.05

AEL5 ALET 3T Series Cutting Condition(Slotting) 切削條件表(溝銑)

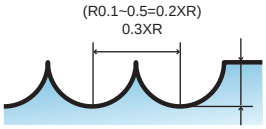
Work Material 被削材	COPPER,COPPER ALLOY 銅，銅合金		Aluminum alloy expanding material A7075 Aluminum alloy casting<Sil 13% 鋁合金	
Max Cutting Speed(V) 最大切削速度(V)	50m/min		160m/min	
Diameter 直徑 (mm)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)	Speed 迴轉數 (min^{-1})	Feed Rate 進給速度 (mm/min)
3	5,030	320	16,990	1220
4	3,770	240	12,740	920
5	3,020	190	10,190	730
6	2,510	160	8,490	610
8	1,890	120	6,370	460
10	1,480	100	5,100	370
12	1,260	80	4,250	310
16	940	60	3,180	230
20	750	50	2,550	180
25	600	40	2,040	150
Depth of cut 切削基準量 (D=直徑Dia)	*Slotting（溝銑）  AP=2.0D AE=1.0D			
	V線速度	50	V線速度	160
	Z刃數	3	Z刃數	3
	f	0.02	f	0.02

Unit/單位: mm

● SUBT 4 FLUTES Standard Cutting Conditons 切削條件表

WORK MATERIAL 被切削材	Carbon Steels S50C 碳素鋼		Alloy Steels Prehardened Steels SCM SKD HPM NAK 合金鋼、調質鋼		Hardened Steels SKD61(~50HRC) 調質鋼		Aluminum 鋁		Copper 銅	
Cutting Speed 切削速度	150m/min		120~150m/min		80~100m/min		150~m/min		100~150m/min	
R	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度	SPEED (min^{-1}) 迴轉速	Feed Rate (mm/min) 進給速度
D0.15R	40,000	800	40,000	720	40,000	660	40,000	880	40,000	800
D0.2R	40,000	1,000	40,000	960	40,000	1,000	40,000	960	40,000	960
D0.25R	40,000	1,240	40,000	1,220	40,000	1,240	40,000	1,080	40,000	1,080
D0.3R	40,000	1,500	40,000	1,500	40,000	1,500	40,000	1,200	40,000	1,200
D0.4R	40,000	1,920	40,000	2,000	36,000	1,800	40,000	1,600	40,000	1,600
D0.5R	40,000	2,400	38,000	2,400	29,000	1,800	40,000	2,000	40,000	1,660
D0.75R	30,000	2,540	25,500	2,200	19,000	1,400	40,000	2,720	30,000	2,320
D1R	24,000	2,320	19,000	1,600	14,300	1,200	40,000	4,000	24,000	2,400
D1.25R	19,000	2,000	15,300	1,340	11,500	1,020	38,000	4,800	19,000	2,400
D1.5R	16,000	1,860	13,000	1,200	9,600	920	32,000	4,800	16,000	2,400
D1.75R	13,700	1,860	11,400	1,160	8,200	900	27,300	4,800	13,600	2,400
D2R	12,000	1,860	10,000	1,140	7,200	900	24,000	4,800	12,000	2,400
D2.5R	9,600	1,860	8,000	1,120	5,700	900	19,000	4,800	9,600	2,400
D3R	8,000	1,860	6,400	1,080	4,800	900	16,000	4,800	8,000	2,400
D4R	6,000	1,800	4,800	1,080	3,600	900	12,000	4,800	6,000	2,400
D5R	4,800	1,800	3,800	1,080	2,900	900	9,600	4,600	4,800	2,300
D6R	4,000	1,800	3,200	1,080	2,400	900	8,000	4,200	4,000	2,100
D7R	3,400	1,800	2,750	1,080	2,050	900	6,800	4,000	3,400	2,000
D8R	3,000	1,800	2,400	1,080	1,800	900	6,000	4,000	3,000	2,000
D10R	2,400	1,800	1,900	1,040	1,450	900	4,800	4,000	2,400	2,000
D12.5R	1,900	1,440	1,520	450	1,160	840	3,840	3,800	1,920	1,880

DEPTH OF CUT 加工深度



~0.16XR R≦0.3 (~45HRC)
~0.25XR R≦3 (~45HRC)
~0.17XR R≧4 (~45HRC)
~0.05XR (~50HRC)

Note

www.speedtiger.com.tw

Coating Classifying and advantage 立銑刀的塗層種類及特點 *end mill expert*

項目 Item	塗層種類 Coating type	μAlTiN	μTiAlN	nACRo	nACo	TiSiN	RS	ATS	TB
特 性 Characteristic	表面硬度 (HV) Hardness (HV)	~ 3200	~ 2800	42 (Gpa)	45 (Gpa)	~ 3600	~ 2800	45 (Gpa)	> 6000
	塗層厚度 (μm) Thickness (μm)	2.5~3	2.5~3	3	3	2.0~2.5	2.0~2.5	2.5~3	~1
	耐氧化溫度 (℃) Oxidation Temp.(℃)	900	800	1100	1200	1100	1000	1200	500
	摩擦系數 Friction Coefficient	0.3	0.3	0.35	0.45	0.4	0.3	0.4	< 0.1
	顏 色 Color	黑 Black	紫 Violet	銀灰 Gray	藍 Blue	棕 Copper	銀 Silver	黑 Black	金屬黑 Black
適用材質 Application	碳 鋼 Carbon Steel	◎	◎	◎	◎	◎	◎	◎	X
	合金/工具/高速鋼 Alloy / Tool / High Speed Steel	◎	◎	◎	◎	◎	◎	◎	X
	不 鋼 Stainless Steel	○	○	◎	○	○	◎	○	X
	合 金 Alloy	◎	○	◎	◎	◎	○	◎	X
	銅 / 鋁 Copper / Aluminum	X	X	○	X	X	○	X	◎
	高溫合金 Inconel	◎	○	○	◎	◎	○	◎	X
	鈦合金 Titanium	○	○	○	○	○	○	○	◎
	塑膠/複合材料/木材/紙 Plastic / Composites / Wood / Paper	X	X	X	X	X	X	X	◎
切削方式 Cutting Way	乾 式 Dry Cutting	◎	◎	◎	○	◎	◎	○	○
	濕 式 Wet Cutting	○	○	◎	○	○	◎	○	◎
	油 霧 Oil Spray	○	◎	◎	◎	○	◎	◎	○

符號說明 Icon : ◎ 最適合 Recommend ○ 適合 Suitable X 不建議 Not Recommend

■ TiSiN Coating

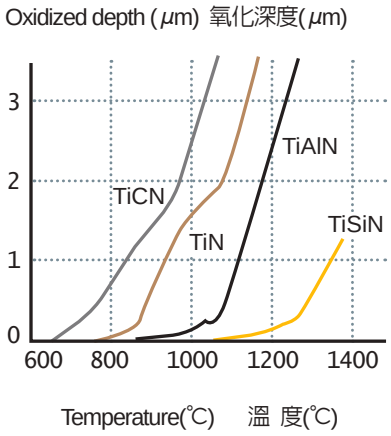
Technical Data

New Nano-composite coating material achieves extraordinary heat resistance and hardness.
This is attained due to the new composite layer, consisting of nano-crystal material (Oxidizing temperature：1100℃, Layer hardness：HV 3600).
Achieves extraordinary performance in high-speed cutting, and high efficient machining of hardened steel, machining efficiency is more than twice as effective as other manufacturers solid carbide end mills.
Ensuring long life and reliability in hardened steel applications (45~55HRC) material examples：1.2080, 1.2344, and 1.2379, ASP Power Steels, High Speed Steels.
The coating generates less heat during cutting; therefore it is well suited to dry machining conditions.

Newly developed TiSiN Coating has excellent oxidation-resistant properties, this achieves：
High speed cutting of hard steels = High Efficiency
Improvement in tool life = Lower tooling costs The newly designed flute geometry increases rigidity, with the improved high radius accuracy producing higher tolerance, and smoother surface finish.
Direct milling of hardened steel is now possible = Faster production times.

塗層介紹

新式的TiSiN 塗層 適合於各種的切削環境。
更高的薄膜硬度，更細緻的表面，提高刀具的壽命。
加入了矽原子，使表面更加的平滑，更提高了薄膜的抗氧化溫度（≧1100℃）
特殊的鍍膜製程，使層積的表面更加緊實，表面硬度更高達≧3600HV
特殊的刀形設計，加上 TiSiN 塗層，更提高了刀具的耐磨耗性，和優秀的續航能力



market standard High performance
市售高性能刀具

SI hard coating
SI 硬質塗層刀具

■ nACRo Coating

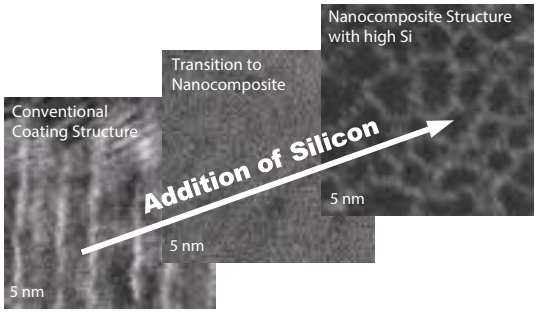
nACRo Nanocomposite coating process. nACRo 奈米制程

1. contain Si membrane, oxidation start temperature : 1,200℃.
2. nano grade coating, better surface finish.
3. extremely high nano hardness, extremely high adhesion.
4. better protection for tools, reduction of production. cost, economical environmentally manufacturing.

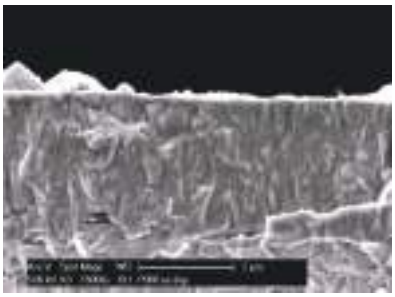
含矽薄膜，切削氧化溫度高達1200℃。
奈米級塗層，表面更加細緻。
超高硬度，超高附著力。
多層陶瓷結構，保護性更佳性，切削更環保，更節省成本。

By deposition very different kinds of materials,the components (like Ti, Cr, Al in the first group,and Si in the other) are not mixed completely,and 2 phases are created. The nanocrystallineTiAlN- or AlCrN-grains become embedded in theamorphous SiN-matrix and the nano-composite structure develops.

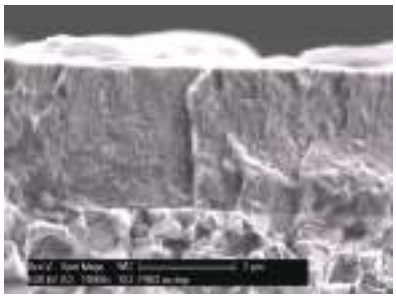
Silicon increases the thoughness and decreases the internal residual stress of the coating.
The increasing of the hardness is generated by the structure only, the SiN matrix enwraps the hard grains and avoids growing of their size.



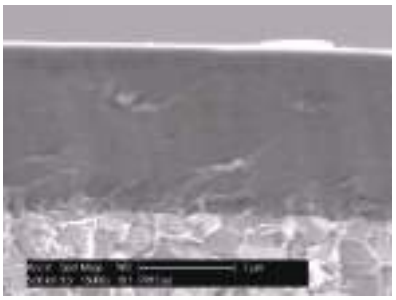
不含矽: AlCrN
No Silicon: AlCrN



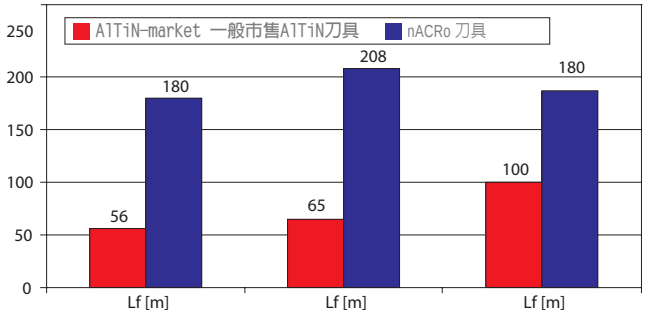
低含矽: AlCrN / SiN
Low Silicon: AlCrN / SiN



高含矽: nACRo
High Silicon: nACRo



Tool Life Comparison 刀具使用壽命比較



Carbide End Mills Ø10mm, z=4, steel 34CrNiMo6 (30 HRC), Coolant: Air; Minimum lubrication - Tested tools: 2x4
Source: Carmex, Maalot, ISR

■ nACRo Coating

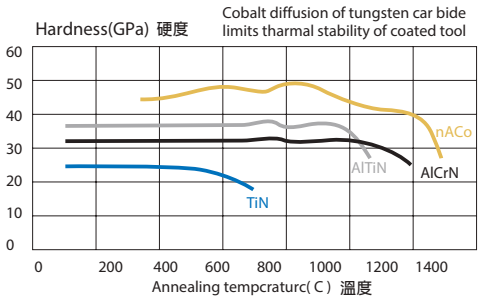
Technical Data

nACo Nanocomposite coating process. nACo奈米制程

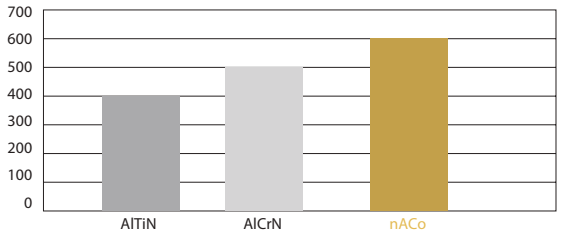
1. Perfect coating structure.
2. High hardness.
3. High adhesion.
4. Adding Si into nACo structure makes atom structuremore completed with high hard-wearing and tools with more longer life.

1. 更完整的薄膜結構。
2. 超高硬度。
3. 高附著力。
4. nACo的結構中加入Si，使其原子結構更加完整，更具耐磨耗性，使工具有更長的壽命。

Heat Resistance Comparison 熱阻抗比較



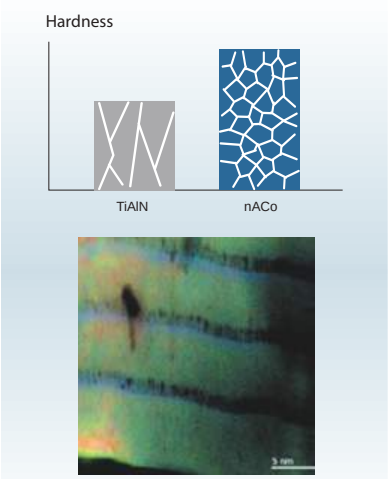
Tool Life Comparison 刀具壽命比較



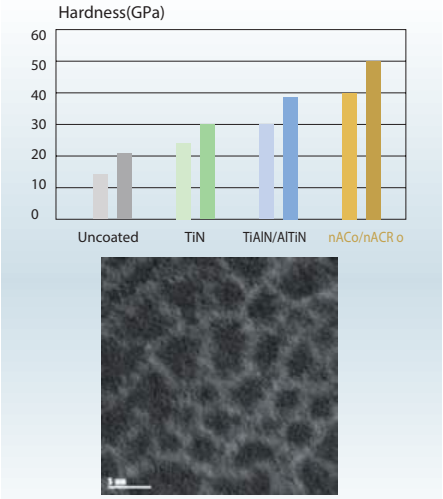
AlTiN v.s nACo 的比較

S.T Coating	Typical Thickness(£g) 膜厚	Nanohardness up to (GPa) 硬度	Max Service Temp(¢J) 氧化溫度	Friction coefficient 摩擦係數
AlTiN	1~4	35	800	0.6
nACo	1~4	45	120 0	0.45

Hardness Increase through Nanocomposites



Conbentional Nanolayer-Structure : (TiAlN)(TiN)
一般(TiAlN)(TiN)的微視組織



Nanocomposite structure: (nc- TiAlN)/(a-Si3N4)
nACo 的微視組織

TB Coating Technical Data

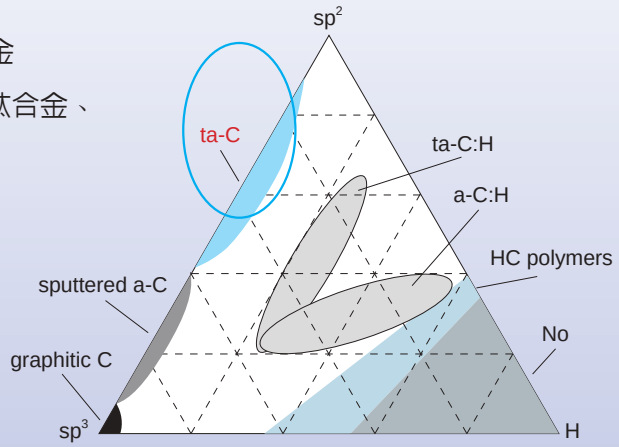
Tetrabond Diamond Coating TB超硬類鑽膜

A different type of DLC 並不是一般的類鑽膜

Super high lubrication & Super low friction coefficient
New PVD Nano Technology
The tool is long life to be surprised because "TB" hardness to near the the nature diamond coating
Swiss & Speed Tiger Technological Cooperation.

超高潤滑性・超低摩擦係數
最新奈米物理氣相沉積科技
超高硬度・超長壽命・惟有CVD鑽石薄膜可相比擬
泛虎與瑞士 Ionbond 技術合作開發

- Nano-composite coating which is improved the lubricative property without making the abrasive property lower by new coating material of nano-crystal.
- Excellent cutting is reached in machining non-ferrous materials, especially in aluminum with over six multiple in machining efficiency. Long tool life and precision machining in PCB boards, Brass, Titanium, Ceramics, Fiberglass etc.
- Dry cutting applicable, because of less cutting heat by improving friction property very much and wet cutting applicable.
- 奈米複合塗層採用奈米晶格靶材，大幅改善潤滑效果，有效的降低摩擦系數並且維持更好的耐摩耗性。
- 出色地應用在非鐵金屬加工，尤其是在鋁合金加工效率在6倍以上，並且在PCB板、銅、鈦合金、陶瓷形成超長刀具壽命和高品質加工。
- 摩擦係數大幅改善，形成較低的切削溫度，所以乾式切削可行，濕式切削亦可行。



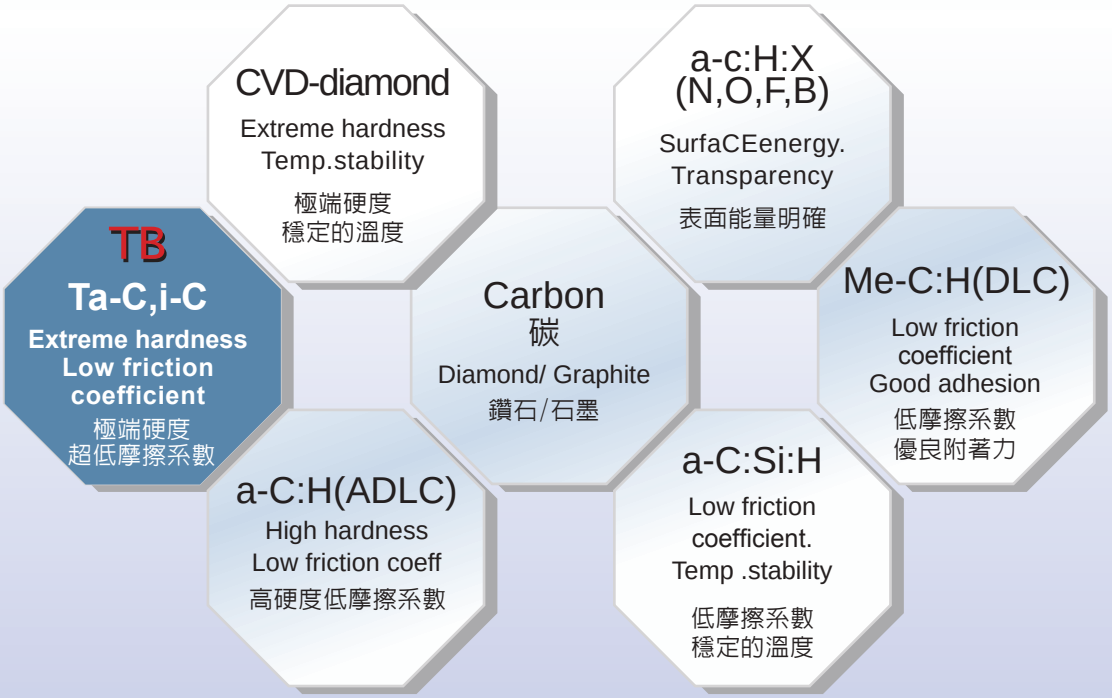
TB Coating

TB超硬類鑽膜 系列

DLC coatings are generally deposited by five methods, each having different properties :
DLC 薄膜有5種不同的沉積方法，而每一個各有不同的特性：

		TB Ta:C	PVD a:CH	PVD Me:CH	CVD	PaCVD
Deposition temp	沈積溫度	under 150 C	under 200 C	under 200 C	over 900 C	under 200 C
Range of substrates	基材限制	Broad	Broad	Broad	Limited	Broad
Oxidation temp	氧化溫度	500-1000 C	350 C	300 C	700 C	300 C
Adhesion	附著力	Very good	Good	Very Good	Excellent	Good
Smoothness	平滑度	Good	Very good	Good	Good	Excellent
Hardness (GPA)	硬度	60-95	25	10~15	40-90	20-40
Coefficient of friction	摩擦係數	<0.1	<0.1	0.15	<0.4	<0.1
Hydrogenated	氫化	No	Yes or No	Yes	No	Yes
Metal content	金屬親和性	No	Yes	Yes	No	No

All DLC coatings are not equal : especially on Hardness and Oxidation
各種類鑽膜都有不同的特性，尤其是硬度和氧化溫度

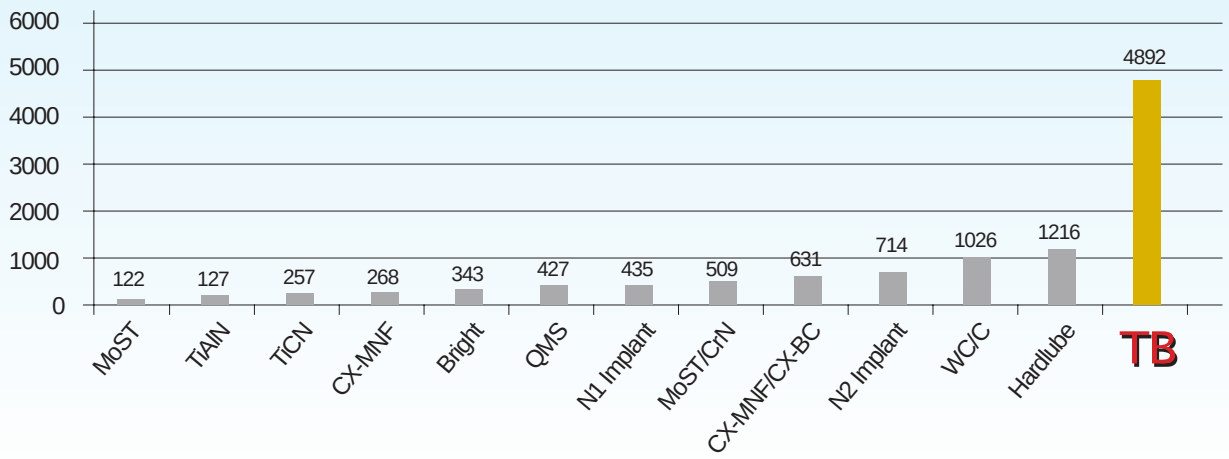


TB Coating Technical Data

Performance and cost savings - Dry Drilling
節省成本和高性能－乾式鑽孔

TB exhibits
outstanding performance
in machining aluminum!*
TB塗層在加工鋁件有著優異的表現

Dry Drilling in A-319 Aluminum - pilot holes with cold-air 3500 rpm
and 15 ipm / D13227A drills - Average number of holes.
鋁合金（A-319）乾式鑽孔－氣冷－3500rpm－15ipm/D13227A－平均鑽孔數



TetraBond Performance
TB 類鑽石完美的表現在非鐵材質的加工

TETRABOND is an excellent choice for machining non-ferrous materials such as:
TB 類鑽石薄膜非常出色的表現在機器加工非鐵金屬材質上

- High silicon content aluminum alloys 高矽鋁合金
- Aluminum magnesium matrix materials 鋁合金
- Titanium 6Al4V 鈦金屬
- Epoxy resins 環氧樹脂
- Fiberglass and composites 玻璃纖維和合成
- Plastic 塑膠
- Graphite 石墨
- Brass and bronze 黃銅和青銅
- Ceramics... 陶瓷

TB Coating

TB超硬類鑽膜 系列

TETRABOND Advantages.
TB 薄膜的優勢

- No substrate preparation required 不必特別選擇基材
- Suitable for HSS and carbide cutter 適合高速鋼和碳化鎢工具
- Able to strip and recoat without damaging the substrate 沒有任何有害物質，非常環保，且容易再塗層
- Thin coating maintains sharp edges 非常薄的膜厚可以保持工具銳利

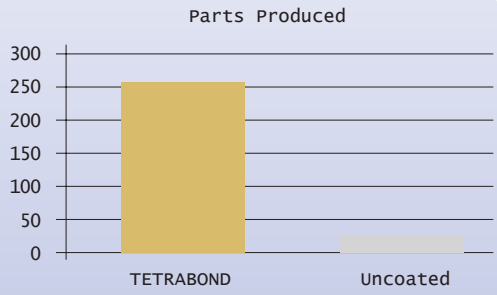
TETRABOND reduces manufacturing cost through:
TB類鑽石薄膜可以大幅降低製造業成本

Higher Speeds & Feeds 高轉速和高進給	→	Improve productivity 增加生產效率
Reduced Tool Inventory 減少庫存工具	→	Tool cost savings 降低工具成本
Longer Tool Life 較長的工具壽命	→	Reduced downtime 減少停機時間
Improved Part Quality 精良的工件品質	→	Less scrap 較少的毛邊

Performance and cost savings Rough turning Titanium 6AL 4V
性能和節省成本：鈦合金 6AL 4V的車削

Insert WNMG 431 T-F IC20 Work material：Titanium 6AL 4V
刀片WNHG431 T-F IC20、被切削材質：Titanium 6AL 4V

- Speed：800 rpm → 轉速：800 rpm
- Feed：0.011 fpr → 進給：0.011 fpr
- Depth of cut：0.080 inches → 深度：0.080 英吋



TETRABOND coated tools achieved over eight multiple tool life over uncoated tools
相較其它無鍍層的刀具，TB塗層刀具效能多了8倍

Technical Data

■ RS Nano Coating 奈米塗層

Details 產品特點

瞭解RS塗層 Feature of RS coating

- 抗熱 Oxidation start temperature : 1,000℃
- 硬度 Hardness: 2,800HV
- 摩擦係數 Coefficient of friction : 0.4
- 薄膜厚度 Thickness (μ) : 3~ 4 μ
  顏色 Color:銀色 Silver
- 乾、濕式切削，加工軟材為一般AlTiN的2至3倍壽命。
  Dry and Wet Coolant , Cutting performance of soft material improved by 2~3 times than Altin Coating

CrSiN與CrN差別在何？Difference between CrSiN and CrN

- CrSiN:含Si能夠細化CrN晶粒，甚至可達奈米等級，除具CrN一切優點外更可提高其硬度至30~40GPa，且耐熱溫度可達到1,000度。
  CrSiN Coating can improve the CrN grain to be reached NANO grade. Excepting the all advantage of CrN coating, it drastically improves the hardness to 30~40GPa and Oxidation start temperature:1,000℃
- CrN:含Cr對鐵金屬的親和性相當低，大都不與鐵材產生反應，其真正潤滑性使鍍膜擁有不沾粘之特性且具備低摩擦係數，唯美中不足其硬度僅有17~20GPa且其耐熱溫度僅為700度。
  CrN coating with Cr element has low affinity with Fe material. It exhibits lower friction than that of conventional coating. But the Hardness only 17~20GPa and the Oxidation Start Temperature 700℃.

Rs塗層應用在哪？Application of RS

- 乾式加工 Dry Cutting
- 濕式加工 Wet Cutting
- 一般加工 General Cutting
- 高速加工 High Speed Cutting
- 鑄鐵、不鏽鋼、鈦合金、炭素鋼、銅、鋁...等幾乎包含所有被加工材
  Cast Iron, Stainless, Titanium Alloy, Carbon Steel, Copper, Aluminium

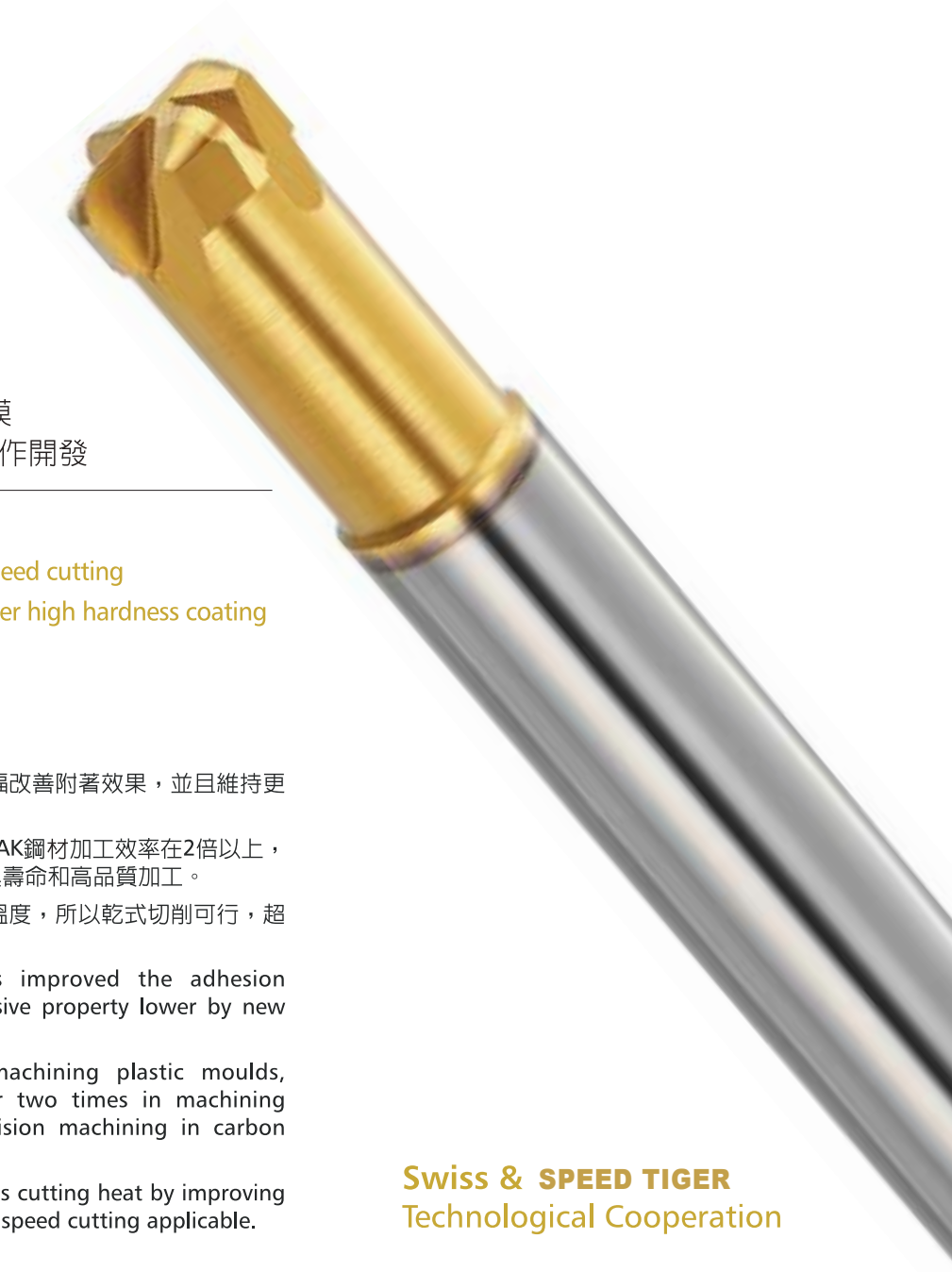
Rs塗層優點 Advantage of RS

- 大幅增加刀具、模具之使用壽命 Improve the tooling and mold life
- 增加製造良率 Improve productivity and product quality
- 提高工件表面品質 Better Surface finish
- 增加脫膜性 Mold Release forces
- 提高切削條件 Improved Cutting Condition

SH

Super High Hardness & Super High Speed Cutting

End Mill Series For High Hardness Steeles



高硬度鋼加工超長壽命
超高表面硬度・超高速加工
超高附著薄膜・超高硬度薄膜
震虎與瑞士 **Ion Bond** 技術合作開發

Long life for high hardness steel
Super high hardness, super high speed cutting
Super high adhesion coating & super high hardness coating

SPEED TIGER Super Coating SH

- 奈米複合塗層採用奈米晶格靶材，大幅改善附著效果，並且維持更低的摩擦係數。
- 非常出色地應用在塑膠模，尤其是在NAK鋼材加工效率在2倍以上，並且在合金鋼NAK、碳鋼形成超長刀具壽命和高品質加工。
- 摩擦係數大幅改善，形成較低的切削溫度，所以乾式切削可行，超高速切削亦可行。
- Nano-composite coating which is improved the adhesion property without making the abrassive property lower by new coating mterial of nano-crystal.
- Excellent cutting is reached in machining plastic moulds, especially in NAK steels with over two times in machining efficiency. Long tool life and precision machining in carbon steels, alloy steels, NAK55 etc.
- Dry cutting applicable, because of less cutting heat by improving friction property very much and high speed cutting applicable.

Swiss & SPEED TIGER
Technological Cooperation

Unit/單位: mm

COMPARISON OF CHIP FORMATION

Coating	Material System	Application	Typical Thickness (μ)	Hardness (HV)	Oxidation Temp. (°C)	Coefficient of Friction	Color
AℓTiN SH	Multilayer NaNo	High speed machining, High Hardness	2.5 to 3.5	3600	900	0.34	Gold
AℓTiN SS	Multilayer NaNo	High speed machining, dry or wet cutting, soft steel	1.5 to 2.5	3300	900	0.30	Silver

Why do we coat "Super Hard Altin"? We called SH Altin!

為什麼需要塗SH塗層？是因為SH塗層可以：

降低客戶費用

- 提供顧客較長的刀具壽命
- 降低顧客製造產品時間
- 提昇刀具更高的進給速度，每小時更多的產能獻給顧客
- 減少或排除冷卻設備花費，並符合環境保護

提高品質

- 更少的碎片

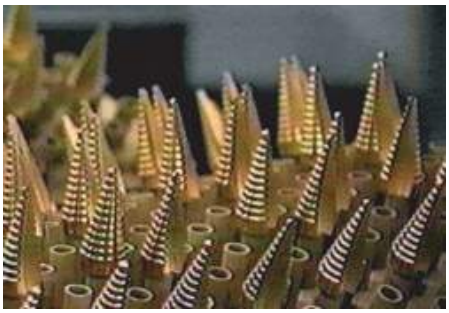
BFR demand coatings SH because SH coatings:

Reduce customers costs

- Longer tool life
- Less manufacturing down time
- Tools work faster / more production per hour
- Reduced tool inventories
- Reduction or elimination of coolants / release agents

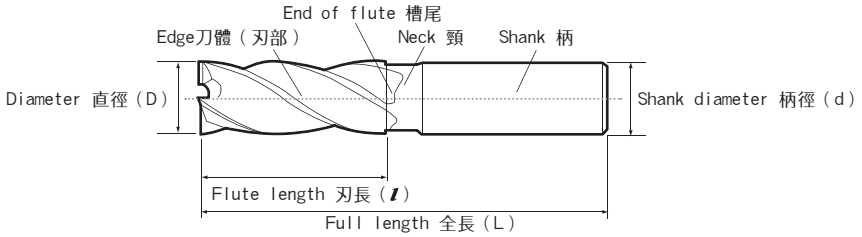
Improve quality

- Less scrap

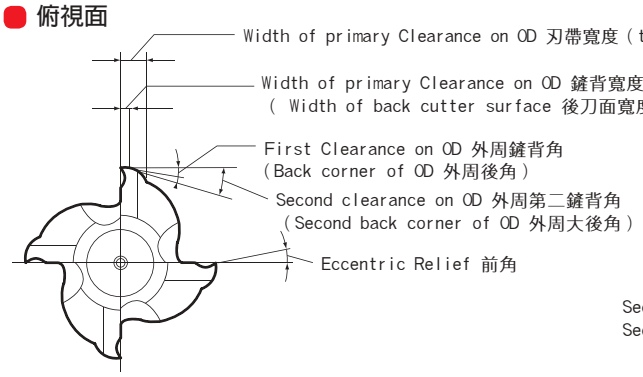


Detail of the end mill 立銑刀各部份名稱

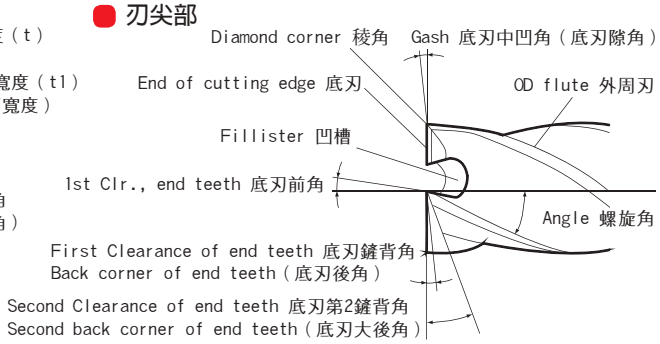
側視面



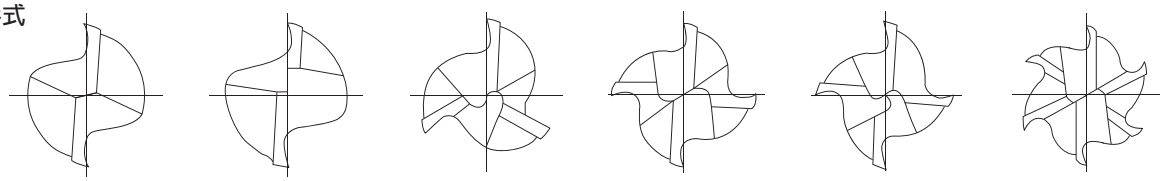
俯視面



刃尖部

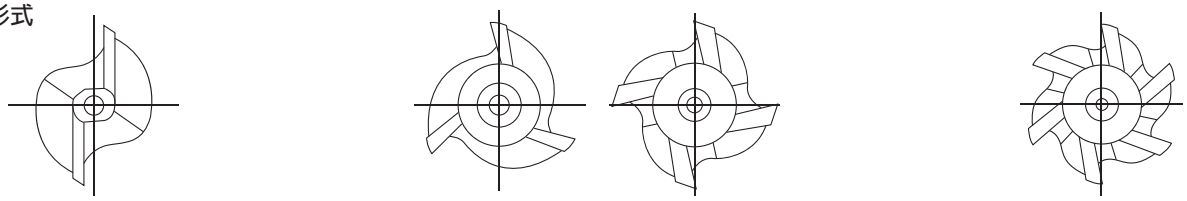


刀刃形式



2 flute 2刃 | 2 edge with double teeth 2刃（親子刃） | 3 flute 3刃 | 4 flute 4刃 | 4 edge with double teeth 4刃（親子刃） | 6 flute 6刃

刀刃形式

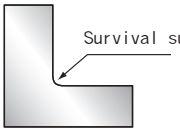


2 flute 2刃 | 3 flute 3刃 | 4 flute 4刃 | 6 flute 6刃

Shape in end teeth of the end mill 立銑刀的底刃形狀

Tip protection 尖角保護

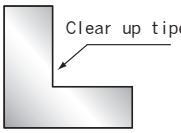
During the tip protection 尖角保護時



- Batter rigidity of the tip, protecting the edge. 尖角部剛性好，不易崩刃。
- Tip sharp drop. 尖角部鋒利度下降。

Tip 尖角

During the tip 尖角型時



- Use for clear up tipe. 工作直角時使用。
- Sharp tip, easy to break. 尖角部鋒利，但易崩刃。
- Can be use in carbone steel and steel, specially using in Aluminum and non-ferrous material.
  碳素鋼和調質鋼也能使用，尤其廣泛應用於鋁材等非鐵材質的加工，對於高硬度的工件，因崩刃而無法適用。

End mill working condition calculation method 立銑刀加工中切削條件計算方法

切削條件的計算公式

切削速度（線速度）

Calculation VC

立銑刀刀刃圓周面上的某1點在每一分鐘內移動的距離，可通過下述公式求出。

$$V = \frac{\pi \times D \times N}{1000}$$

V = Cutting speed 切削速度（m/min）
π = 3.14（圓周率）
D = Diameter 立銑刀刃徑（mm）
N = Rotating speed 轉速（min^{-1}）

Rotation speed 轉速

Calculation of Rotation speed

裝夾立銑刀的機械主軸在每一分鐘內旋轉的轉數，可通過下速公式求出。

$$N = \frac{1000 \times V}{\pi \times D}$$

N = Rotating speed 轉速（min^{-1}）
V = Cutting speed 切削速度（m/min）
π = 3.14（圓周率）
D = Diameter 立銑刀刃徑（mm）

Feed rate 進給速度

Calculation of Feed rate

每一分鐘內工作台進給的速度，可通過下述公式求出。

$$F = N \times Z \times f$$

F = Feed rate 進給速度（mm/min）
N = Rotating speed 轉速（min^{-1}）
Z = Number of flute 立銑刀刀刃數
f = Feed rate of the flute 每刃進給量（mm/1刃）

Feed for teeth 每刃進給量

Calculation of the Feed of teeth

立銑刀刀刃圓周面上的某1點在每一分鐘內移動的距離，可通過下述公式求出。

$$f = \frac{F}{N \times Z}$$

f = Feed rate of the flute 每刃進給量（mm/1刃）
F = Feed rate 進給速度（mm/min）
N = Rotating speed 轉速（min^{-1}）
Z = Number of flute 立銑刀刀刃數

Working time 加工時間

Calculation of the Working time

切削工件材料所需的時間，可通過下述公式求出。

$$Tc = \frac{L}{F}$$

Tc = Working time 加工時間（min）
L = Total working length 工作台總進給長度
（工作材料長度+立銑刀刃逕D）
F = Feed rate 進給速度（mm/min）

The standrad cutting conditions published on each products page.
Cutting will be influenced by work piece,machine and software; the above-mentioned date are only for reference.

Failure analyzed and solvent

Item	Fault	Reason	Solution
● Precision of cutting surface	● Rough surface	● Vibration	▶ Fix the working material as well as posible ▶ Adjust the failed part of machine ▶ Reduce rotating speed ▶ Downcut ▶ Tools minimum lenght out of fixture
		● The heterogeneity in hardness of working material	▶ measuring the hardness of working material
		● The tip was unsuitable	▶ Tool rake angle and clearance angle ▶ Improve cutting roughness
		● Chip lump and fuse attach material	▶ Remove chip lump and fuse attach material ▶ Check on the degenerative condition of cutting fluids
		● Passivation of cutting edge	▶ Determine the adequate time to regrinding
		● Cutting rate (speed) too fast	▶ Reduce the cutting rate (speed)
		● Misfit cutting fluids or deficient of cutting fluids	▶ Change cutting fluids
	● Buckling cracking of the of machined surface	● Unbalance friction of cutting edge	▶ Regrinding to reduce friction
		● Fuse attach material on the cutting edge	▶ Remove fuse attach material ▶ Change cutting fluids
		● Cutting edge deformation	▶ To pay attention to use and safekeeping
	● The corrugation of machined surface	● lesser cutting flute	▶ Increase the number of flutes from 2 flutes to 4 flutes and then 6 flutes
		● Bigger cutting depth and feed rate	▶ To Reduce the Feed Rate of Machine
		● A larger Helix Angle	▶ Decrease the Helix Angle
● Shape precision	● Perpendicularity	● Cutting depth and feed rate is too large	▶ Reduce the depth of cutting and feed rate
		● Tool stretches out over longer	▶ Use the end mill stretches out shortest from chuck
		● Perpendicularity of holder not reach	▶ Improve the perpendicularity of holder
● End mill life	● Shorter life for regrinding end mill	● Work material hardness too high	▶ Improve to suitable hardness by heat treatment process ▶ Reduce the feed rate for high hardness work material or change more hardness tool
		● Unsuitable feed rate	▶ Adjust to suitable feed rate
		● Chip lump and fuse attach material	▶ Remove chip lump and fuse attach material ▶ Use suitable cutting liquid
		● Unsuitable cutting liquid	▶ Use suitable cutting liquid ▶ Use enough cutting liquid
	● Huge friction of cutting edge	● The fault of work material	▶ Uchieve the average of inside form of work material ▶ clear up unbalance hardness
		● Unsuitable edge angle	▶ Regrind to suitable angle
		● End mill cutting function go down	▶ Surface treatment
		● Unsuitable cutting liquid	▶ Adjust to suitable cutting liquid ▶ Adjust offer method of liquid
		● Unsuitable regrind schedule	▶ Manage the regrind schedule
	● Flute damage	● Vibration	▶ Strengthen the install tool of work material
		● The fault of work material	▶ Achieve the average of working material structure ▶ Use suitable hardness , clear up unbalance hardness ▶ Check the material may mix other hardness substance or gravel
		● Unsuitable feed rate	▶ Reduce the feed rate
		● Cutter become dull	▶ Regrind the tools
		● Cutting liquid go off	▶ Change the cutting liquid
	● Break	● Work material unsuitable fixed	▶ Indeed fix the work material ▶ Improve install tool
		● Cutter become dull	▶ Regrind process
		● End mill with uncorrect operation	▶ Be careful of keep and operate
		● Chip jam	▶ Use cutting liquid in large, during dry milling use air blow to remove chips

■ 立銑刀故障分析與對策

end mill expert

項目	故障	原因	對策
● 加工面精度	● 加工面較粗	● 振動、顫振	▶ 提高工件安裝剛性 ▶ 改正機械的不良部位 ▶ 降低立銑刀的轉速 ▶ 進行逆銑 ▶ 將立銑刀的刃長伸出長度控制在最小範圍
		● 加工工件的硬度不均一	▶ 測量硬度後進行選擇適合的刀具
		● 先端形狀不合適	▶ 採用合適的前角、後角 ▶ 改善磨削面的表面粗糙度
		● 有積屑瘤、熔附物	▶ 除去積屑瘤、熔附物 ▶ 檢查切削液的變質情況
		● 刃尖鈍化	▶ 確定適當的再研磨時期
		● 切削速度過快	▶ 減慢切削速度
		● 切削液不適、不足	▶ 改變切削液或供給方法
	● 加工面擠裂	● 切削刃的摩擦不均衡	▶ 通過再研磨除去摩擦
		● 刃部有熔附物	▶ 除去熔附物 ▶ 更換切削液
		● 切削刃有打痕	▶ 注意使用、保管
	● 加工面波紋	● 刃數較少	▶ 按2刃→4刃→6刃增加刃數
		● 切入量、進給量過大	▶ 減小切深、進給量
		● 螺旋角過大	▶ 減小螺旋角
● 形狀精度	● 垂直度	● 切入量、進給量過大	▶ 減小切深、進給量
		● 伸出長度過長	▶ 使用刃長伸出長度最短的立銑刀
		● 安裝用具的工件支撐面垂直度不够	▶ 改善支撐面垂直度
● 立銑刀的壽命	● 再研磨後的壽命較短	● 工件材料的硬度較高	▶ 熱處理爲適合的硬度 ▶ 工件材料爲高硬度時減小進給量或者更換爲更高硬度刀具材料
		● 進給量不適	▶ 改變爲適合的進給量
		● 有積屑瘤、熔附物	▶ 除去積屑瘤、熔附物 ▶ 選擇合適的切削液
		● 切削液不適	▶ 選擇合適的切削液 ▶ 使用足量的切削液
	● 切削刃的摩擦過大	● 加工工件材料的缺陷	▶ 實現工件材料內部組織的平均化 ▶ 消除硬度不均
		● 刃尖角度不適合	▶ 再研磨爲適合的前角、後角
		● 立銑刀的切削性能下降	▶ 進行表面處理
		● 切削液不適	▶ 變更爲合適的切削液 ▶ 變換給油方式
		● 再研磨時期不適	▶ 對再研磨時間進行管理
	● 刀刃缺損	● 振動、顫振	▶ 加強加工工件安裝用具
		● 工件材料的缺陷	▶ 實現內部組織的平均化 ▶ 使用合適的硬度、消除硬度不均 ▶ 檢查是否有硬質異物、砂等混入材料
		● 進給量不適	▶ 減少進給量
		● 切削刃鈍化	▶ 實施再研磨
		● 切削液劣化	▶ 更換切削液
	● 折斷	● 工件固定不當	▶ 確實固定加工工件 ▶ 改善安裝用具
		● 切削刀刃鈍化	▶ 實施再研磨
		● 立銑刀使用不當	▶ 注意保管、使用
		● 切屑堵塞	▶ 大量使用切削液、乾式時用高壓空氣吹去切屑

- 黑色數字是根據 ASTM E-140 的表一而來（由 SAE、ASM 和 ASTM 共同校正而來）。
- 括號()內的數值和單位是由psi換算而來，其跟原爲JIS Z 8413 和 Z 8483換算表。IMPa=IN/mm^2
- 表中括號()內的數值比較少用，僅提供參考。

■ 硬度換算表（SAE J 417）根據洛氏硬度C標度而得之鋼的換算概值表 (1)

(HRC) 洛氏硬度 C級硬度	(HV) 維氏硬度	布氏硬度(HB)球體直徑荷重10mm導程荷重3000kgf		洛氏硬度（3）			洛表面硬度 鑽石圓錐壓子			(Hs) 支柱硬度	拉伸強度（進似值）MPa (kgf/mm2)（2）	洛氏硬度 C級硬度（3）
		標準球	碳化鎢壓球	A標度 荷重：60kgf 鑽石圓錐壓子 (HRA)	B標度 荷重：100kgf 直徑1.6mm (HRB)	D標度 荷重：100kgf 鑽石圓錐壓子 (HRD)	15 - N級 荷重：15kgf	30 - N級 荷重：30kgf	45 - N級 荷重：45kgf			
68	940			85.6		76.9	93.2	84.4	75.4	97		68
67	900			85		76.1	92.9	83.6	74.2	95		67
66	865			84.5		75.4	92.5	82.8	73.3	92		66
65	832		(739)	83.9		74.5	92.2	81.9	72	91		65
64	800		(722)	83.4		73.8	91.8	81.1	71	88		64
63	772		(705)	82.8		73	91.4	80.1	69.9	87		63
62	746		(688)	82.3		72.2	91.1	79.3	68.8	85		62
61	720		(670)	81.8		71.5	90.7	78.4	67.7	83		61
60	697		(654)	81.2		70.7	90.2	77.5	66.6	81		60
59	674		(634)	80.7		69.9	89.8	76.6	65.5	80		59
58	653		615	80.1		69.2	89.3	75.7	64.3	78		58
57	633		595	79.6		68.5	88.9	74.8	63.2	76		57
56	613		577	79		67.7	88.3	73.9	62	75		56
55	595		560	78.5		66.9	87.9	73	60.9	74	2075 (212)	55
54	577		543	78		66.1	87.4	72	59.8	72	2015 (205)	54
53	560		525	77.4		65.4	86.9	71.2	58.5	71	1950 (199)	53
52	544	(500)	512	76.8		64.6	86.4	70.2	57.4	69	1880 (192)	52
51	528	(487)	496	76.3		63.8	85.9	69.4	56.1	68	1820 (186)	51
50	513	(475)	481	75.9		63.1	85.5	68.5	55	67	1760 (179)	50
49	498	(464)	469	75.2		62.1	85	67.6	53.8	66	1695 (173)	49
48	484	451	455	74.7		61.4	84.5	66.7	52.5	64	1635 (167)	48
47	471	442	443	74.1		60.8	83.9	65.8	51.4	63	1580 (161)	47
46	458	432	432	73.6		60	83.5	64.8	50.3	62	1530 (156)	46
45	446	421	421	73.1		59.2	83	64	49	60	1480 (151)	45
44	434	409	409	72.5		58.5	82.5	63.1	47.8	58	1435 (146)	44
43	423	400	400	72		57.7	82	62.2	46.7	57	1385 (141)	43
42	412	390	390	71.5		56.9	81.5	61.3	45.5	56	1340 (136)	42
41	402	381	381	70.9		56.2	80.9	60.4	44.3	55	1295 (132)	41
40	392	371	371	70.4		55.4	80.4	59.5	43.1	54	1250 (127)	40
39	382	362	362	69.9		54.6	79.9	58.6	41.9	52	1215 (124)	39
38	372	353	353	69.4		53.8	79.4	57.7	40.8	51	1180 (120)	38
37	363	344	344	68.9		53.1	78.8	56.8	39.6	50	1160 (118)	37
36	354	336	336	68.4	(109)	52.3	78.3	55.9	38.4	49	1115 (114)	36
35	345	327	327	67.9	(108.5)	51.5	77.7	55	37.2	48	1080 (110)	35
34	336	319	319	67.4	(108)	50.8	77.2	54.2	36.1	47	1055 (108)	34
33	327	311	311	66.8	(107.5)	50	76.6	53.3	34.9	46	1025 (105)	33
32	318	301	301	66.3	(107)	49.2	76.1	52.1	33.7	44	1000 (102)	32
31	310	294	294	65.8	(106)	48.4	75.6	51.3	32.7	43	980 (100)	31
30	302	286	286	65.3	(105.5)	47.7	75	50.4	31.3	42	950 (97)	30
29	294	279	279	64.7	(104.5)	47	74.5	49.5	30.1	41	930 (95)	29
28	286	271	271	64.3	(104)	46.1	73.9	48.6	28.9	41	910 (93)	28
27	279	264	264	63.8	(103)	45.2	73.3	47.7	27.8	40	880 (90)	27
26	272	258	258	63.3	(102.5)	44.6	72.8	46.8	26.7	38	860 (88)	26
25	266	253	253	62.8	(101.5)	43.8	72.2	45.9	25.5	38	840 (86)	25
24	260	247	247	62.4	(101)	43.1	71.6	45	24.3	37	825 (84)	24
23	254	243	243	62	100	42.1	71	44	23.1	36	805 (82)	23
22	248	237	237	61.5	99	41.6	70.5	43.2	22	35	785 (80)	22
21	243	231	231	61	98.5	40.9	69.9	42.3	20.7	35	770 (79)	21
20	238	226	226	60.5	97.8	40.1	69.4	41.5	19.6	34	760 (77)	20
(18)	230	219	219		96.7					33	730 (75)	(18)
(16)	222	212	212		95.5					32	705 (72)	(16)
(14)	213	203	203		93.9					31	675 (69)	(14)
(12)	204	194	194		92.3					29	650 (66)	(12)
(10)	196	187	187		90.7					28	620 (63)	(10)
(8)	188	179	179		89.5					27	600 (61)	(8)
(6)	180	171	171		87.1					26	580 (59)	(6)
(4)	173	165	165		85.5					25	550 (56)	(4)
(2)	166	158	158		83.5					24	530 (54)	(2)
(0)	160	152	152		81.7					24	515 (53)	(0)

鑽頭的再研磨

SPEED TIGER

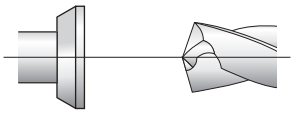
❶ Grinding of relief flank 後隙面的研磨

1.Utilize a drill grinding or a universal tool grinder.Set the point aging to 140° degrees and grind relief flank as having 8~12° degrees (B).
請使用鑽頭磨床或萬能刀具磨床將後隙面研磨為前端角度為 140° 並如圖(B)所示接近8~12° 的第2個角。

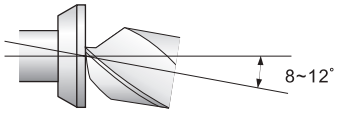
2.Fix the drill after incline it. Then grind relief flank as having 20° degrees as secondary. At this time, regrind it to meet the edge line of these two reliefs in the center line(C).
鑽頭繼續向後傾斜 10°，固定後將後隙面研磨至 20° 的第 3 個角。此時，將第 2、3 個角之間的棱線作為鑽頭中心進行研磨。

直　徑 Diameter	5mm以下 <5mm	13mm以下 <13mm	20mm以下 <20mm
第二個角 P	12°	10°	8°

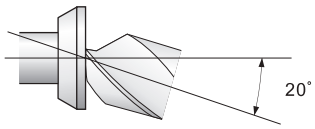
(A)



(B)



(C)



❷ WEB THINNING 薄削

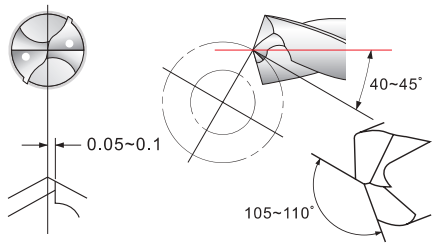
1. As show (D), incline drill in 40~55° degrees then grind the corner of secondary relief remaining 0.05~0.1mm. At this time, give attention not to grind the center of drill then remain approx 0.1mm.
請按照交叉(X)軌跡進行薄削。如圖(D)所示，鑽頭傾斜 40~45° 將第3個角部份研磨到剩下0.05~0.1mm 為止。此時請注意不要切到鑽頭的中心，鑽頭橫刃請保留0.1mm左右。

2.Rotate drill in 10~15° degree then grind it. And secure the pocket of 105~110° degree.
將鑽頭橫刃旋轉 10~15° 進行研磨，並確保 105~110° 的凹槽部位。

單位：mm

直徑Dia. 超過>	D 以下>	R
	5	0.3~0.7
5	9	0.5~1.3
9	13	0.9~1.7
13	18	1.5~2.3
18	20	1.9~2.7

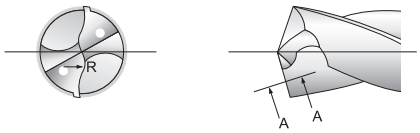
(D)

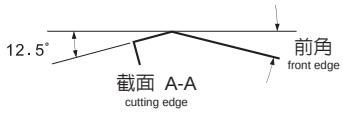


❸ Grinding 研磨

1.Grind chamfer on the cutting edge and thinning part.
切削刃與薄削刃的交叉點保持一個半徑 R 並倒圓。

2.Then grind the corner of the cutting edge and R thinning.
沿著刀片的整周外邊進行均衡的研磨。





❹ Inspection 至此完成了再研磨

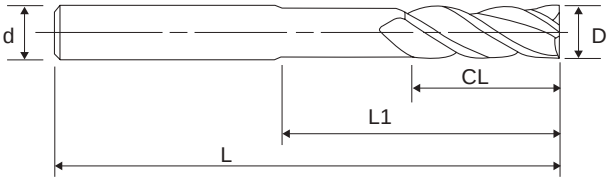
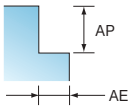
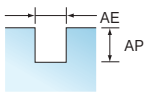
Please check the following points before using
確認以下內容並進行再塗層後使用。

- Lip height exist within 0.02mm.
  切削刃高度請保持在 0.02mm 內。
- No remainder of damage on cutting edges after regrinds.
  有無殘留的刀刃缺損未被研磨。
- Grinding is correct or not.
  研磨加工是否正確。
- Burry by regrind is removed.
  研磨的毛刺是否去除乾淨。

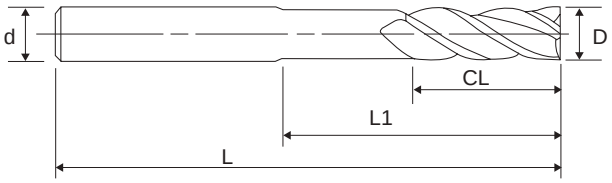
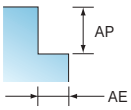
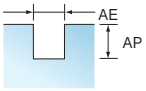
再研磨的砂輪 Grinding wheel

再研磨的位置 Grinding area		砂輪的種類 Grinding wheel	顆粒大小 Grain size
第2面、第3面 Relief Face		金剛石杯型 Diamond wheel(Cup Form)	200~270
薄削部位 Thinning		金剛石平型 Diamond wheel (straight Form)	200~270
倒圓 刀刃研磨加工 Honing	粗加工用 Roughing	金剛銼 Hand Lapper for roughing	400~600
	精加工用 Finishing	手工磨具 Hand Lapper for roughing	600~800

Custom Tool Design Inquiry Form

Work piece Material						
Hardness	☐HRC_____ ☐HB_____ ☐Other_____					
Type of Coating	☐ST standard(refer to our catalogue) ☐Uncoated ☐Customers Requirement _____					
Type of Flute Spiral	☐Right ☐Left					
No of Flutes	☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐Other_____					
Type of End Cut		☐Square		☐Corner Radius r=_____		☐ Ball R=_____
Type of Shank	☐No Side Lock ☐Side Lock					
Specification						
	D_____ CL_____ L1_____ L_____ d_____					
Application	☐Side Milling	Common side milling	*Side milling（側銑） 		ap:_____	
		Cavity			ae:_____	
	☐Slotting		*Slotting（溝銑） 		ap:_____	
	☐Drilling & Milling				ae:_____	
	Machine Processing		☐Finishing ☐Roughing ☐General Purpose ☐Other_____			
	Coolant Type		☐Soluble ☐Oil Coolant ☐Oil Mist ☐Dry Cutting ☐Air Cooling ☐Other_____			
	Tool Life Standard		☐Cutting Time ☐Load of Machine ☐Finish ☐Tool Wear ☐Vibration and Sound ☐Other_____			
	Desired Life					
	Finish Requirement		☐Required Roughness_____ ☐Not Required			
Other	Special Requirement					

訂製刀具需求表　SPEED TIGER

工件材質						
硬　　度	□HRC_____　□HB_____　□其他_____					
塗　　層	□我司標準塗層(詳見目錄)　□客戶指定塗層_____　□不需塗層					
螺旋類型	□右旋　□左旋					
刃　　數	□1　□2　□3　□4　□5　□6　□其他_____					
底刃形狀		□平刀		□圓鼻刀圓弧角r=_____		□球刀 半徑R=_____
柄部形狀	□無側固　□需側固					
各部尺寸						
	D_____ CL_____ L1_____ L_____ d_____					
加工形式	□側銑	普通側銑	*Side milling（側銑） 	ap:_____		
		腔銑		ae:_____		
	□槽銑		*Slotting（溝銑） 	ap:_____		
	□鑽銑			ae:_____		
	加工種類		□精加工　□粗加工　□通用加工　□其他_____			
	冷卻方式		□水冷　□油冷　□油霧 □乾式　□風冷　□其他_____			
	刀具壽命判定依據		□切削時間　□機床負載　□光潔度 □刀具磨損　□震動、聲音　□其他_____			
	刀具壽命要求					
	工件表面 質量要求		□有要求 具體粗糙度值_____　□無要求			
其他要求	(刀具材質、加工圖、特殊使用狀況)					

RD

High Precision Indexable Radius End Mills
高效捨棄式圓刀片

Multi-Purpose by ONE Insert, Stable Machining of High Hardness Steel, Stainless Steel, and General Purpose.

多功能捨棄式刀片–實現了單一刀具可穩定加工於高硬度、不銹鋼、和一般鋼材的通用性。

Cutting Conditions 切削條件	
Work material 工件： S45C	fz 每刃進給： 0.3mm/rev
Tool 刀架： RD072 D203 S20-150	Feed 進給速度： 2500mm/min
Insert 刀片： RDEW0702	Ap：1 mm Ae：4 mm
Vc 切削速度： 176m/min	Speed 轉速： 2800rpm