為什麼 選擇鶴峻 鎢鋼鑽頭？

因爲鶴峻擁有

- 品質符合國際標準
- 世界先進加工設備
- 歐美進口超微粒碳化鎢
- 獨特研發能力
- 交期迅速

鶴峻
鎢鋼鑽頭，
信賴的品質、性能、精度

鶴峻實業有限公司專業設計及生產全系列鎢鋼鑽頭，以不斷創新的經營理念，達到刀具產品技術、品質與管理的新境界。
我們融合理論與實務經驗，不斷致力於切削技術的鑽研。對於各種材料特性，更擁有獨特的知識背景。

多年來，我們在切削刀具研發，投入了無數的心血，也因此HOL歐樂系列刀具產品鑽頭的品質、性能、精度，已廣泛贏得國內外客戶的肯定。放眼未來，我們將以一步一腳印的步伐，強化企業體質，持續追求公司的成長茁壯。

Why you Should Choose HOLER Tungsten Carbide Drills ?

Here Are the Reasons!

- Quality reaches international standards
- Top-level advanced machining equipment
- Made with European ultra fine grain tungsten carbide material.
- Outstanding R&D team
- Short lead-time

HOLER Tungsten Carbide Drills Are Reliable in Quality, Performance, and Accuracy

HOLER Cutting Tool Co., Ltd specializes in design and manufacturing tungsten carbide drills. With the company's policy of constant breakthrough and innovation, we have dedicated ourselves to pursuing a new level of technology, quality and management. With the combination of theorem and practical experience, we always strive for research in cutting technology. In addition, we also have outstanding knowledge in material characteristics.

For years, we have spent great efforts on research and development of various cutting tools. These are some of the reasons why HOLER drills have fully satisfied all customers around the world in quality, performance, and accuracy. In the future, we will keep pursuing for progressing to improve customers' using experience with HOLER's products.

瑞士進口CNC刀具研磨機

Switzerland Imported CNC Tool Grinding Machine

鶴峻引進世界頂級瑞士CNC刀具研磨機。具五軸控制特點。保證每一隻鶴峻刀具都擁有最精密的幾何精度。

HOLER also introduces top-level advanced CNC tool grinding machine from Switzerland, which features 5-axes control. With this machine, we can guarantee the best possible geometric accuracy and the quality for each cutting tool from HOLER.

全系列精密加工設備

鶴峻刀具就是精密度的保證

鶴峻公司一貫堅持採用，先進精密的加工設備，符合客戶要求生產高精密的刀具，品質達到國際水準。本公司生產線擁有許多精密設備，例如：瑞士進口CNC刀具研磨機、CNC刀具加工中心機、圓筒磨床，以及CNC螺旋磨槽機……等。此外，本公司之專業技術人員，經驗豐富，秉持最嚴謹的精神，精心生產每一支刀具。

CNC非接觸式影像量測

先進的刀具檢驗，品質保證

為了確保HOL系列刀具產品的最佳品質，鶴峻品管部門採用先進的CNC非接觸式影像量測儀，徹底檢驗每支刀具品質，包括刀具輪廓、表面尺寸、角度及位置，使每支刀具展現獨特的加工精度與高效率。

Comprehensive Sophisticated Machining Equipment

Guaranteed for Accurate Drills & End mills

At HOLER, we believe that utilizing sophisticated equipment enables us to produce cutting tools with the highest accuracy, and to achieve high quality over customers' demands. Our modern production facility is fully equipped with many high precision machining equipments, such as Switzerland imported CNC tool grinding machine. In addition, our highly skilled technicians have extensive professional in precision tool manufacturing and fully dedicated to produce the best HOLER cutting tools.

CNC Non-contact Vision Measuring System

Advanced Tool Inspection ! Quality Guaranteed !

With an aim to ensure HOL series cutting tools to achieve the optimal guality, HOLDRILL's quality-control department employs an advanced CNC non-contact vision measuring system to thoroughly inspect each cutting tool quality. Inspection items include tool contour, sizes, angles and positions, allowing each tool to fully exhibit its exceptional machining accuracy and efficiency.

INDEX

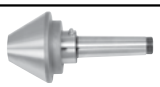
HOL DRILL 鎢鋼鑽頭系列

	HKD 內冷式全鎢鋼被覆鑽頭 DIN 6537 TUNGSTEN CARBIDE COATED DRILL WITH COOLANT THROUGH HOLE	P.9-11
	HOD 內冷式全鎢鋼被覆鑽頭 TUNGSTEN CARBIDE COATED DRILL WITH COOLANT THROUGH HOLE	P.12-13
	CFD 全鎢鋼被覆鑽頭 DIN 6537 TUNGSTEN CARBIDE COATED DRILL	P.14-16
	CCD 全鎢鋼被覆鑽頭 TUNGSTEN CARBIDE COATED DRILL	P.17-18
	TXD 焊刃式鎢鋼被覆鑽頭 TUNGSTEN CARBIDE WELDED COATED DRILL	P.19-21
	RSD 鎢鋼蝴蝶鑽 DIN 6537 TUNGSTEN CARBIDE R DRILL	P.22-24
	ROD 內冷式鎢鋼蝴蝶鑽 DIN 6537 TUNGSTEN CARBIDE R DRILL WITH COOLANT THROUGH HOLE	P.25-27
	GSD 鎢鋼四刃點鑽頭 DIN 6537 SOLID CARBIDE FOUR POINT CONTACT DRILL	P.28-29
	GOSD 內冷式四刃點全鎢鋼鑽頭DIN 6537 SOLID CARBIDE G DRILL WITH INTERNAL COOLANT	P.30-31
	GOD 內冷式四刃點全鎢鋼鑽頭 DIN 6537 SOLID CARBIDE FOUR POINT CONTACT DRILL WITH COOLANT THROUGH HOLE	P.32-33
	BBD 全鎢鋼被覆鑽頭 DIN 6537 TUNGSTEN CARBIDE COATED DRILL	P.34
	NSP NC定位鑽頭 SOLID CARBIDE NC POSITIONING DRILL	P.35
	PNSP NC定位鑽頭 SOLID CARBIDE NC POSITIONING DRILL	P.35
	HNSP NC定位鑽頭 SOLID CARBIDE NC POSITIONING DRILL	P.35
	全鎢鋼中心鑽 SOLID CARBIDE NCSPOTING CENTER BIT DRILL	P.36
	桃型捨棄式快速鑽頭 RAPID DRILLS(W) THROW-AWAY INSERT	P.37-38
	閃電型螺旋槽快速鑽頭 SPIRAL FLUTE HIGH SPEED DRILL	P.39
	切削數據參考表 CUTTING DATA CHART	P.40
	鑽頭切削實例 DRILL CUTTING TEST REPORT	P.41-42

■ HOL MILL 鎢鋼端銑刀系列

	鎢鋼 2刃球形立銑刀 TUNGSTEN CARBIDE 2-FLUTE BALL END MILL	P.45-47
	鎢鋼 4刃球形立銑刀 TUNGSTEN CARBIDE 4-FLUTE BALL END MILL	P.48-49
	鎢鋼 2刃立銑刀 TUNGSTEN CARBIDE 2-FLUTE END MILL	P.50
	鎢鋼 3刃立銑刀 TUNGSTEN CARBIDE 3-FLUTE END MILL	P.51
	鎢鋼 4刃立銑刀 TUNGSTEN CARBIDE 4-FLUTE END MILL	P.52
	鎢鋼 5,6,7刃立銑刀 TUNGSTEN CARBIDE 5,6,7-FLUTE END MILL	P.53
	鎢鋼 5刃立銑刀 TUNGSTEN CARBIDE 5-FLUTE END MILL	P.54
	鎢鋼 6刃立銑刀 TUNGSTEN CARBIDE 6-FLUTE END MILL	P.55
	鎢鋼 鋁用 2刃球形立銑刀 TUNGSTEN CARBIDE 2-FLUTE BALL END MILL	P.56
	鎢鋼 鋁用立銑刀 TUNGSTEN CARBIDE END MILL	P.57-58
	鎢鋼 波浪 鋁用立銑刀 TUNGSTEN CARBIDE SINUS EDGE ALUMINUM ROUGHING END MILL	P.59
	鎢鋼 鋁用重切削立銑刀 Tungsten Carbide Heavy Duty Aluminum End Mill	P.59
	鎢鋼 3刃波浪粗銑立銑刀 TUNGSTEN CARBIDE 3-FLUTE SINUS EDGE COARSE END MILL	P.60
	鎢鋼 3刃波浪 長刃型 粗銑立銑刀 TUNGSTEN CARBIDE 3-FLUTE SINUS EDGE LONG FLUTE COARSE END MILL	P.60
	鎢鋼 2刃 圓鼻 立銑刀 TUNGSTEN CARBIDE 2-FLUTE CORNER RADIUS END MILL	P.61
	鎢鋼 4刃 圓鼻 立銑刀 TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS END MILL	P.62-63
	鎢鋼 5,6刃 圓鼻 立銑刀 TUNGSTEN CARBIDE 5,6-FLUTE CORNER RADIUS END MILL	P.64
	鎢鋼 4刃 口袋型 立銑刀 TUNGSTEN CARBIDE 4-FLUTE POCKET TYPE END MILL	P.65
	鎢鋼 4刃內R 倒角立銑刀 TUNGSTEN CARBIDE 4-FLUTE INTERNAL R CHAMFERING END MILL	P.66
	全鎢鋼三刃倒角刀 TUNGSTEN CARBIDE 3-FLUTE CAHMFERING END MILL	P.67
	全鎢鋼倒角刀 TUNGSTEN CARBIDE CHAMFERING END MILL	P.67
	鎢鋼 4刃 重切削立銑刀 TUNGSTEN CARBIDE 4-FLUTE HEAVY DUTY END MILL	P.68
	鎢鋼 4刃圓鼻 重切削立銑刀 TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS HEAVY DUTY END MILL	P.69
	鎢鋼 4刃粗銑立銑刀 TUNGSTEN CARBIDE 4-FLUTE ROUGHING END MILL	P.70
	全鎢鋼鉸刀 TUNGSTEN CARBIDE REAMERS	P.71-73
	切削條件表	P.74-92
	捨棄式立銑刀 THROW-AWAY TYPE END MILL	P.93
	90° 端銑刀 END MILLING CUTTERS (90°)	P.94
	捨棄式立銑刀 THROW-AWAY TYPE END MILL 90° 殼形平面銑刀 END MILLING CUTTERS (90°)	P.95
	捨棄式粗銑立銑刀 THROW-AWAY TYPE COARSE CUTTING END MILL 捨棄式鉆立銑刀 THROW-AWAY TYPE DRILLING END MILL	P.96

INDEX

	PVD 各種硬質薄膜特性 PVD Hard Coating Properties	P.97
	鎢鋼材質表 TUNGSTEN CARBIDE MATELIAL PROPERTIES	P.98
	尺寸公差表 DIMENSIONAL TOLERANCE	P.99
	鑽頭磨損對策	P.100
	鎢鋼鑽頭之故障排除 TROUBLE SHOOTING FOR SOLID CARBIDE DRILL	P.101-102
	技術資料 TECHNICAL INFORMATION	P.103-104
	切削刀具使用注意事項	P.105
	對應鋼的韋氏之近似換算值	P.106
	全鎢鋼金屬圓鋸片 SOLD TUNGSTEN METAL CIRCULAR SAWBLADE	P.107-108
	HSS 小徑槽鋸片 HSS SMALL DIAMETER SLOTTING CIRCULAR SAWBLADE	P.109-110
	側銑刀系列 SIDE MILLING CUTTERS	P.111-114
	三角立型槽刀片 Holder For 3-Cutting Edges Grooving Insert	P.115
	PFA 內徑搪孔刀 Internal Boring Tool PFB 內徑後掃刀 Internal Back-Turn	P.117
	PFG 槽刀片 Internal Grooving	P.118
	PFG 圓槽刀片 Internal Radius PFS 內徑倒角刀 Internal Chamfering	P.119
	PFT 螺紋刀片 Internal Threading	P.120
	PG 刀片 Internal	P.121
	PFG 內徑刀桿 Holder For Internal Inserts	P.123
	切斷刀座 CUT-OFF TOOL HOLDER 切斷刀板 CUT-OFF KNIFE PLATE	P.124
	金鋼石切削工具 DIAMOND TURNING TOOLS	P.125-129
	替換型高速中負荷迴轉頂針 Interchangeable High Speed Medium Duty Live Center 固定型重負荷迴轉頂針 Fixed Heavy Duty Live Center	P.130
	固定細長型高速中負荷迴轉頂針 Fixed Long Type High Speed Medium Duty Live Center 替換型重負荷迴轉頂針 Interchangable Heavy Duty Live Center	P.131
	端面自動調整插式傳動頂針 Automatic End Adjustment Insert Type Transmitted Center	P.132
	傘型重重切削迴轉頂針 Cone Type Heavy Duty Live Center	P.133

鎢鋼鑽頭 系列

TUNGSTEN CARBIDE DRILLS

■ 鑽頭編號說明 DRILL MODEL NUMBER IDENTIFICATION

CCD - 5 102

鑽頭的種類
Ordering Information

CCD	全鎢鋼鑽頭 TUNGSTEN CARBIDE DRILL
CFD	銑刀柄全鎢鋼鑽頭 DIN 6537 TUNGSTEN CARBIDE DRILL With end mill shank size
HOD	內冷式全鎢鋼鑽頭 TUNGSTEN CARBIDE DRILL With coolant through hole
HKD	銑刀柄內冷式全鎢鋼鑽頭 DIN 6537 TUNGSTEN CARBIDE DRILL With end mill shank size and coolant though hole
TXD	焊刃式鎢鋼鑽頭 TUNGSTEN CARBIDE WELDED DRILL
RSD	鎢鋼蝴蝶鑽頭 DIN 6537 TUNGSTEN CARBIDE R DRILL
ROD	鎢鋼內冷式蝴蝶鑽頭 DIN 6537 TUNGSTEN CARBIDE R DRILL
GSD	鎢鋼四刃點鑽頭 DIN 6537 SOLID CARBIDE FOUR POINT CONTACT
GOD	內冷式四刃點全鎢鋼鑽頭 DIN 6537 SOLID CARBIDE FOUR POINT CONTACT DRILL With coolant through hole
BBD	高硬度材加工鑽頭 DIN 6537 TUNGSTEN CARBIDE DRILL
NSP	NC定點鑽頭 SOLID CARBIDE NC POSITIONING DRILL

刃長
Length of Flute

3	3倍 3-times
5	5倍 5-times
7	7倍 7 times
8	8倍 8 times

刃徑
Length Diameter

102=10.2 mm

鎢鋼鑽頭應用

鎢鋼鑽頭由於材料本身硬度高、耐磨耗，特別適用於高速加工，以及下列使用條件：

1.難削材料加工者(例：高硬度材料)。
2.不鏽鋼材料加工者。
3.量大、量產化、之生產線加工。
4.無人化之生產線加工。

Applications for Tungsten Carbide Drill

The tungsten carbide drills feature extra high hardness and high wear resistence. They are ideal for high speed machining and following cutting conditions:

1.Difficult to cut materials(such as extra high hardness materials.)
2.Stainless steel.
3.Mass Production.
4.Unmanned production line.

內冷式全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL WITH INTERNAL COOLANT

TIALN | λ 30° | DIN 6537

適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:

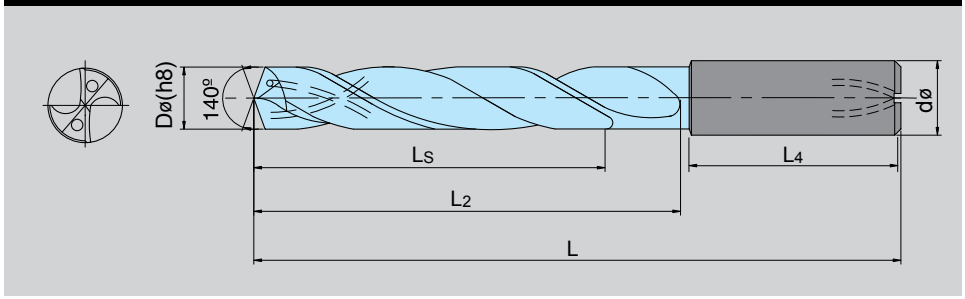
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 3031	3.1	4	22	62	36	14
HKD- 3032	3.2					
HKD- 3033	3.3					
HKD- 3034	3.4					
HKD- 3035	3.5					
HKD- 3036	3.6					
HKD- 3037	3.7					
HKD- 3038	3.8	4	26	66	36	17
HKD- 3039	3.9					
HKD- 3040	4.0					
HKD- 3041	4.1	6	26	66	36	17
HKD- 3042	4.2					
HKD- 3043	4.3					
HKD- 3044	4.4					
HKD- 3045	4.5					
HKD- 3046	4.6					
HKD- 3047	4.7					
HKD- 3048	4.8	6	30	66	36	20
HKD- 3049	4.9					
HKD- 3050	5.0					
HKD- 3051	5.1					
HKD- 3052	5.2					
HKD- 3053	5.3					
HKD- 3054	5.4					
HKD- 3055	5.5					
HKD- 3056	5.6					
HKD- 3057	5.7					
HKD- 3058	5.8					
HKD- 3059	5.9					
HKD- 3060	6.0					
HKD- 3061	6.1	8	38	79	36	24
HKD- 3062	6.2					
HKD- 3063	6.3					
HKD- 3064	6.4					
HKD- 3065	6.5					
HKD- 3066	6.6					
HKD- 3067	6.7					
HKD- 3068	6.8					
HKD- 3069	6.9					
HKD- 3070	7.0					
HKD- 3071	7.1	8	42	79	36	29
HKD- 3072	7.2					
HKD- 3073	7.3					
HKD- 3074	7.4					
HKD- 3075	7.5					
HKD- 3076	7.6					
HKD- 3077	7.7					
HKD- 3078	7.8					
HKD- 3079	7.9					
HKD- 3080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 3081	8.1	10	49	89	40	35
HKD- 3082	8.2					
HKD- 3083	8.3					
HKD- 3084	8.4					
HKD- 3085	8.5					
HKD- 3086	8.6					
HKD- 3087	8.7					
HKD- 3088	8.8					
HKD- 3089	8.9					
HKD- 3090	9.0					
HKD- 3091	9.1	10	49	89	40	35
HKD- 3092	9.2					
HKD- 3093	9.3					
HKD- 3094	9.4					
HKD- 3095	9.5					
HKD- 3096	9.6					
HKD- 3097	9.7					
HKD- 3098	9.8					
HKD- 3099	9.9					
HKD- 3100	10.0					
HKD- 3101	10.1	12	56	102	45	40
HKD- 3102	10.2					
HKD- 3103	10.3					
HKD- 3104	10.4					
HKD- 3105	10.5					
HKD- 3106	10.6					
HKD- 3107	10.7					
HKD- 3108	10.8					
HKD- 3109	10.9					
HKD- 3110	11.0					
HKD- 3111	11.1	12	56	102	45	40
HKD- 3112	11.2					
HKD- 3113	11.3					
HKD- 3114	11.4					
HKD- 3115	11.5					
HKD- 3116	11.6					
HKD- 3117	11.7					
HKD- 3118	11.8					
HKD- 3119	11.9					
HKD- 3120	12.0					
HKD- 3121	12.1	14	61	107	45	43
HKD- 3122	12.2					
HKD- 3123	12.3					
HKD- 3124	12.4					
HKD- 3125	12.5					
HKD- 3126	12.6					
HKD- 3127	12.7					
HKD- 3128	12.8					
HKD- 3129	12.9					
HKD- 3130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 3131	13.1	14	61	107	45	43
HKD- 3132	13.2					
HKD- 3133	13.3					
HKD- 3134	13.4					
HKD- 3135	13.5					
HKD- 3136	13.6					
HKD- 3137	13.7					
HKD- 3138	13.8					
HKD- 3139	13.9					
HKD- 3140	14.0					
HKD- 3141	14.1	16	65	115	48	45
HKD- 3142	14.2					
HKD- 3143	14.3					
HKD- 3144	14.4					
HKD- 3145	14.5					
HKD- 3146	14.6					
HKD- 3147	14.7					
HKD- 3148	14.8					
HKD- 3149	14.9					
HKD- 3150	15.0					
HKD- 3151	15.1	16	65	115	48	45
HKD- 3152	15.2					
HKD- 3153	15.3					
HKD- 3154	15.4					
HKD- 3155	15.5					
HKD- 3156	15.6					
HKD- 3157	15.7					
HKD- 3158	15.8					
HKD- 3159	15.9					
HKD- 3160	16.0					
HKD- 3165	16.5	18	73	123	48	51
HKD- 3170	17.0					
HKD- 3175	17.5					
HKD- 3180	18.0					
HKD- 3185	18.5	20	79	131	50	55
HKD- 3190	19.0					
HKD- 3195	19.5					
HKD- 3200	20.0					

Dø/ Diameter
dø/ Shank Diameter
L2/ Flute Length
L/ Overall Length
L4/ Shank Length
LS/ Length of Cut



● 中心内冷
● Internal Coolant

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 5031	3.1	4	28	66	36	23
HKD- 5032	3.2					
HKD- 5033	3.3					
HKD- 5034	3.4					
HKD- 5035	3.5					
HKD- 5036	3.6					
HKD- 5037	3.7					
HKD- 5038	3.8	4	36	74	36	29
HKD- 5039	3.9					
HKD- 5040	4.0					
HKD- 5041	4.1	6	36	74	36	29
HKD- 5042	4.2					
HKD- 5043	4.3					
HKD- 5044	4.4					
HKD- 5045	4.5					
HKD- 5046	4.6					
HKD- 5047	4.7					
HKD- 5048	4.8	6	44	82	36	35
HKD- 5049	4.9					
HKD- 5050	5.0					
HKD- 5051	5.1					
HKD- 5052	5.2					
HKD- 5053	5.3					
HKD- 5054	5.4					
HKD- 5055	5.5					
HKD- 5056	5.6					
HKD- 5057	5.7					
HKD- 5058	5.8					
HKD- 5059	5.9					
HKD- 5060	6.0					
HKD- 5061	6.1	8	53	91	36	43
HKD- 5062	6.2					
HKD- 5063	6.3					
HKD- 5064	6.4					
HKD- 5065	6.5					
HKD- 5066	6.6					
HKD- 5067	6.7					
HKD- 5068	6.8					
HKD- 5069	6.9					
HKD- 5070	7.0					
HKD- 5071	7.1	8	53	91	36	43
HKD- 5072	7.2					
HKD- 5073	7.3					
HKD- 5074	7.4					
HKD- 5075	7.5					
HKD- 5076	7.6					
HKD- 5077	7.7					
HKD- 5078	7.8					
HKD- 5079	7.9					
HKD- 5080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 5081	8.1	10	61	103	40	49
HKD- 5082	8.2					
HKD- 5083	8.3					
HKD- 5084	8.4					
HKD- 5085	8.5					
HKD- 5086	8.6					
HKD- 5087	8.7					
HKD- 5088	8.8					
HKD- 5089	8.9					
HKD- 5090	9.0					
HKD- 5091	9.1	10	61	103	40	49
HKD- 5092	9.2					
HKD- 5093	9.3					
HKD- 5094	9.4					
HKD- 5095	9.5					
HKD- 5096	9.6					
HKD- 5097	9.7					
HKD- 5098	9.8					
HKD- 5099	9.9					
HKD- 5100	10.0					
HKD- 5101	10.1	12	71	118	45	56
HKD- 5102	10.2					
HKD- 5103	10.3					
HKD- 5104	10.4					
HKD- 5105	10.5					
HKD- 5106	10.6					
HKD- 5107	10.7					
HKD- 5108	10.8					
HKD- 5109	10.9					
HKD- 5110	11.0					
HKD- 5111	11.1	12	71	118	45	56
HKD- 5112	11.2					
HKD- 5113	11.3					
HKD- 5114	11.4					
HKD- 5115	11.5					
HKD- 5116	11.6					
HKD- 5117	11.7					
HKD- 5118	11.8					
HKD- 5119	11.9					
HKD- 5120	12.0					
HKD- 5121	12.1	14	77	124	45	60
HKD- 5122	12.2					
HKD- 5123	12.3					
HKD- 5124	12.4					
HKD- 5125	12.5					
HKD- 5126	12.6					
HKD- 5127	12.7					
HKD- 5128	12.8					
HKD- 5129	12.9					
HKD- 5130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 5131	13.1	14	77	124	45	60
HKD- 5132	13.2					
HKD- 5133	13.3					
HKD- 5134	13.4					
HKD- 5135	13.5					
HKD- 5136	13.6					
HKD- 5137	13.7					
HKD- 5138	13.8					
HKD- 5139	13.9					
HKD- 5140	14.0					
HKD- 5141	14.1	16	83	133	48	63
HKD- 5142	14.2					
HKD- 5143	14.3					
HKD- 5144	14.4					
HKD- 5145	14.5					
HKD- 5146	14.6					
HKD- 5147	14.7					
HKD- 5148	14.8					
HKD- 5149	14.9					
HKD- 5150	15.0					
HKD- 5151	15.1	16	83	133	48	63
HKD- 5152	15.2					
HKD- 5153	15.3					
HKD- 5154	15.4					
HKD- 5155	15.5					
HKD- 5156	15.6					
HKD- 5157	15.7					
HKD- 5158	15.8					
HKD- 5159	15.9					
HKD- 5160	16.0					
HKD- 5165	16.5	18	93	143	48	71
HKD- 5170	17.0					
HKD- 5175	17.5					
HKD- 5180	18.0					
HKD- 5185	18.5	20	101	153	50	77
HKD- 5190	19.0					
HKD- 5195	19.5					
HKD- 5200	20.0					

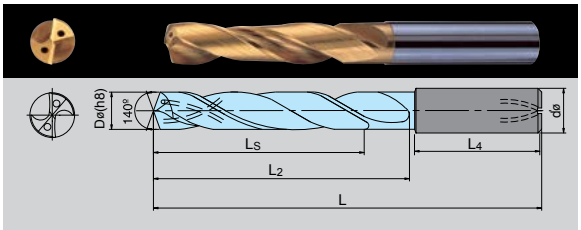
Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

內冷式全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL WITH INTERNAL COOLANT

TIALN | λ 30° | DIN 6537

- 中心內冷
- Internal Coolant



適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 8031	3.1	4	34	72	36	29
HKD- 8032	3.2					
HKD- 8033	3.3					
HKD- 8034	3.4					
HKD- 8035	3.5					
HKD- 8036	3.6					
HKD- 8037	3.7					
HKD- 8038	3.8	4	43	81	36	36
HKD- 8039	3.9					
HKD- 8040	4.0					
HKD- 8041	4.1	6	43	81	36	36
HKD- 8042	4.2					
HKD- 8043	4.3					
HKD- 8044	4.4					
HKD- 8045	4.5					
HKD- 8046	4.6					
HKD- 8047	4.7					
HKD- 8048	4.8	6	57	95	36	48
HKD- 8049	4.9					
HKD- 8050	5.0					
HKD- 8051	5.1					
HKD- 8052	5.2					
HKD- 8053	5.3					
HKD- 8054	5.4					
HKD- 8055	5.5					
HKD- 8056	5.6					
HKD- 8057	5.7					
HKD- 8058	5.8					
HKD- 8059	5.9					
HKD- 8060	6.0					
HKD- 8061	6.1	8	76	114	36	64
HKD- 8062	6.2					
HKD- 8063	6.3					
HKD- 8064	6.4					
HKD- 8065	6.5					
HKD- 8066	6.6					
HKD- 8067	6.7					
HKD- 8068	6.8					
HKD- 8069	6.9					
HKD- 8070	7.0					
HKD- 8071	7.1	8	76	114	36	64
HKD- 8072	7.2					
HKD- 8073	7.3					
HKD- 8074	7.4					
HKD- 8075	7.5					
HKD- 8076	7.6					
HKD- 8077	7.7					
HKD- 8078	7.8					
HKD- 8079	7.9					
HKD- 8080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 8081	8.1	10	95	142	40	80
HKD- 8082	8.2					
HKD- 8083	8.3					
HKD- 8084	8.4					
HKD- 8085	8.5					
HKD- 8086	8.6					
HKD- 8087	8.7					
HKD- 8088	8.8					
HKD- 8089	8.9					
HKD- 8090	9.0					
HKD- 8091	9.1	10	95	142	40	80
HKD- 8092	9.2					
HKD- 8093	9.3					
HKD- 8094	9.4					
HKD- 8095	9.5					
HKD- 8096	9.6					
HKD- 8097	9.7					
HKD- 8098	9.8					
HKD- 8099	9.9					
HKD- 8100	10.0					
HKD- 8101	10.1	12	114	162	45	96
HKD- 8102	10.2					
HKD- 8103	10.3					
HKD- 8104	10.4					
HKD- 8105	10.5					
HKD- 8106	10.6					
HKD- 8107	10.7					
HKD- 8108	10.8					
HKD- 8109	10.9					
HKD- 8110	11.0					
HKD- 8111	11.1	12	114	162	45	96
HKD- 8112	11.2					
HKD- 8113	11.3					
HKD- 8114	11.4					
HKD- 8115	11.5					
HKD- 8116	11.6					
HKD- 8117	11.7					
HKD- 8118	11.8					
HKD- 8119	11.9					
HKD- 8120	12.0					
HKD- 8121	12.1	14	133	178	45	112
HKD- 8122	12.2					
HKD- 8123	12.3					
HKD- 8124	12.4					
HKD- 8125	12.5					
HKD- 8126	12.6					
HKD- 8127	12.7					
HKD- 8128	12.8					
HKD- 8129	12.9					
HKD- 8130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HKD- 8131	13.1	14	133	178	45	112
HKD- 8132	13.2					
HKD- 8133	13.3					
HKD- 8134	13.4					
HKD- 8135	13.5					
HKD- 8136	13.6					
HKD- 8137	13.7					
HKD- 8138	13.8					
HKD- 8139	13.9					
HKD- 8140	14.0					
HKD- 8141	14.1	16	152	203	48	128
HKD- 8142	14.2					
HKD- 8143	14.3					
HKD- 8144	14.4					
HKD- 8145	14.5					
HKD- 8146	14.6					
HKD- 8147	14.7					
HKD- 8148	14.8					
HKD- 8149	14.9					
HKD- 8150	15.0					
HKD- 8151	15.1	16	152	203	48	128
HKD- 8152	15.2					
HKD- 8153	15.3					
HKD- 8154	15.4					
HKD- 8155	15.5					
HKD- 8156	15.6					
HKD- 8157	15.7					
HKD- 8158	15.8					
HKD- 8159	15.9					
HKD- 8160	16.0					
HKD- 8165	16.5	18	171	222	48	144
HKD- 8170	17.0					
HKD- 8175	17.5					
HKD- 8180	18.0					
HKD- 8185	18.5	20	190	243	50	160
HKD- 8190	19.0					
HKD- 8195	19.5					
HKD- 8200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
Ls/ Length of Cut

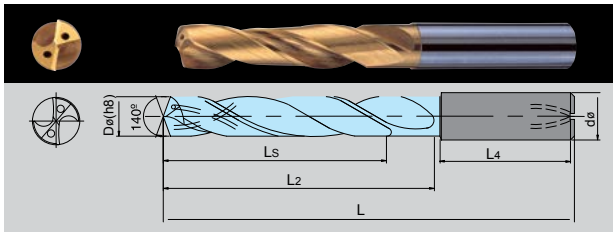
內冷式全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL WITH INTERNAL COOLANT

TIALN

λ 30°

- 中心內冷
- Internal Coolant



適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
HOD- 4030	3.0	3	18	52	32	13
HOD- 4031	3.1	4	20	56	34	15
HOD- 4032	3.2					
HOD- 4033	3.3					
HOD- 4034	3.4					
HOD- 4035	3.5					
HOD- 4036	3.6		22	58	34	16
HOD- 4037	3.7					
HOD- 4038	3.8					
HOD- 4039	3.9					
HOD- 4040	4.0					
HOD- 4041	4.1	5	28	66	36	20
HOD- 4042	4.2					
HOD- 4043	4.3					
HOD- 4044	4.4					
HOD- 4045	4.5					
HOD- 4046	4.6					
HOD- 4047	4.7					
HOD- 4048	4.8					
HOD- 4049	4.9					
HOD- 4050	5.0					
HOD- 4051	5.1	6	34	72	36	25
HOD- 4052	5.2					
HOD- 4053	5.3					
HOD- 4054	5.4					
HOD- 4055	5.5					
HOD- 4056	5.6					
HOD- 4057	5.7					
HOD- 4058	5.8					
HOD- 4059	5.9					
HOD- 4060	6.0					
HOD- 4061	6.1	7	38	76	36	28
HOD- 4062	6.2					
HOD- 4063	6.3					
HOD- 4064	6.4					
HOD- 4065	6.5					
HOD- 4066	6.6					
HOD- 4067	6.7					
HOD- 4068	6.8					
HOD- 4069	6.9					
HOD- 4070	7.0					
HOD- 4071	7.1	8	44	82	36	32
HOD- 4072	7.2					
HOD- 4073	7.3					
HOD- 4074	7.4					
HOD- 4075	7.5					
HOD- 4076	7.6	8	44	82	36	32
HOD- 4077	7.7					
HOD- 4078	7.8					
HOD- 4079	7.9					
HOD- 4080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HOD- 4081	8.1	9	50	92	40	38
HOD- 4082	8.2					
HOD- 4083	8.3					
HOD- 4084	8.4					
HOD- 4085	8.5					
HOD- 4086	8.6					
HOD- 4087	8.7					
HOD- 4088	8.8					
HOD- 4089	8.9					
HOD- 4090	9.0					
HOD- 4091	9.1	10	58	100	40	43
HOD- 4092	9.2					
HOD- 4093	9.3					
HOD- 4094	9.4					
HOD- 4095	9.5					
HOD- 4096	9.6					
HOD- 4097	9.7					
HOD- 4098	9.8					
HOD- 4099	9.9					
HOD- 4100	10.0					
HOD- 4101	10.1	11	60	107	45	45
HOD- 4102	10.2					
HOD- 4103	10.3					
HOD- 4104	10.4					
HOD- 4105	10.5					
HOD- 4106	10.6					
HOD- 4107	10.7					
HOD- 4108	10.8					
HOD- 4109	10.9					
HOD- 4110	11.0					
HOD- 4111	11.1	12	63	110	45	47
HOD- 4112	11.2					
HOD- 4113	11.3					
HOD- 4114	11.4					
HOD- 4115	11.5					
HOD- 4116	11.6					
HOD- 4117	11.7					
HOD- 4118	11.8					
HOD- 4119	11.9					
HOD- 4120	12.0					
HOD- 4121	12.1	13	71	118	45	54
HOD- 4122	12.2					
HOD- 4123	12.3					
HOD- 4124	12.4					
HOD- 4125	12.5					
HOD- 4126	12.6					
HOD- 4127	12.7					
HOD- 4128	12.8					
HOD- 4129	12.9					
HOD- 4130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HOD- 4131	13.1	14	77	124	45	58
HOD- 4132	13.2					
HOD- 4133	13.3					
HOD- 4134	13.4					
HOD- 4135	13.5					
HOD- 4136	13.6					
HOD- 4137	13.7					
HOD- 4138	13.8					
HOD- 4139	13.9					
HOD- 4140	14.0					
HOD- 4141	14.1	15	83	133	48	63
HOD- 4142	14.2					
HOD- 4143	14.3					
HOD- 4144	14.4					
HOD- 4145	14.5					
HOD- 4146	14.6					
HOD- 4147	14.7					
HOD- 4148	14.8					
HOD- 4149	14.9					
HOD- 4150	15.0					
HOD- 4155	15.5	16	83	133	48	63
HOD- 4160	16.0					
HOD- 4165	16.5	17	93	143	48	71
HOD- 4170	17.0					
HOD- 4175	17.5	18	93	143	48	71
HOD- 4180	18.0					
HOD- 4185	18.5	19	101	153	50	77
HOD- 4190	19.0					
HOD- 4195	19.5	20	101	153	50	77
HOD- 4200	20.0					

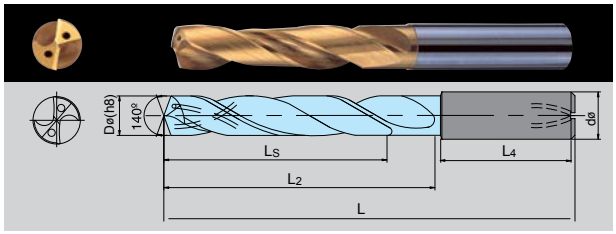
Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
Ls/ Length of Cut

內冷式全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL WITH INTERNAL COOLANT

TIALN

λ 30°



適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:

General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
HOD- 6030	3.0	3	24	58	32	19
HOD- 6031	3.1	4	28	64	34	21
HOD- 6032	3.2					
HOD- 6033	3.3					
HOD- 6034	3.4					
HOD- 6035	3.5					
HOD- 6036	3.6		30	66	34	24
HOD- 6037	3.7					
HOD- 6038	3.8					
HOD- 6039	3.9					
HOD- 6040	4.0					
HOD- 6041	4.1	5	38	76	36	30
HOD- 6042	4.2					
HOD- 6043	4.3					
HOD- 6044	4.4					
HOD- 6045	4.5					
HOD- 6046	4.6					
HOD- 6047	4.7					
HOD- 6048	4.8					
HOD- 6049	4.9					
HOD- 6050	5.0					
HOD- 6051	5.1	6	45	83	36	36
HOD- 6052	5.2					
HOD- 6053	5.3					
HOD- 6054	5.4					
HOD- 6055	5.5					
HOD- 6056	5.6					
HOD- 6057	5.7					
HOD- 6058	5.8					
HOD- 6059	5.9					
HOD- 6060	6.0					
HOD- 6061	6.1	7	52	90	36	42
HOD- 6062	6.2					
HOD- 6063	6.3					
HOD- 6064	6.4					
HOD- 6065	6.5					
HOD- 6066	6.6					
HOD- 6067	6.7					
HOD- 6068	6.8					
HOD- 6069	6.9					
HOD- 6070	7.0					
HOD- 6071	7.1	8	60	98	36	48
HOD- 6072	7.2					
HOD- 6073	7.3					
HOD- 6074	7.4					
HOD- 6075	7.5					
HOD- 6076	7.6	8	60	98	36	48
HOD- 6077	7.7					
HOD- 6078	7.8					
HOD- 6079	7.9					
HOD- 6080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
HOD- 6081	8.1	9	66	108	40	54
HOD- 6082	8.2					
HOD- 6083	8.3					
HOD- 6084	8.4					
HOD- 6085	8.5					
HOD- 6086	8.6					
HOD- 6087	8.7					
HOD- 6088	8.8					
HOD- 6089	8.9					
HOD- 6090	9.0					
HOD- 6091	9.1	10	75	117	40	60
HOD- 6092	9.2					
HOD- 6093	9.3					
HOD- 6094	9.4					
HOD- 6095	9.5					
HOD- 6096	9.6					
HOD- 6097	9.7					
HOD- 6098	9.8					
HOD- 6099	9.9					
HOD- 6100	10.0					
HOD- 6101	10.1	11	83	130	45	67
HOD- 6102	10.2					
HOD- 6103	10.3					
HOD- 6104	10.4					
HOD- 6105	10.5					
HOD- 6106	10.6					
HOD- 6107	10.7					
HOD- 6108	10.8					
HOD- 6109	10.9					
HOD- 6110	11.0					
HOD- 6111	11.1	12	90	137	45	72
HOD- 6112	11.2					
HOD- 6113	11.3					
HOD- 6114	11.4					
HOD- 6115	11.5					
HOD- 6116	11.6					
HOD- 6117	11.7					
HOD- 6118	11.8					
HOD- 6119	11.9					
HOD- 6120	12.0					
HOD- 6121	12.1	13	98	145	45	78
HOD- 6122	12.2					
HOD- 6123	12.3					
HOD- 6124	12.4					
HOD- 6125	12.5					
HOD- 6126	12.6					
HOD- 6127	12.7					
HOD- 6128	12.8					
HOD- 6129	12.9					
HOD- 6130	13.0					

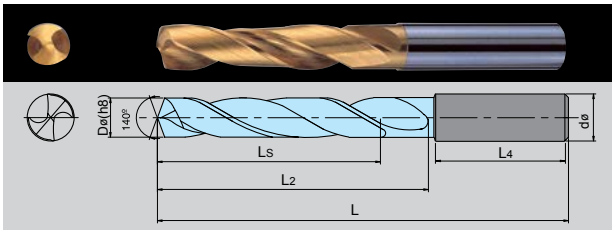
EDP No.	Dø	dø	L2	L	L4	Ls
HOD- 6131	13.1	14	105	152	45	85
HOD- 6132	13.2					
HOD- 6133	13.3					
HOD- 6134	13.4					
HOD- 6135	13.5					
HOD- 6136	13.6					
HOD- 6137	13.7					
HOD- 6138	13.8					
HOD- 6139	13.9					
HOD- 6140	14.0					
HOD- 6141	14.1	15	115	165	48	95
HOD- 6142	14.2					
HOD- 6143	14.3					
HOD- 6144	14.4					
HOD- 6145	14.5					
HOD- 6146	14.6					
HOD- 6147	14.7					
HOD- 6148	14.8					
HOD- 6149	14.9					
HOD- 6150	15.0					
HOD- 6155	15.5	16	115	165	48	95
HOD- 6160	16.0					
HOD- 6165	16.5	17	130	180	48	105
HOD- 6170	17.0					
HOD- 6175	17.5	18	130	180	48	105
HOD- 6180	18.0					
HOD- 6185	18.5	19	150	202	50	120
HOD- 6190	19.0					
HOD- 6195	19.5	20	150	202	50	120
HOD- 6200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL

TIALN | λ 30° | DIN 6537



適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:

General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 3031	3.1	4	22	62	36	14
CFD- 3032	3.2					
CFD- 3033	3.3					
CFD- 3034	3.4					
CFD- 3035	3.5					
CFD- 3036	3.6					
CFD- 3037	3.7					
CFD- 3038	3.8	4	26	66	36	17
CFD- 3039	3.9					
CFD- 3040	4.0					
CFD- 3041	4.1	6	26	66	36	17
CFD- 3042	4.2					
CFD- 3043	4.3					
CFD- 3044	4.4					
CFD- 3045	4.5					
CFD- 3046	4.6					
CFD- 3047	4.7					
CFD- 3048	4.8	6	30	66	36	20
CFD- 3049	4.9					
CFD- 3050	5.0					
CFD- 3051	5.1					
CFD- 3052	5.2					
CFD- 3053	5.3					
CFD- 3054	5.4					
CFD- 3055	5.5					
CFD- 3056	5.6					
CFD- 3057	5.7					
CFD- 3058	5.8					
CFD- 3059	5.9					
CFD- 3060	6.0					
CFD- 3061	6.1	8	38	79	36	24
CFD- 3062	6.2					
CFD- 3063	6.3					
CFD- 3064	6.4					
CFD- 3065	6.5					
CFD- 3066	6.6					
CFD- 3067	6.7					
CFD- 3068	6.8					
CFD- 3069	6.9					
CFD- 3070	7.0					
CFD- 3071	7.1	8	42	79	36	29
CFD- 3072	7.2					
CFD- 3073	7.3					
CFD- 3074	7.4					
CFD- 3075	7.5					
CFD- 3076	7.6					
CFD- 3077	7.7					
CFD- 3078	7.8					
CFD- 3079	7.9					
CFD- 3080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 3081	8.1	10	49	89	40	35
CFD- 3082	8.2					
CFD- 3083	8.3					
CFD- 3084	8.4					
CFD- 3085	8.5					
CFD- 3086	8.6					
CFD- 3087	8.7					
CFD- 3088	8.8					
CFD- 3089	8.9					
CFD- 3090	9.0					
CFD- 3091	9.1	10	49	89	40	35
CFD- 3092	9.2					
CFD- 3093	9.3					
CFD- 3094	9.4					
CFD- 3095	9.5					
CFD- 3096	9.6					
CFD- 3097	9.7					
CFD- 3098	9.8					
CFD- 3099	9.9					
CFD- 3100	10.0					
CFD- 3101	10.1	12	56	102	45	40
CFD- 3102	10.2					
CFD- 3103	10.3					
CFD- 3104	10.4					
CFD- 3105	10.5					
CFD- 3106	10.6					
CFD- 3107	10.7					
CFD- 3108	10.8					
CFD- 3109	10.9					
CFD- 3110	11.0					
CFD- 3111	11.1	12	56	102	45	40
CFD- 3112	11.2					
CFD- 3113	11.3					
CFD- 3114	11.4					
CFD- 3115	11.5					
CFD- 3116	11.6					
CFD- 3117	11.7					
CFD- 3118	11.8					
CFD- 3119	11.9					
CFD- 3120	12.0					
CFD- 3121	12.1	14	61	107	45	43
CFD- 3122	12.2					
CFD- 3123	12.3					
CFD- 3124	12.4					
CFD- 3125	12.5					
CFD- 3126	12.6					
CFD- 3127	12.7					
CFD- 3128	12.8					
CFD- 3129	12.9					
CFD- 3130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 3131	13.1	14	61	107	45	43
CFD- 3132	13.2					
CFD- 3133	13.3					
CFD- 3134	13.4					
CFD- 3135	13.5					
CFD- 3136	13.6					
CFD- 3137	13.7					
CFD- 3138	13.8					
CFD- 3139	13.9					
CFD- 3140	14.0					
CFD- 3141	14.1	16	65	115	48	45
CFD- 3142	14.2					
CFD- 3143	14.3					
CFD- 3144	14.4					
CFD- 3145	14.5					
CFD- 3146	14.6					
CFD- 3147	14.7					
CFD- 3148	14.8					
CFD- 3149	14.9					
CFD- 3150	15.0					
CFD- 3151	15.1	16	65	115	48	45
CFD- 3152	15.2					
CFD- 3153	15.3					
CFD- 3154	15.4					
CFD- 3155	15.5					
CFD- 3156	15.6					
CFD- 3157	15.7					
CFD- 3158	15.8					
CFD- 3159	15.9					
CFD- 3160	16.0					
CFD- 3165	16.5	18	73	123	48	51
CFD- 3170	17.0					
CFD- 3175	17.5					
CFD- 3180	18.0					
CFD- 3185	18.5	20	79	131	50	55
CFD- 3190	19.0					
CFD- 3195	19.5					
CFD- 3200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL

TIALN | λ 30° | DIN 6537

適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:

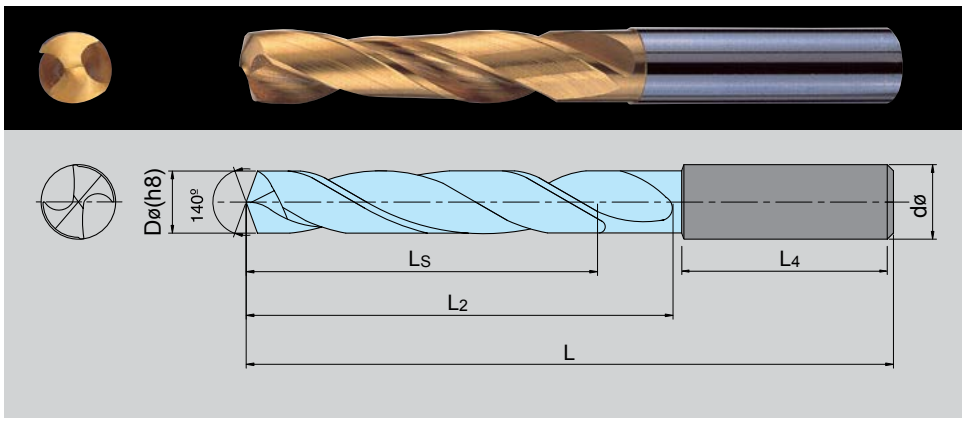
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 5031	3.1	4	28	66	36	23
CFD- 5032	3.2					
CFD- 5033	3.3					
CFD- 5034	3.4					
CFD- 5035	3.5					
CFD- 5036	3.6					
CFD- 5037	3.7					
CFD- 5038	3.8	4	36	74	36	29
CFD- 5039	3.9					
CFD- 5040	4.0					
CFD- 5041	4.1	6	36	74	36	29
CFD- 5042	4.2					
CFD- 5043	4.3					
CFD- 5044	4.4					
CFD- 5045	4.5					
CFD- 5046	4.6					
CFD- 5047	4.7					
CFD- 5048	4.8	6	44	82	36	35
CFD- 5049	4.9					
CFD- 5050	5.0					
CFD- 5051	5.1					
CFD- 5052	5.2					
CFD- 5053	5.3					
CFD- 5054	5.4					
CFD- 5055	5.5					
CFD- 5056	5.6					
CFD- 5057	5.7					
CFD- 5058	5.8					
CFD- 5059	5.9					
CFD- 5060	6.0					
CFD- 5061	6.1	8	53	91	36	43
CFD- 5062	6.2					
CFD- 5063	6.3					
CFD- 5064	6.4					
CFD- 5065	6.5					
CFD- 5066	6.6					
CFD- 5067	6.7					
CFD- 5068	6.8					
CFD- 5069	6.9					
CFD- 5070	7.0					
CFD- 5071	7.1	8	53	91	36	43
CFD- 5072	7.2					
CFD- 5073	7.3					
CFD- 5074	7.4					
CFD- 5075	7.5					
CFD- 5076	7.6					
CFD- 5077	7.7					
CFD- 5078	7.8					
CFD- 5079	7.9					
CFD- 5080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 5081	8.1	10	61	103	40	49
CFD- 5082	8.2					
CFD- 5083	8.3					
CFD- 5084	8.4					
CFD- 5085	8.5					
CFD- 5086	8.6					
CFD- 5087	8.7					
CFD- 5088	8.8					
CFD- 5089	8.9					
CFD- 5090	9.0					
CFD- 5091	9.1	10	61	103	40	49
CFD- 5092	9.2					
CFD- 5093	9.3					
CFD- 5094	9.4					
CFD- 5095	9.5					
CFD- 5096	9.6					
CFD- 5097	9.7					
CFD- 5098	9.8					
CFD- 5099	9.9					
CFD- 5100	10.0					
CFD- 5101	10.1	12	71	118	45	56
CFD- 5102	10.2					
CFD- 5103	10.3					
CFD- 5104	10.4					
CFD- 5105	10.5					
CFD- 5106	10.6					
CFD- 5107	10.7					
CFD- 5108	10.8					
CFD- 5109	10.9					
CFD- 5110	11.0					
CFD- 5111	11.1	12	71	118	45	56
CFD- 5112	11.2					
CFD- 5113	11.3					
CFD- 5114	11.4					
CFD- 5115	11.5					
CFD- 5116	11.6					
CFD- 5117	11.7					
CFD- 5118	11.8					
CFD- 5119	11.9					
CFD- 5120	12.0					
CFD- 5121	12.1	14	77	124	45	60
CFD- 5122	12.2					
CFD- 5123	12.3					
CFD- 5124	12.4					
CFD- 5125	12.5					
CFD- 5126	12.6					
CFD- 5127	12.7					
CFD- 5128	12.8					
CFD- 5129	12.9					
CFD- 5130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 5131	13.1	14	77	124	45	60
CFD- 5132	13.2					
CFD- 5133	13.3					
CFD- 5134	13.4					
CFD- 5135	13.5					
CFD- 5136	13.6					
CFD- 5137	13.7					
CFD- 5138	13.8					
CFD- 5139	13.9					
CFD- 5140	14.0					
CFD- 5141	14.1	16	83	133	48	63
CFD- 5142	14.2					
CFD- 5143	14.3					
CFD- 5144	14.4					
CFD- 5145	14.5					
CFD- 5146	14.6					
CFD- 5147	14.7					
CFD- 5148	14.8					
CFD- 5149	14.9					
CFD- 5150	15.0					
CFD- 5151	15.1	16	83	133	48	63
CFD- 5152	15.2					
CFD- 5153	15.3					
CFD- 5154	15.4					
CFD- 5155	15.5					
CFD- 5156	15.6					
CFD- 5157	15.7					
CFD- 5158	15.8					
CFD- 5159	15.9					
CFD- 5160	16.0					
CFD- 5165	16.5	18	93	143	48	71
CFD- 5170	17.0					
CFD- 5175	17.5					
CFD- 5180	18.0					
CFD- 5185	18.5	20	101	153	50	77
CFD- 5190	19.0					
CFD- 5195	19.5					
CFD- 5200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut



EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 8031	3.1	4	34	72	36	29
CFD- 8032	3.2					
CFD- 8033	3.3					
CFD- 8034	3.4					
CFD- 8035	3.5					
CFD- 8036	3.6					
CFD- 8037	3.7					
CFD- 8038	3.8	4	43	81	36	36
CFD- 8039	3.9					
CFD- 8040	4.0					
CFD- 8041	4.1	6	43	81	36	36
CFD- 8042	4.2					
CFD- 8043	4.3					
CFD- 8044	4.4					
CFD- 8045	4.5					
CFD- 8046	4.6					
CFD- 8047	4.7					
CFD- 8048	4.8	6	57	95	36	48
CFD- 8049	4.9					
CFD- 8050	5.0					
CFD- 8051	5.1					
CFD- 8052	5.2					
CFD- 8053	5.3					
CFD- 8054	5.4					
CFD- 8055	5.5					
CFD- 8056	5.6					
CFD- 8057	5.7					
CFD- 8058	5.8					
CFD- 8059	5.9					
CFD- 8060	6.0					
CFD- 8061	6.1	8	76	114	36	64
CFD- 8062	6.2					
CFD- 8063	6.3					
CFD- 8064	6.4					
CFD- 8065	6.5					
CFD- 8066	6.6					
CFD- 8067	6.7					
CFD- 8068	6.8					
CFD- 8069	6.9					
CFD- 8070	7.0					
CFD- 8071	7.1	8	76	114	36	64
CFD- 8072	7.2					
CFD- 8073	7.3					
CFD- 8074	7.4					
CFD- 8075	7.5					
CFD- 8076	7.6					
CFD- 8077	7.7					
CFD- 8078	7.8					
CFD- 8079	7.9					
CFD- 8080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 8081	8.1	10	95	142	40	80
CFD- 8082	8.2					
CFD- 8083	8.3					
CFD- 8084	8.4					
CFD- 8085	8.5					
CFD- 8086	8.6					
CFD- 8087	8.7					
CFD- 8088	8.8					
CFD- 8089	8.9					
CFD- 8090	9.0					
CFD- 8091	9.1	10	95	142	40	80
CFD- 8092	9.2					
CFD- 8093	9.3					
CFD- 8094	9.4					
CFD- 8095	9.5					
CFD- 8096	9.6					
CFD- 8097	9.7					
CFD- 8098	9.8					
CFD- 8099	9.9					
CFD- 8100	10.0					
CFD- 8101	10.1	12	114	162	45	96
CFD- 8102	10.2					
CFD- 8103	10.3					
CFD- 8104	10.4					
CFD- 8105	10.5					
CFD- 8106	10.6					
CFD- 8107	10.7					
CFD- 8108	10.8					
CFD- 8109	10.9					
CFD- 8110	11.0					
CFD- 8111	11.1	12	114	162	45	96
CFD- 8112	11.2					
CFD- 8113	11.3					
CFD- 8114	11.4					
CFD- 8115	11.5					
CFD- 8116	11.6					
CFD- 8117	11.7					
CFD- 8118	11.8					
CFD- 8119	11.9					
CFD- 8120	12.0					
CFD- 8121	12.1	14	133	178	45	112
CFD- 8122	12.2					
CFD- 8123	12.3					
CFD- 8124	12.4					
CFD- 8125	12.5					
CFD- 8126	12.6					
CFD- 8127	12.7					
CFD- 8128	12.8					
CFD- 8129	12.9					
CFD- 8130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CFD- 8131	13.1	14	133	178	45	112
CFD- 8132	13.2					
CFD- 8133	13.3					
CFD- 8134	13.4					
CFD- 8135	13.5					
CFD- 8136	13.6					
CFD- 8137	13.7					
CFD- 8138	13.8					
CFD- 8139	13.9					
CFD- 8140	14.0					
CFD- 8141	14.1	16	152	203	48	128
CFD- 8142	14.2					
CFD- 8143	14.3					
CFD- 8144	14.4					
CFD- 8145	14.5					
CFD- 8146	14.6					
CFD- 8147	14.7					
CFD- 8148	14.8					
CFD- 8149	14.9					
CFD- 8150	15.0					
CFD- 8151	15.1	16	152	203	48	128
CFD- 8152	15.2					
CFD- 8153	15.3					
CFD- 8154	15.4					
CFD- 8155	15.5					
CFD- 8156	15.6					
CFD- 8157	15.7					
CFD- 8158	15.8					
CFD- 8159	15.9					
CFD- 8160	16.0					
CFD- 8165	16.5	18	171	222	48	144
CFD- 8170	17.0					
CFD- 8175	17.5					
CFD- 8180	18.0					
CFD- 8185	18.5	20	190	243	50	160
CFD- 8190	19.0					
CFD- 8195	19.5					
CFD- 8200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL

TIALN

λ 30°

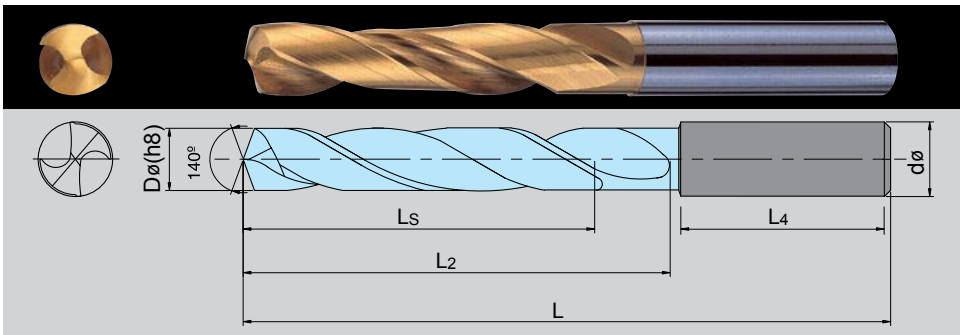
適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel,alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
CCD- 4010	1.0	1.5	7	38	28	5
CCD- 4011	1.1					
CCD- 4012	1.2	1.5	8	38	28	6
CCD- 4013	1.3					
CCD- 4014	1.4	1.5	9	38	28	7
CCD- 4015	1.5					
CCD- 4016	1.6	2	10	42	30	8
CCD- 4017	1.7	2	12	42	30	9
CCD- 4018	1.8					
CCD- 4019	1.9					
CCD- 4020	2.0					
CCD- 4021	2.1	3	14	46	32	10
CCD- 4022	2.2					
CCD- 4023	2.3					
CCD- 4024	2.4					
CCD- 4025	2.5					
CCD- 4026	2.6	3	18	52	32	13
CCD- 4027	2.7					
CCD- 4028	2.8					
CCD- 4029	2.9					
CCD- 4030	3.0					
CCD- 4031	3.1	4	20	56	34	15
CCD- 4032	3.2					
CCD- 4033	3.3					
CCD- 4034	3.4					
CCD- 4035	3.5					
CCD- 4036	3.6		22	58	34	16
CCD- 4037	3.7					
CCD- 4038	3.8					
CCD- 4039	3.9					
CCD- 4040	4.0					
CCD- 4041	4.1	5	28	66	36	20
CCD- 4042	4.2					
CCD- 4043	4.3					
CCD- 4044	4.4					
CCD- 4045	4.5					
CCD- 4046	4.6					
CCD- 4047	4.7					
CCD- 4048	4.8					
CCD- 4049	4.9					
CCD- 4050	5.0					
CCD- 4051	5.1	6	34	72	36	25
CCD- 4052	5.2					
CCD- 4053	5.3					
CCD- 4054	5.4					
CCD- 4055	5.5					
CCD- 4056	5.6					
CCD- 4057	5.7					
CCD- 4058	5.8					
CCD- 4059	5.9					
CCD- 4060	6.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CCD- 4061	6.1	7	38	76	36	28
CCD- 4062	6.2					
CCD- 4063	6.3					
CCD- 4064	6.4					
CCD- 4065	6.5					
CCD- 4066	6.6					
CCD- 4067	6.7					
CCD- 4068	6.8					
CCD- 4069	6.9					
CCD- 4070	7.0					
CCD- 4071	7.1	8	44	82	36	32
CCD- 4072	7.2					
CCD- 4073	7.3					
CCD- 4074	7.4					
CCD- 4075	7.5					
CCD- 4076	7.6	8	44	82	36	32
CCD- 4077	7.7					
CCD- 4078	7.8					
CCD- 4079	7.9					
CCD- 4080	8.0					
CCD- 4081	8.1	9	50	92	40	38
CCD- 4082	8.2					
CCD- 4083	8.3					
CCD- 4084	8.4					
CCD- 4085	8.5					
CCD- 4086	8.6					
CCD- 4087	8.7					
CCD- 4088	8.8					
CCD- 4089	8.9					
CCD- 4090	9.0					
CCD- 4091	9.1	10	58	100	40	43
CCD- 4092	9.2					
CCD- 4093	9.3					
CCD- 4094	9.4					
CCD- 4095	9.5					
CCD- 4096	9.6					
CCD- 4097	9.7					
CCD- 4098	9.8					
CCD- 4099	9.9					
CCD- 4100	10.0					
CCD- 4101	10.1	11	60	107	45	45
CCD- 4102	10.2					
CCD- 4103	10.3					
CCD- 4104	10.4					
CCD- 4105	10.5					
CCD- 4106	10.6					
CCD- 4107	10.7					
CCD- 4108	10.8					
CCD- 4109	10.9					
CCD- 4110	11.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CCD- 4111	11.1	12	63	110	45	47
CCD- 4112	11.2					
CCD- 4113	11.3					
CCD- 4114	11.4					
CCD- 4115	11.5					
CCD- 4116	11.6					
CCD- 4117	11.7					
CCD- 4118	11.8					
CCD- 4119	11.9					
CCD- 4120	12.0					
CCD- 4121	12.1	13	71	118	45	54
CCD- 4122	12.2					
CCD- 4123	12.3					
CCD- 4124	12.4					
CCD- 4125	12.5					
CCD- 4126	12.6					
CCD- 4127	12.7					
CCD- 4128	12.8					
CCD- 4129	12.9					
CCD- 4130	13.0					
CCD- 4131	13.1	14	77	124	45	58
CCD- 4132	13.2					
CCD- 4133	13.3					
CCD- 4134	13.4					
CCD- 4135	13.5					
CCD- 4136	13.6					
CCD- 4137	13.7					
CCD- 4138	13.8					
CCD- 4139	13.9					
CCD- 4140	14.0					
CCD- 4141	14.1	15	83	133	48	63
CCD- 4142	14.2					
CCD- 4143	14.3					
CCD- 4144	14.4					
CCD- 4145	14.5					
CCD- 4146	14.6					
CCD- 4147	14.7					
CCD- 4148	14.8					
CCD- 4149	14.9					
CCD- 4150	15.0					
CCD- 4155	15.5	16	83	133	48	63
CCD- 4160	16.0					
CCD- 4165	16.5	17	93	143	48	71
CCD- 4170	17.0					
CCD- 4175	17.5	18	93	143	48	71
CCD- 4180	18.0					
CCD- 4185	18.5	19	101	153	50	77
CCD- 4190	19.0					
CCD- 4195	19.5	20	101	153	50	77
CCD- 4200	20.0					



EDP No.	Dø	dø	L2	L	L4	Ls
CCD- 6010	1.0	1.5	9	40	28	7.0
CCD- 6011	1.1					
CCD- 6012	1.2	1.5	11	40	28	9.0
CCD- 6013	1.3					
CCD- 6014	1.4	1.5	12	40	28	10
CCD- 6015	1.5					
CCD- 6016	1.6	2	14	46	30	11
CCD- 6017	1.7	2	16	48	30	13
CCD- 6018	1.8					
CCD- 6019	1.9					
CCD- 6020	2.0					
CCD- 6021	2.1	3	20	52	32	16
CCD- 6022	2.2					
CCD- 6023	2.3					
CCD- 6024	2.4					
CCD- 6025	2.5					
CCD- 6026	2.6	3	24	58	32	19
CCD- 6027	2.7					
CCD- 6028	2.8					
CCD- 6029	2.9					
CCD- 6030	3.0					
CCD- 6031	3.1	4	28	64	34	21
CCD- 6032	3.2					
CCD- 6033	3.3					
CCD- 6034	3.4					
CCD- 6035	3.5					
CCD- 6036	3.6		30	66	34	24
CCD- 6037	3.7					
CCD- 6038	3.8					
CCD- 6039	3.9					
CCD- 6040	4.0					
CCD- 6041	4.1	5	38	76	36	30
CCD- 6042	4.2					
CCD- 6043	4.3					
CCD- 6044	4.4					
CCD- 6045	4.5					
CCD- 6046	4.6					
CCD- 6047	4.7					
CCD- 6048	4.8					
CCD- 6049	4.9					
CCD- 6050	5.0					
CCD- 6051	5.1	6	45	83	36	36
CCD- 6052	5.2					
CCD- 6053	5.3					
CCD- 6054	5.4					
CCD- 6055	5.5					
CCD- 6056	5.6					
CCD- 6057	5.7					
CCD- 6058	5.8					
CCD- 6059	5.9					
CCD- 6060	6.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CCD- 6061	6.1	7	52	90	36	42
CCD- 6062	6.2					
CCD- 6063	6.3					
CCD- 6064	6.4					
CCD- 6065	6.5					
CCD- 6066	6.6					
CCD- 6067	6.7					
CCD- 6068	6.8					
CCD- 6069	6.9					
CCD- 6070	7.0					
CCD- 6071	7.1	8	60	98	36	48
CCD- 6072	7.2					
CCD- 6073	7.3					
CCD- 6074	7.4					
CCD- 6075	7.5					
CCD- 6076	7.6	8	60	98	36	48
CCD- 6077	7.7					
CCD- 6078	7.8					
CCD- 6079	7.9					
CCD- 6080	8.0					
CCD- 6081	8.1	9	66	108	40	54
CCD- 6082	8.2					
CCD- 6083	8.3					
CCD- 6084	8.4					
CCD- 6085	8.5					
CCD- 6086	8.6					
CCD- 6087	8.7					
CCD- 6088	8.8					
CCD- 6089	8.9					
CCD- 6090	9.0					
CCD- 6091	9.1	10	75	117	40	60
CCD- 6092	9.2					
CCD- 6093	9.3					
CCD- 6094	9.4					
CCD- 6095	9.5					
CCD- 6096	9.6					
CCD- 6097	9.7					
CCD- 6098	9.8					
CCD- 6099	9.9					
CCD- 6100	10.0					
CCD- 6101	10.1	11	83	130	45	67
CCD- 6102	10.2					
CCD- 6103	10.3					
CCD- 6104	10.4					
CCD- 6105	10.5					
CCD- 6106	10.6					
CCD- 6107	10.7					
CCD- 6108	10.8					
CCD- 6109	10.9					
CCD- 6110	11.0					

EDP No.	Dø	dø	L2	L	L4	Ls
CCD- 6111	11.1	12	90	137	45	72
CCD- 6112	11.2					
CCD- 6113	11.3					
CCD- 6114	11.4					
CCD- 6115	11.5					
CCD- 6116	11.6					
CCD- 6117	11.7					
CCD- 6118	11.8					
CCD- 6119	11.9					
CCD- 6120	12.0					
CCD- 6121	12.1	13	98	145	45	78
CCD- 6122	12.2					
CCD- 6123	12.3					
CCD- 6124	12.4					
CCD- 6125	12.5					
CCD- 6126	12.6					
CCD- 6127	12.7					
CCD- 6128	12.8					
CCD- 6129	12.9					
CCD- 6130	13.0					
CCD- 6131	13.1	14	105	152	45	85
CCD- 6132	13.2					
CCD- 6133	13.3					
CCD- 6134	13.4					
CCD- 6135	13.5					
CCD- 6136	13.6					
CCD- 6137	13.7					
CCD- 6138	13.8					
CCD- 6139	13.9					
CCD- 6140	14.0					
CCD- 6141	14.1	15	115	165	48	95
CCD- 6142	14.2					
CCD- 6143	14.3					
CCD- 6144	14.4					
CCD- 6145	14.5					
CCD- 6146	14.6					
CCD- 6147	14.7					
CCD- 6148	14.8					
CCD- 6149	14.9					
CCD- 6150	15.0					
CCD- 6155	15.5	16	115	165	48	95
CCD- 6160	16.0					
CCD- 6165	16.5	17	130	180	48	105
CCD- 6170	17.0					
CCD- 6175	17.5	18	130	180	48	105
CCD- 6180	18.0					
CCD- 6185	18.5	19	150	202	50	120
CCD- 6190	19.0					
CCD- 6195	19.5	20	150	202	50	120
CCD- 6200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

焊刃式鎢鋼被覆鑽頭

TUNGSTEN CARBIDE WELDED COATED DRILL

TIALN | λ 25° | DIN 6535 HE

- 焊接式
- 中心内冷
- Welded End
- Internal Coolant

適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

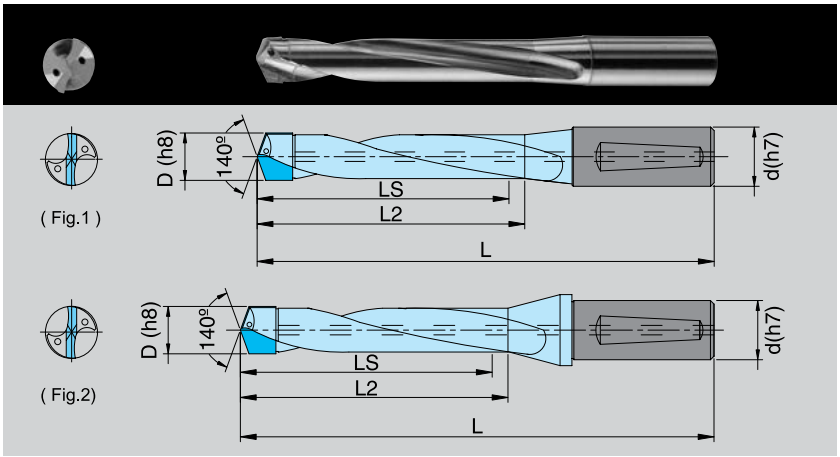
Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	庫存品 stock Dø	非庫存品 non-stock 刃徑的範圍	dø	L2	L	L4	Ls	圖示
TXD -3130	13	13.01~13.5	16	54	115	48	48	Fig.1
TXD -3135	13.5							
TXD -3140	14	13.51~14.5						
TXD -3145	14.5							
TXD -3150	15	14.51~15.5	20	65	130	50	58	Fig.1
TXD -3155	15.5							
TXD -3160	16	15.51~16.5						
TXD -3165	16.5							
TXD -3170	17	16.51~17.5		72	140	50	65	Fig.1
TXD -3175	17.5							
TXD -3180	18	17.51~18.5						
TXD -3185	18.5							
TXD -3190	19	18.51~19.5	25	79	155	56	72	Fig.1
TXD -3195	19.5							
TXD -3200	20	19.51~20.5						
TXD -3205	20.5							
TXD -3210	21	20.51~21.5						
TXD -3215	21.5							
TXD -3220	22	21.51~22.5		82	160	56	75	Fig.1
TXD -3225	22.5							
TXD -3230	23	22.51~23.5						
TXD -3235	23.5							
TXD -3240	24	23.51~24.5	32	86	170	60	78	Fig.1
TXD -3245	24.5							
TXD -3250	25	24.51~25.5		90	175		82	Fig.1
TXD -3255	25.5							
TXD -3260	26	25.51~26.5						
TXD -3265	26.5							

EDP No.	庫存品 stock Dø	非庫存品 non-stock 刃徑的範圍	dø	L2	L	L4	Ls	圖示
TXD -3270	27	26.51~27.5	32	98	185	60	90	Fig.1
TXD -3275	27.5							
TXD -3280	28	27.51~28.5						
TXD -3285	28.5							
TXD -3290	29	28.51~29.5		105	195		95	Fig.1
TXD -3295	29.5							
TXD -3300	30	29.51~30.5		110	200		100	Fig.1
TXD -3305	30.5							
TXD -3310	31	30.51~31.5						
TXD -3315	31.5							
TXD -3320	32	31.51~32.5		118	225	70	105	Fig.2
TXD -3325	32.5							
TXD -3330	33	32.51~33.5						
TXD -3335	33.5							
TXD -3340	34	33.51~34.5		123	230	70	108	Fig.2
TXD -3345	34.5							
TXD -3350	35	34.51~35.5						
TXD -3355	35.5							
TXD -3360	36	35.51~36.5		130	240	70	115	Fig.2
TXD -3365	36.5							
TXD -3370	37	36.51~37.5						
TXD -3375	37.5							
TXD -3380	38	37.51~38.5		147	255	70	129	Fig.2
TXD -3385	38.5							
TXD -3390	39	38.51~39.5						
TXD -3395	39.5							
TXD -3400	40	39.51~40.5						
TXD -3405	40.5							

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

- 焊接式
- 中心内冷
- Welded End
- Internal Coolant



EDP No.	庫存品 stock Dø	非庫存品 non-stock 刃徑的範圍	dø	L2	L	L4	Ls	圖示
TXD -5130	13	13.0~13.5	16	84	145	48	78	Fig.1
TXD -5135	13.5							
TXD -5140	14	13.51~14.5						
TXD -5145	14.5							
TXD -5150	15	14.51~15.5	20	95	160	50	88	Fig.1
TXD -5155	15.5							
TXD -5160	16	15.51~16.5						
TXD -5165	16.5							
TXD -5170	17	16.51~17.5		107	175	50	100	Fig.1
TXD -5175	17.5							
TXD -5180	18	17.51~18.5						
TXD -5185	18.5							
TXD -5190	19	18.51~19.5	25	119	195	56	111	Fig.1
TXD -5195	19.5							
TXD -5200	20	19.51~20.5						
TXD -5205	20.5							
TXD -5210	21	20.51~21.5						
TXD -5215	21.5							
TXD -5220	22	21.51~22.5		127	205	56	118	Fig.1
TXD -5225	22.5							
TXD -5230	23	22.51~23.5						
TXD -5235	23.5							
TXD -5240	24	23.51~24.5	32	136	220	60	127	Fig.1
TXD -5245	24.5							
TXD -5250	25	24.51~25.5		145	230		136	Fig.1
TXD -5255	25.5							
TXD -5260	26	25.51~26.5						
TXD -5265	26.5							

EDP No.	庫存品 stock Dø	非庫存品 non-stock 刃徑的範圍	dø	L2	L	L4	Ls	圖示
TXD -5270	27	26.51~27.5	32	153	240	60	145	Fig.1
TXD -5275	27.5							
TXD -5280	28	27.51~28.5						
TXD -5285	28.5							
TXD -5290	29	28.51~29.5		160	250		150	Fig.1
TXD -5295	29.5							
TXD -5300	30	29.51~30.5		175	265		165	Fig.1
TXD -5305	30.5							
TXD -5310	31	30.51~31.5						
TXD -5315	31.5							
TXD -5320	32	31.51~32.5		182	290	70	170	Fig.2
TXD -5325	32.5							
TXD -5330	33	32.51~33.5						
TXD -5335	33.5							
TXD -5340	34	33.51~34.5		193	300	70	180	Fig.2
TXD -5345	34.5							
TXD -5350	35	34.51~35.5						
TXD -5355	35.5							
TXD -5360	36	35.51~36.5		205	315	70	190	Fig.2
TXD -5365	36.5							
TXD -5370	37	36.51~37.5						
TXD -5375	37.5							
TXD -5380	38	37.51~38.5		217	330	70	202	Fig.2
TXD -5385	38.5							
TXD -5390	39	38.51~39.5						
TXD -5395	39.5							
TXD -5400	40	39.51~40.5						
TXD -5405	40.5							

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

焊刃式鎢鋼被覆鑽頭

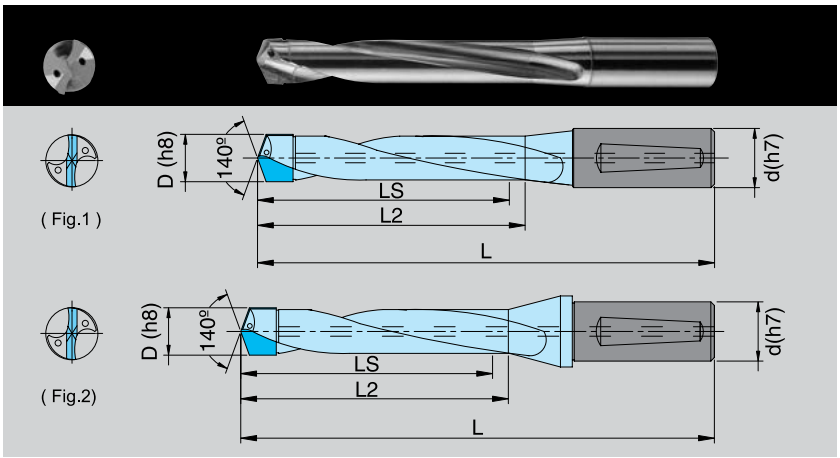
TUNGSTEN CARBIDE WELDED COATED DRILL

TIALN | λ 25° | DIN 6535 HE

- 焊接式
- 中心内冷
- Welded End
- Internal Coolant

適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.



EDP No.	庫存品 stock Dø	非庫存品 no-stock 刃徑的範圍	dø	L2	L	L4	Ls	圖示
TXD -7130	13	13.0~13.5	16	105	166	48	100	Fig.1
TXD -7135	13.5							
TXD -7140	14	13.51~14.5		114	175		109	
TXD -7145	14.5							
TXD -7150	15	14.51~15.5	20	120	185	50	114	Fig.1
TXD -7155	15.5							
TXD -7160	16	15.51~16.5		125	190		119	
TXD -7165	16.5							
TXD -7170	17	16.51~17.5		132	200		125	Fig.1
TXD -7175	17.5							
TXD -7180	18	17.51~18.5		142	210		134	
TXD -7185	18.5							
TXD -7190	19	18.51~19.5	25	149	225	56	141	Fig.1
TXD -7195	19.5							
TXD -7200	20	19.51~20.5		154	230		146	
TXD -7205	20.5							
TXD -7210	21	20.51~21.5		164	240		156	
TXD -7215	21.5							
TXD -7220	22	21.51~22.5		177	255		168	Fig.1
TXD -7225	22.5							
TXD -7230	23	22.51~23.5						
TXD -7235	23.5							
TXD -7240	24	23.51~24.5	32	186	270	60	177	Fig.1
TXD -7245	24.5							
TXD -7250	25	24.51~25.5		195	280		186	Fig.1
TXD -7255	25.5							
TXD -7260	26	25.51~26.5						
TXD -7265	26.5							

EDP No.	庫存品 stock Dø	非庫存品 no-stock 刃徑的範圍	dø	L2	L	L4	Ls	圖示
TXD -7270	27	20.61~27.5	32	215	300	60	205	Fig.1
TXD -7275	27.5							
TXD -7280	28	27.51~28.5						
TXD -7285	28.5							
TXD -7290	29	28.51~29.5		225	315		215	Fig.1
TXD -7295	29.5							
TXD -7300	30	29.51~30.5		235	325		225	Fig.1
TXD -7305	30.5							
TXD -7310	31	30.51~31.5						
TXD -7315	31.5							
TXD -7320	32	31.51~32.5		248	355	70	236	Fig.2
TXD -7325	32.5							
TXD -7330	33	32.51~33.5						
TXD -7335	33.5							
TXD -7340	34	33.51~34.5		263	370	70	250	Fig.2
TXD -7345	34.5							
TXD -7350	35	34.51~35.5						
TXD -7355	35.5							

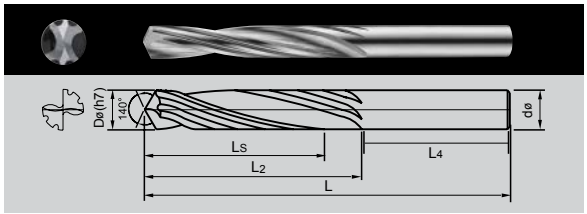
Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

鎢鋼蝴蝶鑽

TUNGSTEN CARBIDE R DRILL

TIALN | λ 30° | DIN 6537

- 螺旋槽
- Spiral Flute



適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 3050	5.0	6	30	66	36	20
RSD- 3051	5.1					
RSD- 3052	5.2					
RSD- 3053	5.3					
RSD- 3054	5.4					
RSD- 3055	5.5					
RSD- 3056	5.6					
RSD- 3057	5.7					
RSD- 3058	5.8					
RSD- 3059	5.9					
RSD- 3060	6.0					
RSD- 3061	6.1	8	38	79	36	24
RSD- 3062	6.2					
RSD- 3063	6.3					
RSD- 3064	6.4					
RSD- 3065	6.5					
RSD- 3066	6.6					
RSD- 3067	6.7					
RSD- 3068	6.8					
RSD- 3069	6.9					
RSD- 3070	7.0					
RSD- 3071	7.1	8	42	79	36	29
RSD- 3072	7.2					
RSD- 3073	7.3					
RSD- 3074	7.4					
RSD- 3075	7.5					
RSD- 3076	7.6					
RSD- 3077	7.7					
RSD- 3078	7.8					
RSD- 3079	7.9					
RSD- 3080	8.0					
RSD- 3081	8.1	10	49	89	40	35
RSD- 3082	8.2					
RSD- 3083	8.3					
RSD- 3084	8.4					
RSD- 3085	8.5					
RSD- 3086	8.6					
RSD- 3087	8.7					
RSD- 3088	8.8					
RSD- 3089	8.9					
RSD- 3090	9.0					
RSD- 3091	9.1	10	49	89	40	35
RSD- 3092	9.2					
RSD- 3093	9.3					
RSD- 3094	9.4					
RSD- 3095	9.5					
RSD- 3096	9.6					
RSD- 3097	9.7					
RSD- 3098	9.8					
RSD- 3099	9.9					
RSD- 3100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 3101	10.1	12	56	102	45	40
RSD- 3102	10.2					
RSD- 3103	10.3					
RSD- 3104	10.4					
RSD- 3105	10.5					
RSD- 3106	10.6					
RSD- 3107	10.7					
RSD- 3108	10.8					
RSD- 3109	10.9					
RSD- 3110	11.0					
RSD- 3111	11.1	12	56	102	45	40
RSD- 3112	11.2					
RSD- 3113	11.3					
RSD- 3114	11.4					
RSD- 3115	11.5					
RSD- 3116	11.6					
RSD- 3117	11.7					
RSD- 3118	11.8					
RSD- 3119	11.9					
RSD- 3120	12.0					
RSD- 3121	12.1	14	61	107	45	43
RSD- 3122	12.2					
RSD- 3123	12.3					
RSD- 3124	12.4					
RSD- 3125	12.5					
RSD- 3126	12.6					
RSD- 3127	12.7					
RSD- 3128	12.8					
RSD- 3129	12.9					
RSD- 3130	13.0					
RSD- 3131	13.1	14	61	107	45	43
RSD- 3132	13.2					
RSD- 3133	13.3					
RSD- 3134	13.4					
RSD- 3135	13.5					
RSD- 3136	13.6					
RSD- 3137	13.7					
RSD- 3138	13.8					
RSD- 3139	13.9					
RSD- 3140	14.0					
RSD- 3141	14.1	16	65	115	48	45
RSD- 3142	14.2					
RSD- 3143	14.3					
RSD- 3144	14.4					
RSD- 3145	14.5					
RSD- 3146	14.6					
RSD- 3147	14.7					
RSD- 3148	14.8					
RSD- 3149	14.9					
RSD- 3150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 3151	15.1	16	65	115	48	45
RSD- 3152	15.2					
RSD- 3153	15.3					
RSD- 3154	15.4					
RSD- 3155	15.5					
RSD- 3156	15.6					
RSD- 3157	15.7					
RSD- 3158	15.8					
RSD- 3159	15.9					
RSD- 3160	16.0					
RSD- 3165	16.5	18	73	123	48	51
RSD- 3170	17.0					
RSD- 3175	17.5					
RSD- 3180	18.0					
RSD- 3185	18.5	20	79	131	50	55
RSD- 3190	19.0					
RSD- 3195	19.5					
RSD- 3200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

鎢鋼蝴蝶鑽

TUNGSTEN CARBIDE R DRILL

TIALN | λ 30° | DIN 6537

適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

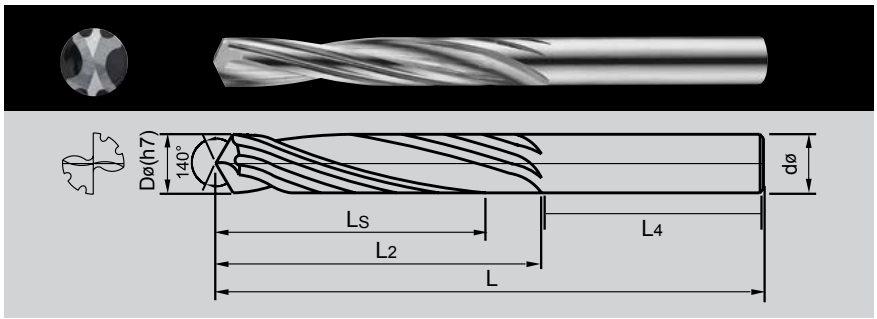
Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 5050	5.0	6	44	82	36	35
RSD- 5051	5.1					
RSD- 5052	5.2					
RSD- 5053	5.3					
RSD- 5054	5.4					
RSD- 5055	5.5					
RSD- 5056	5.6					
RSD- 5057	5.7					
RSD- 5058	5.8					
RSD- 5059	5.9					
RSD- 5060	6.0					
RSD- 5061	6.1	8	53	91	36	43
RSD- 5062	6.2					
RSD- 5063	6.3					
RSD- 5064	6.4					
RSD- 5065	6.5					
RSD- 5066	6.6					
RSD- 5067	6.7					
RSD- 5068	6.8					
RSD- 5069	6.9					
RSD- 5070	7.0					
RSD- 5071	7.1	8	53	91	36	43
RSD- 5072	7.2					
RSD- 5073	7.3					
RSD- 5074	7.4					
RSD- 5075	7.5					
RSD- 5076	7.6					
RSD- 5077	7.7					
RSD- 5078	7.8					
RSD- 5079	7.9					
RSD- 5080	8.0					
RSD- 5081	8.1	10	61	103	40	49
RSD- 5082	8.2					
RSD- 5083	8.3					
RSD- 5084	8.4					
RSD- 5085	8.5					
RSD- 5086	8.6					
RSD- 5087	8.7					
RSD- 5088	8.8					
RSD- 5089	8.9					
RSD- 5090	9.0					
RSD- 5091	9.1	10	61	103	40	49
RSD- 5092	9.2					
RSD- 5093	9.3					
RSD- 5094	9.4					
RSD- 5095	9.5					
RSD- 5096	9.6					
RSD- 5097	9.7					
RSD- 5098	9.8					
RSD- 5099	9.9					
RSD- 5100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 5101	10.1	12	71	118	45	56
RSD- 5102	10.2					
RSD- 5103	10.3					
RSD- 5104	10.4					
RSD- 5105	10.5					
RSD- 5106	10.6					
RSD- 5107	10.7					
RSD- 5108	10.8					
RSD- 5109	10.9					
RSD- 5110	11.0					
RSD- 5111	11.1	12	71	118	45	56
RSD- 5112	11.2					
RSD- 5113	11.3					
RSD- 5114	11.4					
RSD- 5115	11.5					
RSD- 5116	11.6					
RSD- 5117	11.7					
RSD- 5118	11.8					
RSD- 5119	11.9					
RSD- 5120	12.0					
RSD- 5121	12.1	14	77	124	45	60
RSD- 5122	12.2					
RSD- 5123	12.3					
RSD- 5124	12.4					
RSD- 5125	12.5					
RSD- 5126	12.6					
RSD- 5127	12.7					
RSD- 5128	12.8					
RSD- 5129	12.9					
RSD- 5130	13.0					
RSD- 5131	13.1	14	77	124	45	60
RSD- 5132	13.2					
RSD- 5133	13.3					
RSD- 5134	13.4					
RSD- 5135	13.5					
RSD- 5136	13.6					
RSD- 5137	13.7					
RSD- 5138	13.8					
RSD- 5139	13.9					
RSD- 5140	14.0					
RSD- 5141	14.1	16	83	133	48	63
RSD- 5142	14.2					
RSD- 5143	14.3					
RSD- 5144	14.4					
RSD- 5145	14.5					
RSD- 5146	14.6					
RSD- 5147	14.7					
RSD- 5148	14.8					
RSD- 5149	14.9					
RSD- 5150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 5151	15.1	16	83	133	48	63
RSD- 5152	15.2					
RSD- 5153	15.3					
RSD- 5154	15.4					
RSD- 5155	15.5					
RSD- 5156	15.6					
RSD- 5157	15.7					
RSD- 5158	15.8					
RSD- 5159	15.9					
RSD- 5160	16.0					
RSD- 5165	16.5	18	93	143	48	71
RSD- 5170	17.0					
RSD- 5175	17.5					
RSD- 5180	18.0					
RSD- 5185	18.5	20	101	153	50	77
RSD- 5190	19.0					
RSD- 5195	19.5					
RSD- 5200	20.0					

Dø/ Diameter
dø/ Shank Diameter
L2/ Flute Length
L/ Overall Length
L4/ Shank Length
LS/ Length of Cut



- 螺旋槽
- Spiral Flute

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 8050	5.0	6	57	95	36	48
RSD- 8051	5.1					
RSD- 8052	5.2					
RSD- 8053	5.3					
RSD- 8054	5.4					
RSD- 8055	5.5					
RSD- 8056	5.6					
RSD- 8057	5.7					
RSD- 8058	5.8					
RSD- 8059	5.9					
RSD- 8060	6.0					
RSD- 8061	6.1	8	76	114	36	64
RSD- 8062	6.2					
RSD- 8063	6.3					
RSD- 8064	6.4					
RSD- 8065	6.5					
RSD- 8066	6.6					
RSD- 8067	6.7					
RSD- 8068	6.8					
RSD- 8069	6.9					
RSD- 8070	7.0					
RSD- 8071	7.1	8	76	114	36	64
RSD- 8072	7.2					
RSD- 8073	7.3					
RSD- 8074	7.4					
RSD- 8075	7.5					
RSD- 8076	7.6					
RSD- 8077	7.7					
RSD- 8078	7.8					
RSD- 8079	7.9					
RSD- 8080	8.0					
RSD- 8081	8.1	10	95	142	40	80
RSD- 8082	8.2					
RSD- 8083	8.3					
RSD- 8084	8.4					
RSD- 8085	8.5					
RSD- 8086	8.6					
RSD- 8087	8.7					
RSD- 8088	8.8					
RSD- 8089	8.9					
RSD- 8090	9.0					
RSD- 8091	9.1	10	95	142	40	80
RSD- 8092	9.2					
RSD- 8093	9.3					
RSD- 8094	9.4					
RSD- 8095	9.5					
RSD- 8096	9.6					
RSD- 8097	9.7					
RSD- 8098	9.8					
RSD- 8099	9.9					
RSD- 8100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 8101	10.1	12	114	162	45	96
RSD- 8102	10.2					
RSD- 8103	10.3					
RSD- 8104	10.4					
RSD- 8105	10.5					
RSD- 8106	10.6					
RSD- 8107	10.7					
RSD- 8108	10.8					
RSD- 8109	10.9					
RSD- 8110	11.0					
RSD- 8111	11.1	12	114	162	45	96
RSD- 8112	11.2					
RSD- 8113	11.3					
RSD- 8114	11.4					
RSD- 8115	11.5					
RSD- 8116	11.6					
RSD- 8117	11.7					
RSD- 8118	11.8					
RSD- 8119	11.9					
RSD- 8120	12.0					
RSD- 8121	12.1	14	133	178	45	112
RSD- 8122	12.2					
RSD- 8123	12.3					
RSD- 8124	12.4					
RSD- 8125	12.5					
RSD- 8126	12.6					
RSD- 8127	12.7					
RSD- 8128	12.8					
RSD- 8129	12.9					
RSD- 8130	13.0					
RSD- 8131	13.1	14	133	178	45	112
RSD- 8132	13.2					
RSD- 8133	13.3					
RSD- 8134	13.4					
RSD- 8135	13.5					
RSD- 8136	13.6					
RSD- 8137	13.7					
RSD- 8138	13.8					
RSD- 8139	13.9					
RSD- 8140	14.0					
RSD- 8141	14.1	16	152	203	48	128
RSD- 8142	14.2					
RSD- 8143	14.3					
RSD- 8144	14.4					
RSD- 8145	14.5					
RSD- 8146	14.6					
RSD- 8147	14.7					
RSD- 8148	14.8					
RSD- 8149	14.9					
RSD- 8150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
RSD- 8151	15.1	16	152	203	48	128
RSD- 8152	15.2					
RSD- 8153	15.3					
RSD- 8154	15.4					
RSD- 8155	15.5					
RSD- 8156	15.6					
RSD- 8157	15.7					
RSD- 8158	15.8					
RSD- 8159	15.9					
RSD- 8160	16.0					
RSD- 8165	16.5	18	171	222	48	144
RSD- 8170	17.0					
RSD- 8175	17.5					
RSD- 8180	18.0					
RSD- 8185	18.5	20	190	243	50	160
RSD- 8190	19.0					
RSD- 8195	19.5					
RSD- 8200	20.0					

Dø/ Diameter
dø/ Shank Diameter
L2/ Flute Length
L/ Overall Length
L4/ Shank Length
LS/ Length of Cut

內冷式鎢鋼蝴蝶鑽

TUNGSTEN CARBIDE R DRILL WITH INTERNAL COOLANT

TIALN | λ 30° | DIN 6537

- 螺旋槽
- Spiral Flute
- 中心內冷
- Internal Coolant

適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

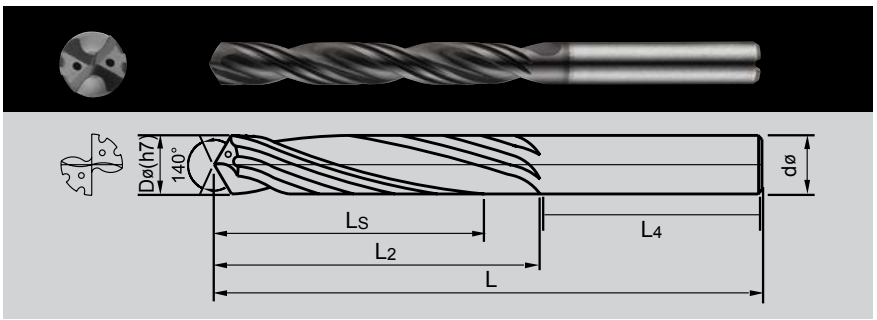
Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 3050	5.0	6	30	66	36	20
ROD- 3051	5.1					
ROD- 3052	5.2					
ROD- 3053	5.3					
ROD- 3054	5.4					
ROD- 3055	5.5					
ROD- 3056	5.6					
ROD- 3057	5.7					
ROD- 3058	5.8					
ROD- 3059	5.9					
ROD- 3060	6.0					
ROD- 3061	6.1	8	38	79	36	24
ROD- 3062	6.2					
ROD- 3063	6.3					
ROD- 3064	6.4					
ROD- 3065	6.5					
ROD- 3066	6.6					
ROD- 3067	6.7					
ROD- 3068	6.8					
ROD- 3069	6.9					
ROD- 3070	7.0					
ROD- 3071	7.1	8	42	79	36	29
ROD- 3072	7.2					
ROD- 3073	7.3					
ROD- 3074	7.4					
ROD- 3075	7.5					
ROD- 3076	7.6					
ROD- 3077	7.7					
ROD- 3078	7.8					
ROD- 3079	7.9					
ROD- 3080	8.0					
ROD- 3081	8.1	10	49	89	40	35
ROD- 3082	8.2					
ROD- 3083	8.3					
ROD- 3084	8.4					
ROD- 3085	8.5					
ROD- 3086	8.6					
ROD- 3087	8.7					
ROD- 3088	8.8					
ROD- 3089	8.9					
ROD- 3090	9.0					
ROD- 3091	9.1	10	49	89	40	35
ROD- 3092	9.2					
ROD- 3093	9.3					
ROD- 3094	9.4					
ROD- 3095	9.5					
ROD- 3096	9.6					
ROD- 3097	9.7					
ROD- 3098	9.8					
ROD- 3099	9.9					
ROD- 3100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 3101	10.1	12	56	102	45	40
ROD- 3102	10.2					
ROD- 3103	10.3					
ROD- 3104	10.4					
ROD- 3105	10.5					
ROD- 3106	10.6					
ROD- 3107	10.7					
ROD- 3108	10.8					
ROD- 3109	10.9					
ROD- 3110	11.0					
ROD- 3111	11.1	12	56	102	45	40
ROD- 3112	11.2					
ROD- 3113	11.3					
ROD- 3114	11.4					
ROD- 3115	11.5					
ROD- 3116	11.6					
ROD- 3117	11.7					
ROD- 3118	11.8					
ROD- 3119	11.9					
ROD- 3120	12.0					
ROD- 3121	12.1	14	61	107	45	43
ROD- 3122	12.2					
ROD- 3123	12.3					
ROD- 3124	12.4					
ROD- 3125	12.5					
ROD- 3126	12.6					
ROD- 3127	12.7					
ROD- 3128	12.8					
ROD- 3129	12.9					
ROD- 3130	13.0					
ROD- 3131	13.1	14	61	107	45	43
ROD- 3132	13.2					
ROD- 3133	13.3					
ROD- 3134	13.4					
ROD- 3135	13.5					
ROD- 3136	13.6					
ROD- 3137	13.7					
ROD- 3138	13.8					
ROD- 3139	13.9					
ROD- 3140	14.0					
ROD- 3141	14.1	16	65	115	48	45
ROD- 3142	14.2					
ROD- 3143	14.3					
ROD- 3144	14.4					
ROD- 3145	14.5					
ROD- 3146	14.6					
ROD- 3147	14.7					
ROD- 3148	14.8					
ROD- 3149	14.9					
ROD- 3150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 3151	15.1	16	65	115	48	45
ROD- 3152	15.2					
ROD- 3153	15.3					
ROD- 3154	15.4					
ROD- 3155	15.5					
ROD- 3156	15.6					
ROD- 3157	15.7					
ROD- 3158	15.8					
ROD- 3159	15.9					
ROD- 3160	16.0					
ROD- 3165	16.5	18	73	123	48	51
ROD- 3170	17.0					
ROD- 3175	17.5					
ROD- 3180	18.0					
ROD- 3185	18.5	20	79	131	50	55
ROD- 3190	19.0					
ROD- 3195	19.5					
ROD- 3200	20.0					

Dø/ Diameter
dø/ Shank Diameter
L2/ Flute Length
L/ Overall Length
L4/ Shank Length
LS/ Length of Cut



EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 5050	5.0	6	44	82	36	35
ROD- 5051	5.1					
ROD- 5052	5.2					
ROD- 5053	5.3					
ROD- 5054	5.4					
ROD- 5055	5.5					
ROD- 5056	5.6					
ROD- 5057	5.7					
ROD- 5058	5.8					
ROD- 5059	5.9					
ROD- 5060	6.0					
ROD- 5061	6.1	8	53	91	36	43
ROD- 5062	6.2					
ROD- 5063	6.3					
ROD- 5064	6.4					
ROD- 5065	6.5					
ROD- 5066	6.6					
ROD- 5067	6.7					
ROD- 5068	6.8					
ROD- 5069	6.9					
ROD- 5070	7.0					
ROD- 5071	7.1	8	53	91	36	43
ROD- 5072	7.2					
ROD- 5073	7.3					
ROD- 5074	7.4					
ROD- 5075	7.5					
ROD- 5076	7.6					
ROD- 5077	7.7					
ROD- 5078	7.8					
ROD- 5079	7.9					
ROD- 5080	8.0					
ROD- 5081	8.1	10	61	103	40	49
ROD- 5082	8.2					
ROD- 5083	8.3					
ROD- 5084	8.4					
ROD- 5085	8.5					
ROD- 5086	8.6					
ROD- 5087	8.7					
ROD- 5088	8.8					
ROD- 5089	8.9					
ROD- 5090	9.0					
ROD- 5091	9.1	10	61	103	40	49
ROD- 5092	9.2					
ROD- 5093	9.3					
ROD- 5094	9.4					
ROD- 5095	9.5					
ROD- 5096	9.6					
ROD- 5097	9.7					
ROD- 5098	9.8					
ROD- 5099	9.9					
ROD- 5100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 5101	10.1	12	71	118	45	56
ROD- 5102	10.2					
ROD- 5103	10.3					
ROD- 5104	10.4					
ROD- 5105	10.5					
ROD- 5106	10.6					
ROD- 5107	10.7					
ROD- 5108	10.8					
ROD- 5109	10.9					
ROD- 5110	11.0					
ROD- 5111	11.1	12	71	118	45	56
ROD- 5112	11.2					
ROD- 5113	11.3					
ROD- 5114	11.4					
ROD- 5115	11.5					
ROD- 5116	11.6					
ROD- 5117	11.7					
ROD- 5118	11.8					
ROD- 5119	11.9					
ROD- 5120	12.0					
ROD- 5121	12.1	14	77	124	45	60
ROD- 5122	12.2					
ROD- 5123	12.3					
ROD- 5124	12.4					
ROD- 5125	12.5					
ROD- 5126	12.6					
ROD- 5127	12.7					
ROD- 5128	12.8					
ROD- 5129	12.9					
ROD- 5130	13.0					
ROD- 5131	13.1	14	77	124	45	60
ROD- 5132	13.2					
ROD- 5133	13.3					
ROD- 5134	13.4					
ROD- 5135	13.5					
ROD- 5136	13.6					
ROD- 5137	13.7					
ROD- 5138	13.8					
ROD- 5139	13.9					
ROD- 5140	14.0					
ROD- 5141	14.1	16	83	133	48	63
ROD- 5142	14.2					
ROD- 5143	14.3					
ROD- 5144	14.4					
ROD- 5145	14.5					
ROD- 5146	14.6					
ROD- 5147	14.7					
ROD- 5148	14.8					
ROD- 5149	14.9					
ROD- 5150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 5151	15.1	16	83	133	48	63
ROD- 5152	15.2					
ROD- 5153	15.3					
ROD- 5154	15.4					
ROD- 5155	15.5					
ROD- 5156	15.6					
ROD- 5157	15.7					
ROD- 5158	15.8					
ROD- 5159	15.9					
ROD- 5160	16.0					
ROD- 5165	16.5	18	93	143	48	71
ROD- 5170	17.0					
ROD- 5175	17.5					
ROD- 5180	18.0					
ROD- 5185	18.5	20	101	153	50	77
ROD- 5190	19.0					
ROD- 5195	19.5					
ROD- 5200	20.0					

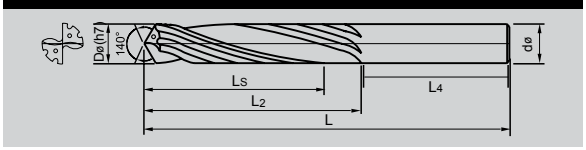
Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

內冷式鎢鋼蝴蝶鑽

TUNGSTEN CARBIDE R DRILL WITH INTERNAL COOLANT

TIALN | λ 30° | DIN 6537

- 螺旋槽
- Spiral Flute
- 中心內冷
- Internal Coolant



適合材質：
一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 8050	5.0	6	57	95	36	48
ROD- 8051	5.1					
ROD- 8052	5.2					
ROD- 8053	5.3					
ROD- 8054	5.4					
ROD- 8055	5.5					
ROD- 8056	5.6					
ROD- 8057	5.7					
ROD- 8058	5.8					
ROD- 8059	5.9					
ROD- 8060	6.0					
ROD- 8061	6.1	8	76	114	36	64
ROD- 8062	6.2					
ROD- 8063	6.3					
ROD- 8064	6.4					
ROD- 8065	6.5					
ROD- 8066	6.6					
ROD- 8067	6.7					
ROD- 8068	6.8					
ROD- 8069	6.9					
ROD- 8070	7.0					
ROD- 8071	7.1	8	76	114	36	64
ROD- 8072	7.2					
ROD- 8073	7.3					
ROD- 8074	7.4					
ROD- 8075	7.5					
ROD- 8076	7.6					
ROD- 8077	7.7					
ROD- 8078	7.8					
ROD- 8079	7.9					
ROD- 8080	8.0					
ROD- 8081	8.1	10	95	142	40	80
ROD- 8082	8.2					
ROD- 8083	8.3					
ROD- 8084	8.4					
ROD- 8085	8.5					
ROD- 8086	8.6					
ROD- 8087	8.7					
ROD- 8088	8.8					
ROD- 8089	8.9					
ROD- 8090	9.0					
ROD- 8091	9.1	10	95	142	40	80
ROD- 8092	9.2					
ROD- 8093	9.3					
ROD- 8094	9.4					
ROD- 8095	9.5					
ROD- 8096	9.6					
ROD- 8097	9.7					
ROD- 8098	9.8					
ROD- 8099	9.9					
ROD- 8100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 8101	10.1	12	114	162	45	96
ROD- 8102	10.2					
ROD- 8103	10.3					
ROD- 8104	10.4					
ROD- 8105	10.5					
ROD- 8106	10.6					
ROD- 8107	10.7					
ROD- 8108	10.8					
ROD- 8109	10.9					
ROD- 8110	11.0					
ROD- 8111	11.1	12	114	162	45	96
ROD- 8112	11.2					
ROD- 8113	11.3					
ROD- 8114	11.4					
ROD- 8115	11.5					
ROD- 8116	11.6					
ROD- 8117	11.7					
ROD- 8118	11.8					
ROD- 8119	11.9					
ROD- 8120	12.0					
ROD- 8121	12.1	14	133	178	45	112
ROD- 8122	12.2					
ROD- 8123	12.3					
ROD- 8124	12.4					
ROD- 8125	12.5					
ROD- 8126	12.6					
ROD- 8127	12.7					
ROD- 8128	12.8					
ROD- 8129	12.9					
ROD- 8130	13.0					
ROD- 8131	13.1	14	133	178	45	112
ROD- 8132	13.2					
ROD- 8133	13.3					
ROD- 8134	13.4					
ROD- 8135	13.5					
ROD- 8136	13.6					
ROD- 8137	13.7					
ROD- 8138	13.8					
ROD- 8139	13.9					
ROD- 8140	14.0					
ROD- 8141	14.1	16	152	203	48	128
ROD- 8142	14.2					
ROD- 8143	14.3					
ROD- 8144	14.4					
ROD- 8145	14.5					
ROD- 8146	14.6					
ROD- 8147	14.7					
ROD- 8148	14.8					
ROD- 8149	14.9					
ROD- 8150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
ROD- 8151	15.1	16	152	203	48	128
ROD- 8152	15.2					
ROD- 8153	15.3					
ROD- 8154	15.4					
ROD- 8155	15.5					
ROD- 8156	15.6					
ROD- 8157	15.7					
ROD- 8158	15.8					
ROD- 8159	15.9					
ROD- 8160	16.0					
ROD- 8165	16.5	18	171	222	48	144
ROD- 8170	17.0					
ROD- 8175	17.5					
ROD- 8180	18.0					
ROD- 8185	18.5	20	190	243	50	160
ROD- 8190	19.0					
ROD- 8195	19.5					
ROD- 8200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

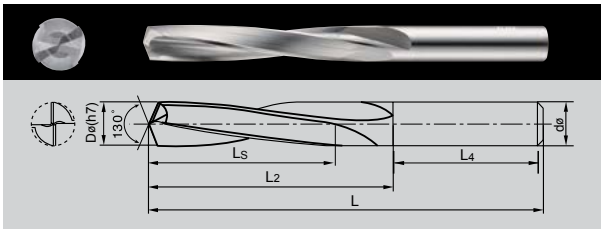
鎢鋼鋁用鑽頭

SOLID CARBIDE G DRILL

λ 20°

DIN 6537

- 螺旋槽
- Spiral Flute



適合材質：
銅、鋁、鑄鐵等之非鐵金屬。

Applicable materials:
Copper, aluminum, cast iron...etc, nonferrous metals.

略帶鑽鉸功能之鎢鋼鑽頭(非鉸刀)。
A tungsten carbide drill also featuring slight reaming function (not reamer)

EDP No.	Dø	dø	L2	L	L4	Ls
GSD- 5031	3.1	4	28	66	36	20
GSD- 5032	3.2					
GSD- 5033	3.3					
GSD- 5034	3.4					
GSD- 5035	3.5					
GSD- 5036	3.6					
GSD- 5037	3.7					
GSD- 5038	3.8	4	36	74	36	26
GSD- 5039	3.9					
GSD- 5040	4.0					
GSD- 5041	4.1	6	36	74	36	26
GSD- 5042	4.2					
GSD- 5043	4.3					
GSD- 5044	4.4					
GSD- 5045	4.5					
GSD- 5046	4.6					
GSD- 5047	4.7					
GSD- 5048	4.8	6	44	82	36	32
GSD- 5049	4.9					
GSD- 5050	5.0					
GSD- 5051	5.1					
GSD- 5052	5.2					
GSD- 5053	5.3					
GSD- 5054	5.4					
GSD- 5055	5.5					
GSD- 5056	5.6					
GSD- 5057	5.7					
GSD- 5058	5.8					
GSD- 5059	5.9					
GSD- 5060	6.0					
GSD- 5061	6.1	8	53	91	36	40
GSD- 5062	6.2					
GSD- 5063	6.3					
GSD- 5064	6.4					
GSD- 5065	6.5					
GSD- 5066	6.6					
GSD- 5067	6.7					
GSD- 5068	6.8					
GSD- 5069	6.9					
GSD- 5070	7.0					
GSD- 5071	7.1	8	53	91	36	40
GSD- 5072	7.2					
GSD- 5073	7.3					
GSD- 5074	7.4					
GSD- 5075	7.5					
GSD- 5076	7.6					
GSD- 5077	7.7					
GSD- 5078	7.8					
GSD- 5079	7.9					
GSD- 5080	8.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GSD- 5081	8.1	10	61	103	40	46
GSD- 5082	8.2					
GSD- 5083	8.3					
GSD- 5084	8.4					
GSD- 5085	8.5					
GSD- 5086	8.6					
GSD- 5087	8.7					
GSD- 5088	8.8					
GSD- 5089	8.9					
GSD- 5090	9.0					
GSD- 5091	9.1	10	61	103	40	46
GSD- 5092	9.2					
GSD- 5093	9.3					
GSD- 5094	9.4					
GSD- 5095	9.5					
GSD- 5096	9.6					
GSD- 5097	9.7					
GSD- 5098	9.8					
GSD- 5099	9.9					
GSD- 5100	10.0					
GSD- 5101	10.1	12	71	118	45	53
GSD- 5102	10.2					
GSD- 5103	10.3					
GSD- 5104	10.4					
GSD- 5105	10.5					
GSD- 5106	10.6					
GSD- 5107	10.7					
GSD- 5108	10.8					
GSD- 5109	10.9					
GSD- 5110	11.0					
GSD- 5111	11.1	12	71	118	45	53
GSD- 5112	11.2					
GSD- 5113	11.3					
GSD- 5114	11.4					
GSD- 5115	11.5					
GSD- 5116	11.6					
GSD- 5117	11.7					
GSD- 5118	11.8					
GSD- 5119	11.9					
GSD- 5120	12.0					
GSD- 5121	12.1	14	77	124	45	57
GSD- 5122	12.2					
GSD- 5123	12.3					
GSD- 5124	12.4					
GSD- 5125	12.5					
GSD- 5126	12.6					
GSD- 5127	12.7					
GSD- 5128	12.8					
GSD- 5129	12.9					
GSD- 5130	13.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GSD- 5131	13.1	14	77	124	45	57
GSD- 5132	13.2					
GSD- 5133	13.3					
GSD- 5134	13.4					
GSD- 5135	13.5					
GSD- 5136	13.6					
GSD- 5137	13.7					
GSD- 5138	13.8					
GSD- 5139	13.9					
GSD- 5140	14.0					
GSD- 5141	14.1	16	83	133	48	60
GSD- 5142	14.2					
GSD- 5143	14.3					
GSD- 5144	14.4					
GSD- 5145	14.5					
GSD- 5146	14.6					
GSD- 5147	14.7					
GSD- 5148	14.8					
GSD- 5149	14.9					
GSD- 5150	15.0					
GSD- 5151	15.1	16	83	133	48	60
GSD- 5152	15.2					
GSD- 5153	15.3					
GSD- 5154	15.4					
GSD- 5155	15.5					
GSD- 5156	15.6					
GSD- 5157	15.7					
GSD- 5158	15.8					
GSD- 5159	15.9					
GSD- 5160	16.0					
GSD- 5165	16.5	18	93	143	48	68
GSD- 5170	17.0					
GSD- 5175	17.5					
GSD- 5180	18.0					
GSD- 5185	18.5	20	101	153	50	74
GSD- 5190	19.0					
GSD- 5195	19.5					
GSD- 5200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

鎢鋼鋁用鑽頭

SOLID CARBIDE G DRILL

λ 20°

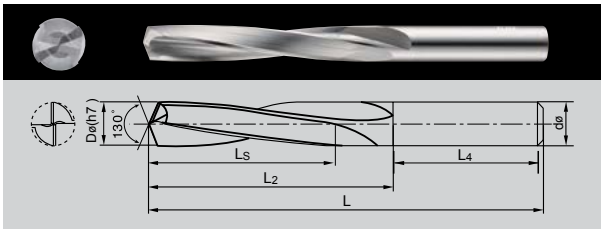
DIN 6537

- 螺旋槽
- Spiral Flute

適合材質：
銅、鋁、鑄鐵等之非鐵金屬。

Applicable materials:
Copper, aluminum, cast iron...etc, nonferrous metals.

略帶鑽鉸功能之鎢鋼鑽頭(非鉸刀)。
A tungsten carbide drill also featuring slight reaming function (not reamer)



EDP No.	Dø	dø	L2	L	L4	Ls
GSD- 8050	5.0	6	57	95	36	45
GSD- 8051	5.1					
GSD- 8052	5.2					
GSD- 8053	5.3					
GSD- 8054	5.4					
GSD- 8055	5.5					
GSD- 8056	5.6					
GSD- 8057	5.7					
GSD- 8058	5.8					
GSD- 8059	5.9					
GSD- 8060	6.0					
GSD- 8061	6.1	8	76	114	36	61
GSD- 8062	6.2					
GSD- 8063	6.3					
GSD- 8064	6.4					
GSD- 8065	6.5					
GSD- 8066	6.6					
GSD- 8067	6.7					
GSD- 8068	6.8					
GSD- 8069	6.9					
GSD- 8070	7.0					
GSD- 8071	7.1	8	76	114	36	61
GSD- 8072	7.2					
GSD- 8073	7.3					
GSD- 8074	7.4					
GSD- 8075	7.5					
GSD- 8076	7.6					
GSD- 8077	7.7					
GSD- 8078	7.8					
GSD- 8079	7.9					
GSD- 8080	8.0					
GSD- 8081	8.1	10	95	142	40	77
GSD- 8082	8.2					
GSD- 8083	8.3					
GSD- 8084	8.4					
GSD- 8085	8.5					
GSD- 8086	8.6					
GSD- 8087	8.7					
GSD- 8088	8.8					
GSD- 8089	8.9					
GSD- 8090	9.0					
GSD- 8091	9.1	10	95	142	40	77
GSD- 8092	9.2					
GSD- 8093	9.3					
GSD- 8094	9.4					
GSD- 8095	9.5					
GSD- 8096	9.6					
GSD- 8097	9.7					
GSD- 8098	9.8					
GSD- 8099	9.9					
GSD- 8100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GSD- 8101	10.1	12	114	162	45	93
GSD- 8102	10.2					
GSD- 8103	10.3					
GSD- 8104	10.4					
GSD- 8105	10.5					
GSD- 8106	10.6					
GSD- 8107	10.7					
GSD- 8108	10.8					
GSD- 8109	10.9					
GSD- 8110	11.0					
GSD- 8111	11.1	12	114	162	45	93
GSD- 8112	11.2					
GSD- 8113	11.3					
GSD- 8114	11.4					
GSD- 8115	11.5					
GSD- 8116	11.6					
GSD- 8117	11.7					
GSD- 8118	11.8					
GSD- 8119	11.9					
GSD- 8120	12.0					
GSD- 8121	12.1	14	133	178	45	109
GSD- 8122	12.2					
GSD- 8123	12.3					
GSD- 8124	12.4					
GSD- 8125	12.5					
GSD- 8126	12.6					
GSD- 8127	12.7					
GSD- 8128	12.8					
GSD- 8129	12.9					
GSD- 8130	13.0					
GSD- 8131	13.1	14	133	178	45	109
GSD- 8132	13.2					
GSD- 8133	13.3					
GSD- 8134	13.4					
GSD- 8135	13.5					
GSD- 8136	13.6					
GSD- 8137	13.7					
GSD- 8138	13.8					
GSD- 8139	13.9					
GSD- 8140	14.0					
GSD- 8141	14.1	16	152	203	48	125
GSD- 8142	14.2					
GSD- 8143	14.3					
GSD- 8144	14.4					
GSD- 8145	14.5					
GSD- 8146	14.6					
GSD- 8147	14.7					
GSD- 8148	14.8					
GSD- 8149	14.9					
GSD- 8150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GSD- 8151	15.1	16	152	203	48	125
GSD- 8152	15.2					
GSD- 8153	15.3					
GSD- 8154	15.4					
GSD- 8155	15.5					
GSD- 8156	15.6					
GSD- 8157	15.7					
GSD- 8158	15.8					
GSD- 8159	15.9					
GSD- 8160	16.0					
GSD- 8165	16.5	18	171	222	48	140
GSD- 8170	17.0					
GSD- 8175	17.5					
GSD- 8180	18.0					
GSD- 8185	18.5	20	190	243	50	156
GSD- 8190	19.0					
GSD- 8195	19.5					
GSD- 8200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

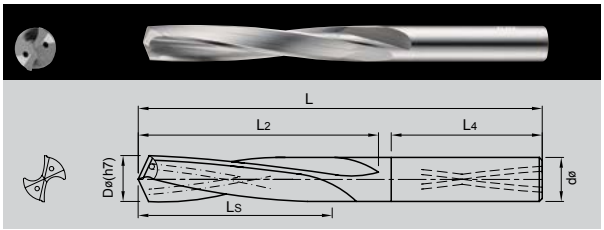
內冷式鎢鋼鋁用鑽頭

SOLID CARBIDE G DRILL WITH INTERNAL COOLANT

λ 20°

DIN 6537

- 螺旋槽
- Spiral Flute
- 中心內冷
- Internal Coolant



適合材質：
銅、鋁、鑄鐵等之非鐵金屬。

Applicable materials:
Copper, aluminum, cast iron...etc, nonferrous metals.

略帶鑽鉸功能之鎢鋼鑽頭(非鉸刀)。
A tungsten carbide drill also featuring slight reaming function (not reamer)

EDP No.	Dø	dø	L2	L	L4	Ls
GOSD- 5050	5.0	6	44	82	36	32
GOSD- 5051	5.1					
GOSD- 5052	5.2					
GOSD- 5053	5.3					
GOSD- 5054	5.4					
GOSD- 5055	5.5					
GOSD- 5056	5.6					
GOSD- 5057	5.7					
GOSD- 5058	5.8					
GOSD- 5059	5.9					
GOSD- 5060	6.0					
GOSD- 5061	6.1	8	53	91	36	40
GOSD- 5062	6.2					
GOSD- 5063	6.3					
GOSD- 5064	6.4					
GOSD- 5065	6.5					
GOSD- 5066	6.6					
GOSD- 5067	6.7					
GOSD- 5068	6.8					
GOSD- 5069	6.9					
GOSD- 5070	7.0					
GOSD- 5071	7.1	8	53	91	36	40
GOSD- 5072	7.2					
GOSD- 5073	7.3					
GOSD- 5074	7.4					
GOSD- 5075	7.5					
GOSD- 5076	7.6					
GOSD- 5077	7.7					
GOSD- 5078	7.8					
GOSD- 5079	7.9					
GOSD- 5080	8.0					
GOSD- 5081	8.1	10	61	103	40	46
GOSD- 5082	8.2					
GOSD- 5083	8.3					
GOSD- 5084	8.4					
GOSD- 5085	8.5					
GOSD- 5086	8.6					
GOSD- 5087	8.7					
GOSD- 5088	8.8					
GOSD- 5089	8.9					
GOSD- 5090	9.0					
GOSD- 5091	9.1	10	61	103	40	46
GOSD- 5092	9.2					
GOSD- 5093	9.3					
GOSD- 5094	9.4					
GOSD- 5095	9.5					
GOSD- 5096	9.6					
GOSD- 5097	9.7					
GOSD- 5098	9.8					
GOSD- 5099	9.9					
GOSD- 5100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOSD- 5101	10.1	12	71	118	45	53
GOSD- 5102	10.2					
GOSD- 5103	10.3					
GOSD- 5104	10.4					
GOSD- 5105	10.5					
GOSD- 5106	10.6					
GOSD- 5107	10.7					
GOSD- 5108	10.8					
GOSD- 5109	10.9					
GOSD- 5110	11.0					
GOSD- 5111	11.1	12	71	118	45	53
GOSD- 5112	11.2					
GOSD- 5113	11.3					
GOSD- 5114	11.4					
GOSD- 5115	11.5					
GOSD- 5116	11.6					
GOSD- 5117	11.7					
GOSD- 5118	11.8					
GOSD- 5119	11.9					
GOSD- 5120	12.0					
GOSD- 5121	12.1	14	77	124	45	57
GOSD- 5122	12.2					
GOSD- 5123	12.3					
GOSD- 5124	12.4					
GOSD- 5125	12.5					
GOSD- 5126	12.6					
GOSD- 5127	12.7					
GOSD- 5128	12.8					
GOSD- 5129	12.9					
GOSD- 5130	13.0					
GOSD- 5131	13.1	14	77	124	45	57
GOSD- 5132	13.2					
GOSD- 5133	13.3					
GOSD- 5134	13.4					
GOSD- 5135	13.5					
GOSD- 5136	13.6					
GOSD- 5137	13.7					
GOSD- 5138	13.8					
GOSD- 5139	13.9					
GOSD- 5140	14.0					
GOSD- 5141	14.1	16	83	133	48	60
GOSD- 5142	14.2					
GOSD- 5143	14.3					
GOSD- 5144	14.4					
GOSD- 5145	14.5					
GOSD- 5146	14.6					
GOSD- 5147	14.7					
GOSD- 5148	14.8					
GOSD- 5149	14.9					
GOSD- 5150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOSD- 5151	15.1	16	83	133	48	60
GOSD- 5152	15.2					
GOSD- 5153	15.3					
GOSD- 5154	15.4					
GOSD- 5155	15.5					
GOSD- 5156	15.6					
GOSD- 5157	15.7					
GOSD- 5158	15.8					
GOSD- 5159	15.9					
GOSD- 5160	16.0					
GOSD- 5165	16.5	18	93	143	48	68
GOSD- 5170	17.0					
GOSD- 5175	17.5					
GOSD- 5180	18.0					
GOSD- 5185	18.5	20	101	153	50	73
GOSD- 5190	19.0					
GOSD- 5195	19.5					
GOSD- 5200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

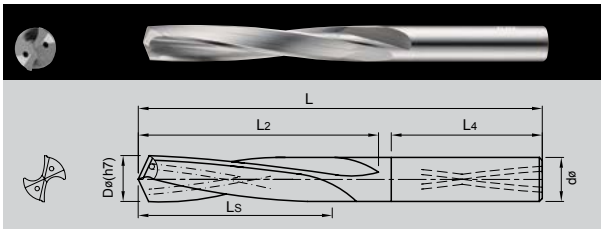
內冷式鎢鋼鋁用鑽頭

SOLID CARBIDE G DRILL WITH INTERNAL COOLANT

λ 20°

DIN 6537

- 螺旋槽
- Spiral Flute
- 中心內冷
- Internal Coolant



適合材質：
銅、鋁、鑄鐵等之非鐵金屬。

Applicable materials:
Copper, aluminum, cast iron...etc, nonferrous metals.

略帶鑽鉸功能之鎢鋼鑽頭(非鉸刀)。
A tungsten carbide drill also featuring slight reaming function (not reamer)

EDP No.	Dø	dø	L2	L	L4	Ls
GOSD- 8050	5.0	6	57	95	36	45
GOSD- 8051	5.1					
GOSD- 8052	5.2					
GOSD- 8053	5.3					
GOSD- 8054	5.4					
GOSD- 8055	5.5					
GOSD- 8056	5.6					
GOSD- 8057	5.7					
GOSD- 8058	5.8					
GOSD- 8059	5.9					
GOSD- 8060	6.0					
GOSD- 8061	6.1	8	76	114	36	61
GOSD- 8062	6.2					
GOSD- 8063	6.3					
GOSD- 8064	6.4					
GOSD- 8065	6.5					
GOSD- 8066	6.6					
GOSD- 8067	6.7					
GOSD- 8068	6.8					
GOSD- 8069	6.9					
GOSD- 8070	7.0					
GOSD- 8071	7.1	8	76	114	36	61
GOSD- 8072	7.2					
GOSD- 8073	7.3					
GOSD- 8074	7.4					
GOSD- 8075	7.5					
GOSD- 8076	7.6					
GOSD- 8077	7.7					
GOSD- 8078	7.8					
GOSD- 8079	7.9					
GOSD- 8080	8.0					
GOSD- 8081	8.1	10	95	142	40	77
GOSD- 8082	8.2					
GOSD- 8083	8.3					
GOSD- 8084	8.4					
GOSD- 8085	8.5					
GOSD- 8086	8.6					
GOSD- 8087	8.7					
GOSD- 8088	8.8					
GOSD- 8089	8.9					
GOSD- 8090	9.0					
GOSD- 8091	9.1	10	95	142	40	77
GOSD- 8092	9.2					
GOSD- 8093	9.3					
GOSD- 8094	9.4					
GOSD- 8095	9.5					
GOSD- 8096	9.6					
GOSD- 8097	9.7					
GOSD- 8098	9.8					
GOSD- 8099	9.9					
GOSD- 8100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOSD- 8101	10.1	12	114	162	45	93
GOSD- 8102	10.2					
GOSD- 8103	10.3					
GOSD- 8104	10.4					
GOSD- 8105	10.5					
GOSD- 8106	10.6					
GOSD- 8107	10.7					
GOSD- 8108	10.8					
GOSD- 8109	10.9					
GOSD- 8110	11.0					
GOSD- 8111	11.1	12	114	162	45	93
GOSD- 8112	11.2					
GOSD- 8113	11.3					
GOSD- 8114	11.4					
GOSD- 8115	11.5					
GOSD- 8116	11.6					
GOSD- 8117	11.7					
GOSD- 8118	11.8					
GOSD- 8119	11.9					
GOSD- 8120	12.0					
GOSD- 8121	12.1	14	133	178	45	109
GOSD- 8122	12.2					
GOSD- 8123	12.3					
GOSD- 8124	12.4					
GOSD- 8125	12.5					
GOSD- 8126	12.6					
GOSD- 8127	12.7					
GOSD- 8128	12.8					
GOSD- 8129	12.9					
GOSD- 8130	13.0					
GOSD- 8131	13.1	14	133	178	45	109
GOSD- 8132	13.2					
GOSD- 8133	13.3					
GOSD- 8134	13.4					
GOSD- 8135	13.5					
GOSD- 8136	13.6					
GOSD- 8137	13.7					
GOSD- 8138	13.8					
GOSD- 8139	13.9					
GOSD- 8140	14.0					
GOSD- 8141	14.1	16	152	203	48	125
GOSD- 8142	14.2					
GOSD- 8143	14.3					
GOSD- 8144	14.4					
GOSD- 8145	14.5					
GOSD- 8146	14.6					
GOSD- 8147	14.7					
GOSD- 8148	14.8					
GOSD- 8149	14.9					
GOSD- 8150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOSD- 8151	15.1	16	152	203	48	125
GOSD- 8152	15.2					
GOSD- 8153	15.3					
GOSD- 8154	15.4					
GOSD- 8155	15.5					
GOSD- 8156	15.6					
GOSD- 8157	15.7					
GOSD- 8158	15.8					
GOSD- 8159	15.9					
GOSD- 8160	16.0					
GOSD- 8165	16.5	18	171	222	48	140
GOSD- 8170	17.0					
GOSD- 8175	17.5					
GOSD- 8180	18.0					
GOSD- 8185	18.5	20	190	243	50	156
GOSD- 8190	19.0					
GOSD- 8195	19.5					
GOSD- 8200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

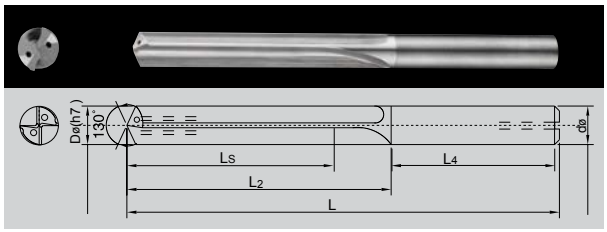
內冷式鎢鋼鋁用鑽頭

SOLID CARBIDE G DRILL WITH INTERNAL COOLANT

λ 0°

DIN 6537

- 直槽
- Straight Flute
- 中心內冷
- Internal Coolant



適合材質：
銅、鋁、鑄鐵等之非鐵金屬。

Applicable materials:
Copper, aluminum, cast iron...etc, nonferrous metals.

略帶鑽鉸功能之鎢鋼鑽頭(非鉸刀)。
A tungsten carbide drill also featuring slight reaming function (not reamer)

EDP No.	Dø	dø	L2	L	L4	Ls
GOD- 5050	5.0	6	44	82	36	35
GOD- 5051	5.1					
GOD- 5052	5.2					
GOD- 5053	5.3					
GOD- 5054	5.4					
GOD- 5055	5.5					
GOD- 5056	5.6					
GOD- 5057	5.7					
GOD- 5058	5.8					
GOD- 5059	5.9					
GOD- 5060	6.0					
GOD- 5061	6.1	8	53	91	36	43
GOD- 5062	6.2					
GOD- 5063	6.3					
GOD- 5064	6.4					
GOD- 5065	6.5					
GOD- 5066	6.6					
GOD- 5067	6.7					
GOD- 5068	6.8					
GOD- 5069	6.9					
GOD- 5070	7.0					
GOD- 5071	7.1	8	53	91	36	43
GOD- 5072	7.2					
GOD- 5073	7.3					
GOD- 5074	7.4					
GOD- 5075	7.5					
GOD- 5076	7.6					
GOD- 5077	7.7					
GOD- 5078	7.8					
GOD- 5079	7.9					
GOD- 5080	8.0					
GOD- 5081	8.1	10	61	103	40	49
GOD- 5082	8.2					
GOD- 5083	8.3					
GOD- 5084	8.4					
GOD- 5085	8.5					
GOD- 5086	8.6					
GOD- 5087	8.7					
GOD- 5088	8.8					
GOD- 5089	8.9					
GOD- 5090	9.0					
GOD- 5091	9.1	10	61	103	40	49
GOD- 5092	9.2					
GOD- 5093	9.3					
GOD- 5094	9.4					
GOD- 5095	9.5					
GOD- 5096	9.6					
GOD- 5097	9.7					
GOD- 5098	9.8					
GOD- 5099	9.9					
GOD- 5100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOD- 5101	10.1	12	71	118	45	56
GOD- 5102	10.2					
GOD- 5103	10.3					
GOD- 5104	10.4					
GOD- 5105	10.5					
GOD- 5106	10.6					
GOD- 5107	10.7					
GOD- 5108	10.8					
GOD- 5109	10.9					
GOD- 5110	11.0					
GOD- 5111	11.1	12	71	118	45	56
GOD- 5112	11.2					
GOD- 5113	11.3					
GOD- 5114	11.4					
GOD- 5115	11.5					
GOD- 5116	11.6					
GOD- 5117	11.7					
GOD- 5118	11.8					
GOD- 5119	11.9					
GOD- 5120	12.0					
GOD- 5121	12.1	14	77	124	45	60
GOD- 5122	12.2					
GOD- 5123	12.3					
GOD- 5124	12.4					
GOD- 5125	12.5					
GOD- 5126	12.6					
GOD- 5127	12.7					
GOD- 5128	12.8					
GOD- 5129	12.9					
GOD- 5130	13.0					
GOD- 5131	13.1	14	77	124	45	60
GOD- 5132	13.2					
GOD- 5133	13.3					
GOD- 5134	13.4					
GOD- 5135	13.5					
GOD- 5136	13.6					
GOD- 5137	13.7					
GOD- 5138	13.8					
GOD- 5139	13.9					
GOD- 5140	14.0					
GOD- 5141	14.1	16	83	133	48	63
GOD- 5142	14.2					
GOD- 5143	14.3					
GOD- 5144	14.4					
GOD- 5145	14.5					
GOD- 5146	14.6					
GOD- 5147	14.7					
GOD- 5148	14.8					
GOD- 5149	14.9					
GOD- 5150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOD- 5151	15.1	16	83	133	48	63
GOD- 5152	15.2					
GOD- 5153	15.3					
GOD- 5154	15.4					
GOD- 5155	15.5					
GOD- 5156	15.6					
GOD- 5157	15.7					
GOD- 5158	15.8					
GOD- 5159	15.9					
GOD- 5160	16.0					
GOD- 5165	16.5	18	93	143	48	71
GOD- 5170	17.0					
GOD- 5175	17.5					
GOD- 5180	18.0					
GOD- 5185	18.5	20	101	153	50	77
GOD- 5190	19.0					
GOD- 5195	19.5					
GOD- 5200	20.0					

Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

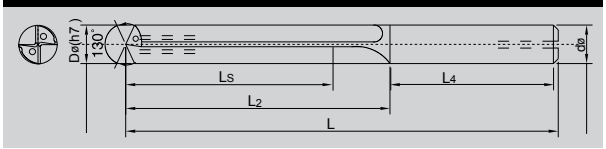
內冷式鎢鋼鋁用鑽頭

SOLID CARBIDE G DRILL WITH INTERNAL COOLANT

λ 0°

DIN 6537

- 直槽
- Straight Flute
- 中心內冷
- Internal Coolant



適合材質：
銅、鋁、鑄鐵等之非鐵金屬。

Applicable materials:
Copper, aluminum, cast iron...etc, nonferrous metals.

略帶鑽鉸功能之鎢鋼鑽頭(非鉸刀)。
A tungsten carbide drill also featuring slight reaming function (not reamer)

EDP No.	Dø	dø	L2	L	L4	Ls
GOD- 8050	5.0	6	57	95	36	48
GOD- 8051	5.1					
GOD- 8052	5.2					
GOD- 8053	5.3					
GOD- 8054	5.4					
GOD- 8055	5.5					
GOD- 8056	5.6					
GOD- 8057	5.7					
GOD- 8058	5.8					
GOD- 8059	5.9					
GOD- 8060	6.0					
GOD- 8061	6.1	8	76	114	36	64
GOD- 8062	6.2					
GOD- 8063	6.3					
GOD- 8064	6.4					
GOD- 8065	6.5					
GOD- 8066	6.6					
GOD- 8067	6.7					
GOD- 8068	6.8					
GOD- 8069	6.9					
GOD- 8070	7.0					
GOD- 8071	7.1	8	76	114	36	64
GOD- 8072	7.2					
GOD- 8073	7.3					
GOD- 8074	7.4					
GOD- 8075	7.5					
GOD- 8076	7.6					
GOD- 8077	7.7					
GOD- 8078	7.8					
GOD- 8079	7.9					
GOD- 8080	8.0					
GOD- 8081	8.1	10	95	142	40	80
GOD- 8082	8.2					
GOD- 8083	8.3					
GOD- 8084	8.4					
GOD- 8085	8.5					
GOD- 8086	8.6					
GOD- 8087	8.7					
GOD- 8088	8.8					
GOD- 8089	8.9					
GOD- 8090	9.0					
GOD- 8091	9.1	10	95	142	40	80
GOD- 8092	9.2					
GOD- 8093	9.3					
GOD- 8094	9.4					
GOD- 8095	9.5					
GOD- 8096	9.6					
GOD- 8097	9.7					
GOD- 8098	9.8					
GOD- 8099	9.9					
GOD- 8100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOD- 8101	10.1	12	114	162	45	96
GOD- 8102	10.2					
GOD- 8103	10.3					
GOD- 8104	10.4					
GOD- 8105	10.5					
GOD- 8106	10.6					
GOD- 8107	10.7					
GOD- 8108	10.8					
GOD- 8109	10.9					
GOD- 8110	11.0					
GOD- 8111	11.1	12	114	162	45	96
GOD- 8112	11.2					
GOD- 8113	11.3					
GOD- 8114	11.4					
GOD- 8115	11.5					
GOD- 8116	11.6					
GOD- 8117	11.7					
GOD- 8118	11.8					
GOD- 8119	11.9					
GOD- 8120	12.0					
GOD- 8121	12.1	14	133	178	45	112
GOD- 8122	12.2					
GOD- 8123	12.3					
GOD- 8124	12.4					
GOD- 8125	12.5					
GOD- 8126	12.6					
GOD- 8127	12.7					
GOD- 8128	12.8					
GOD- 8129	12.9					
GOD- 8130	13.0					
GOD- 8131	13.1	14	133	178	45	112
GOD- 8132	13.2					
GOD- 8133	13.3					
GOD- 8134	13.4					
GOD- 8135	13.5					
GOD- 8136	13.6					
GOD- 8137	13.7					
GOD- 8138	13.8					
GOD- 8139	13.9					
GOD- 8140	14.0					
GOD- 8141	14.1	16	152	203	48	128
GOD- 8142	14.2					
GOD- 8143	14.3					
GOD- 8144	14.4					
GOD- 8145	14.5					
GOD- 8146	14.6					
GOD- 8147	14.7					
GOD- 8148	14.8					
GOD- 8149	14.9					
GOD- 8150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
GOD- 8151	15.1	16	152	203	48	128
GOD- 8152	15.2					
GOD- 8153	15.3					
GOD- 8154	15.4					
GOD- 8155	15.5					
GOD- 8156	15.6					
GOD- 8157	15.7					
GOD- 8158	15.8					
GOD- 8159	15.9					
GOD- 8160	16.0					
GOD- 8165	16.5	18	171	222	48	144
GOD- 8170	17.0					
GOD- 8175	17.5					
GOD- 8180	18.0					
GOD- 8185	18.5	20	190	243	50	160
GOD- 8190	19.0					
GOD- 8195	19.5					
GOD- 8200	20.0					

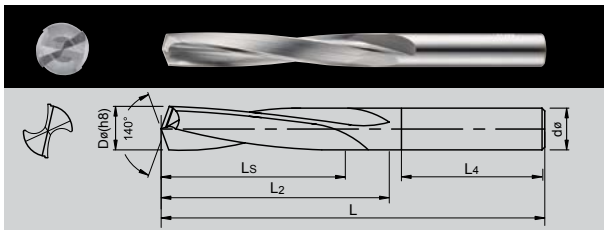
Dø/ Diameter
L2/ Flute Length
L4/ Shank Length
dø/ Shank Diameter
L/ Overall Length
LS/ Length of Cut

全鎢鋼被覆鑽頭

TUNGSTEN CARBIDE COATED DRILL

λ 12° | DIN 6537 | HRC ~62°

- 螺旋槽
- Spiral Flute



適合材質：
熱處理後高硬度材

Applicable materials:
High-hardness material after heat treated

EDP No.	Dø	dø	L2	L	L4	Ls
BBD- 5050	5.0	6	44	82	36	35
BBD- 5051	5.1					
BBD- 5052	5.2					
BBD- 5053	5.3					
BBD- 5054	5.4					
BBD- 5055	5.5					
BBD- 5056	5.6					
BBD- 5057	5.7					
BBD- 5058	5.8					
BBD- 5059	5.9					
BBD- 5060	6.0					
BBD- 5061	6.1	8	53	91	36	43
BBD- 5062	6.2					
BBD- 5063	6.3					
BBD- 5064	6.4					
BBD- 5065	6.5					
BBD- 5066	6.6					
BBD- 5067	6.7					
BBD- 5068	6.8					
BBD- 5069	6.9					
BBD- 5070	7.0					
BBD- 5071	7.1	8	53	91	36	43
BBD- 5072	7.2					
BBD- 5073	7.3					
BBD- 5074	7.4					
BBD- 5075	7.5					
BBD- 5076	7.6					
BBD- 5077	7.7					
BBD- 5078	7.8					
BBD- 5079	7.9					
BBD- 5080	8.0					
BBD- 5081	8.1	10	61	103	40	49
BBD- 5082	8.2					
BBD- 5083	8.3					
BBD- 5084	8.4					
BBD- 5085	8.5					
BBD- 5086	8.6					
BBD- 5087	8.7					
BBD- 5088	8.8					
BBD- 5089	8.9					
BBD- 5090	9.0					
BBD- 5091	9.1	10	61	103	40	49
BBD- 5092	9.2					
BBD- 5093	9.3					
BBD- 5094	9.4					
BBD- 5095	9.5					
BBD- 5096	9.6					
BBD- 5097	9.7					
BBD- 5098	9.8					
BBD- 5099	9.9					
BBD- 5100	10.0					

EDP No.	Dø	dø	L2	L	L4	Ls
BBD- 5101	10.1	12	71	118	45	56
BBD- 5102	10.2					
BBD- 5103	10.3					
BBD- 5104	10.4					
BBD- 5105	10.5					
BBD- 5106	10.6					
BBD- 5107	10.7					
BBD- 5108	10.8					
BBD- 5109	10.9					
BBD- 5110	11.0					
BBD- 5111	11.1	12	71	118	45	56
BBD- 5112	11.2					
BBD- 5113	11.3					
BBD- 5114	11.4					
BBD- 5115	11.5					
BBD- 5116	11.6					
BBD- 5117	11.7					
BBD- 5118	11.8					
BBD- 5119	11.9					
BBD- 5120	12.0					
BBD- 5121	12.1	14	77	124	45	60
BBD- 5122	12.2					
BBD- 5123	12.3					
BBD- 5124	12.4					
BBD- 5125	12.5					
BBD- 5126	12.6					
BBD- 5127	12.7					
BBD- 5128	12.8					
BBD- 5129	12.9					
BBD- 5130	13.0					
BBD- 5131	13.1	14	77	124	45	60
BBD- 5132	13.2					
BBD- 5133	13.3					
BBD- 5134	13.4					
BBD- 5135	13.5					
BBD- 5136	13.6					
BBD- 5137	13.7					
BBD- 5138	13.8					
BBD- 5139	13.9					
BBD- 5140	14.0					
BBD- 5141	14.1	16	83	133	48	63
BBD- 5142	14.2					
BBD- 5143	14.3					
BBD- 5144	14.4					
BBD- 5145	14.5					
BBD- 5146	14.6					
BBD- 5147	14.7					
BBD- 5148	14.8					
BBD- 5149	14.9					
BBD- 5150	15.0					

EDP No.	Dø	dø	L2	L	L4	Ls
BBD- 5151	15.1	16	83	133	48	63
BBD- 5152	15.2					
BBD- 5153	15.3					
BBD- 5154	15.4					
BBD- 5155	15.5					
BBD- 5156	15.6					
BBD- 5157	15.7					
BBD- 5158	15.8					
BBD- 5159	15.9					
BBD- 5160	16.0					

Dø/ Diameter
dø/ Shank Diameter
L2/ Flute Length
L/ Overall Length
L4/ Shank Length
LS/ Length of Cut

全鎢鋼NC定位鑽頭

SOLID CARBIDE NC POSITIONING DRILL

鎢鋼材質 高硬度、耐摩耗，鑽頂角90˚ 、120˚ 。
Tungsten Carbide material, high hardness, high wear resistance, point angle 90˚ or 120˚

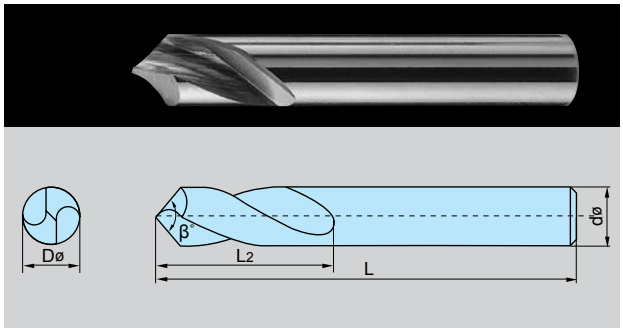
適合材質：
銅一般鋼料、合金鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel,stainless steel, copper, aluminum, cast iron.

全鎢鋼單頭NC 定位鑽頭

SOLID TUNGSTEN SINGLE END NC POSITIONING DRILL

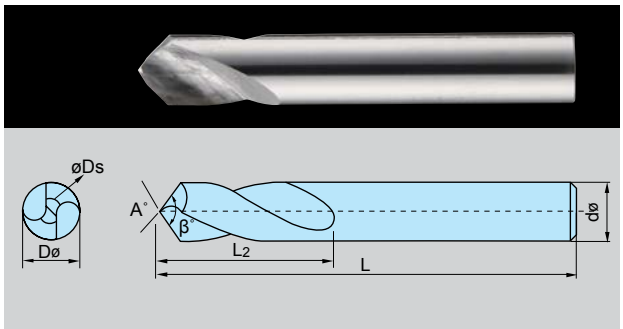
型　號 EDP NO.	ß°	直徑 øD	刃長 L2	全長 L	柄徑 ød
NSP - 9003	90˚	3.0	8	38	3.0
NSP - 9004	90˚	4.0	10	40	4.0
NSP - 9005	90˚	5.0	15	50	5.0
NSP - 9006	90˚	6.0	15	50	6.0
NSP - 9008	90˚	8.0	20	60	8.0
NSP - 9010	90˚	10.0	22	75	10.0
NSP - 9012	90˚	12.0	20	75	12.0
NSP - 9016	90˚	16.0	25	100	16.0
NSP - 9020	90˚	20.0	40	100	20.0
NSP - 12003	120˚	3.0	8	38	3.0
NSP - 12004	120˚	4.0	10	40	4.0
NSP - 12005	120˚	5.0	15	50	5.0
NSP - 12006	120˚	6.0	15	50	6.0
NSP - 12008	120˚	8.0	20	60	8.0
NSP - 12010	120˚	10.0	22	75	10.0
NSP - 12012	120˚	12.0	20	75	12.0
NSP - 12016	120˚	16.0	25	100	16.0
NSP - 12020	120˚	20.0	40	100	20.0



全鎢鋼單頭NC 定位鑽頭

SOLID TUNGSTEN SINGLE END NC POSITIONING DRILL

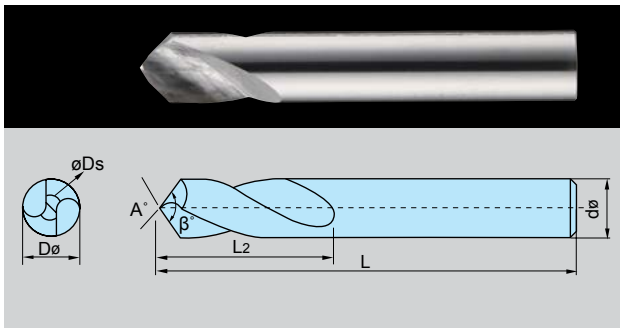
型　號 EDP NO.	ß°	A˚	直徑 øD	刃徑 øDs	刃長 L2	全長 L	柄徑 ød
PNSP - 03	90˚	118˚	3.0	1.5	8	38	3.0
PNSP - 04	90˚	118˚	4.0	2.0	10	40	4.0
PNSP - 05	90˚	118˚	5.0	2.0	15	50	5.0
PNSP - 06	90˚	118˚	6.0	2.5	15	50	6.0
PNSP - 08	90˚	118˚	8.0	3.0	20	60	8.0
PNSP - 10	90˚	118˚	10.0	4.0	22	75	10.0
PNSP - 12	90˚	118˚	12.0	5.0	25	75	12.0
PNSP - 16	90˚	118˚	16.0	7.0	40	100	16.0



全鎢鋼單頭NC 定位鑽頭

SOLID TUNGSTEN SINGLE END NC POSITIONING DRILL

型　號 EDP NO.	ß°	A˚	直徑 øD	刃徑 øDs	刃長 L2	全長 L	柄徑 ød
HNSP - 03	90˚	140˚	3.0	1.5	8	38	3.0
HNSP - 04	90˚	140˚	4.0	2.0	10	40	4.0
HNSP - 05	90˚	140˚	5.0	2.0	15	50	5.0
HNSP - 06	90˚	140˚	6.0	2.5	15	50	6.0
HNSP - 08	90˚	140˚	8.0	3.0	20	60	8.0
HNSP - 10	90˚	140˚	10.0	4.0	22	75	10.0
HNSP - 12	90˚	140˚	12.0	5.0	25	75	12.0
HNSP - 16	90˚	140˚	16.0	7.0	40	100	16.0



全鎢鋼中心鑽

SOLID CARBIDE NC SPOTING CENTER BIT DRILL

鎢鋼材質 高硬度、耐摩耗

Tungsten Carbide material, high hardness, high wear resistance

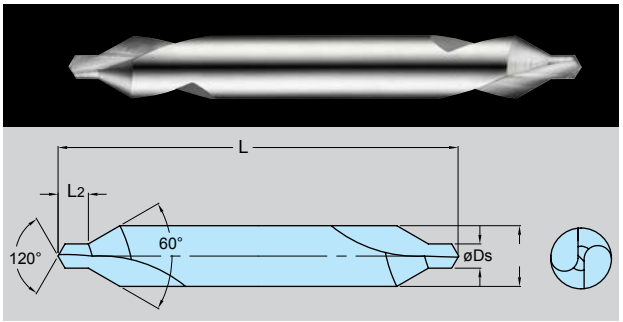
適用材質：

銅一般鋼料、合金鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:

General steel, alloy steel,stainless steel, copper, aluminum, cast iron.

型　號 EDP NO.	刃徑 øD	刃長 L2	全長 L	柄徑 ød
CND-08030	0.8	1.1	38	3
CND-10030	1.0	1.3	38	3
CND-12530	1.25	1.6	38	3
CND-16040	1.6	2.0	38	4
CND-20050	2.0	2.5	50	5
CND-25060	2.5	3.1	50	6
CND-31580	3.15	3.9	63	8
CND-400100	4.0	5.0	66	10
CND-500120	5.0	6.3	75	12
CND-600160	6.0	8.0	75	16

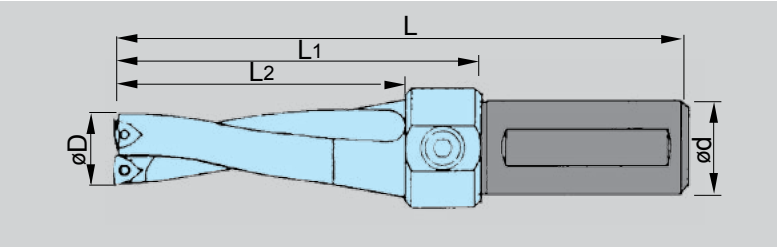


桃型捨棄式快速鑽頭

RAPID DRILLS(W) THROW-AWAY INSERT

U鑽

型號規格 EDP NO.	刀徑 Dia	尺寸 Dimension(mm)				適用刀片 Insert	螺絲 Screw	板手 Wrench
		d Shank Diameter	L Overall Length	L_1 Flute Length	L_2 Length of Cut			
3H-14WCMX	14	25			42	WCMX030208	M2.5 x 0.45	T-8
3H-15WCMX	15	25			45			
3H-16WCMX	16	25			48			
3H-17WCMX	17	25			51			
3H-18WCMX	18	25			54			
3H-19WCMX	19	25			57			
3H-20WCMX	20	32			60	WCMX040208		
3H-21WCMX	21	32			63			
3H-22WCMX	22	32			66			
3H-23WCMX	23	32			69			
3H-24WCMX	24	32			72			
3H-25WCMX	25	32			75	WCMX050308	M3 x 0.5	T-10
3H-26WCMX	26	32			78			
3H-27WCMX	27	32			81			
3H-28WCMX	28	32			84			
3H-29WCMX	29	32			87			
3H-30WCMX	30	32			90			
3H-31WCMX	31	32			93	WCMX063T08	M3.5 x 0.6	T-15
3H-32WCMX	32	32			96			
3H-33WCMX	33	32			99			
3H-34WCMX	34	32			102			
3H-35WCMX	35	32			105			
3H-36WCMX	36	32			108			
3H-37WCMX	37	32			111			
3H-38WCMX	38	32			114			
3H-39WCMX	39	32			117			
3H-40WCMX	40	32			120			
3H-37WCMX	37	40			111	WCMX06T308		
3H-38WCMX	38	40			114			
3H-39WCMX	39	40			117			
3H-40WCMX	40	40			120			
3H-41WCMX	41	40			123			
3H-42WCMX	42	40			126			

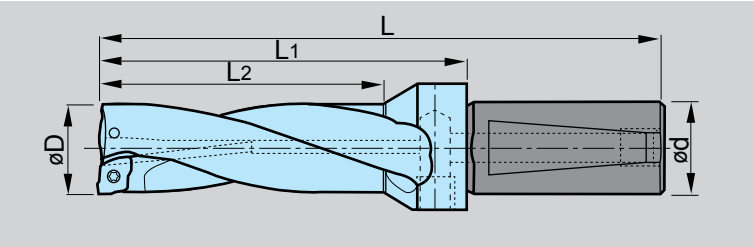


型號規格 EDP NO.	刀徑 Dia	尺寸 Dimension(mm)				適用刀片 Insert	螺絲 Screw	板手 Wrench
		d Shank Diameter	L Overall Length	L1 Flute Length	L2 Length of Cut			
3H-43WCMX	43	40			129	WCMX080412	M4x 0.7	T-15
3H-44WCMX	44	40			132			
3H-45WCMX	45	40			135			
3H-46WCMX	46	40			138			
3H-47WCMX	47	40			141			
3H-48WCMX	48	40			144			
3H-49WCMX	49	40			147			
3H-50WCMX	50	40			150			
3H-51WCMX	51	40			153			
3H-52WCMX	52	40			156			
3H-53WCMX	53	40			159			
3H-54WCMX	54	40			162			
3H-55WCMX	55	40			165	WCMX06T0308	M3.5x 0.6	
3H-56WCMX	56	40			168			
3H-57WCMX	57	40			171			
3H-58WCMX	58	40			174			
3H-59WCMX	59	40			177			
3H-60WCMX	60	40			180			

閃電型螺旋槽快速鑽頭

SPIRAL FLUTE HIGH SPEED DRILL

U鑽



型號規格 EDP NO.	刀徑 Dia	尺寸 Dimension(mm)				適用刀片 Insert	螺絲 Screw	板手 Wrench
		d Shank Diameter	L Overall Length	L1 Flute Length	L2 Length of Cut			
JR25-DRZ18 3D-06	18	25	136	82	54	ZCMT06T2	CS2260	T-7
JR25-DRZ19 3D-06	19	25	139	85	57			
JR25-DRZ 20 3D-06	20	25	143	89	60			
JR25-DRZ 21 3D-06	21	25	146	89	63			
JR25-DRZ 22 3D-08	22	25	147	93	66	ZCMT0803	CS2565	T-8
JR25-DRZ 23 3D-08	23	25	150	96	69			
JR25-DRZ 24 3D-08	24	25	152	98	72			
JR25-DRZ 25 3D-08	25	25	155	101	75			
JR25-DRZ 26 3D-08	26	25	158	104	78			
JR32-DRZ 27 3D-10	27	32	173	114	81	ZCMT10T3	CS4090	T-15
JR32-DRZ 28 3D-10	28	32	176	117	84			
JR32-DRZ 29 3D-10	29	32	179	120	87			
JR32-DRZ 30 3D-10	30	32	181	122	90			
JR32-DRZ 31 3D-10	31	32	183	124	93			
JR32-DRZ 32 3D-10	32	32	187	128	96			
JR32-DRZ 33 3D-12	33	32	193	134	99	ZCMT12T3	CS5090	T-20
JR32-DRZ 34 3D-12	34	32	197	138	102			
JR32-DRZ 35 3D-12	35	32	199	140	105			
JR32-DRZ 36 3D-12	36	32	203	144	108			
JR32-DRZ 37 3D-12	37	32	205	146	111			
JR32-DRZ 38 3D-12	38	32	208	149	114			
JR32-DRZ 39 3D-12	39	32	211	152	117			
JR32-DRZ 40 3D-12	40	32	212	153	120			
JR40-DRZ 41 3D-15	41	40	224	155	123	ZCMT1504	CS5090	T-20
JR40-DRZ 42 3D-15	42	40	227	158	126			
JR40-DRZ 43 3D-15	43	40	230	161	129			
JR40-DRZ 44 3D-15	44	40	233	164	132			
JR40-DRZ 45 3D-15	45	40	234	165	135			
JR40-DRZ 46 3D-15	46	40	241	172	138			
JR40-DRZ 47 3D-15	47	40	245	176	141			
JR40-DRZ 48 3D-15	48	40	248	179	144			
JR40-DRZ 49 3D-15	49	40	250	181	147			
JR40-DRZ 50 3D-15	50	40	250	182	150			

切削數據參考表

CUTTING DATA CHART

型式 MODEL: HOD.CCD

被削材 WORKPIECE	硬度 HARDNESS	Ø4~Ø7		Ø7~Ø10		Ø10~Ø15		Ø15~Ø20	
		V m/min	f m/rev	V m/min	f m/rev	V m/min	f m/rev	V m/min	f m/rev
低碳鋼 LOW CARBON STEEL	~200HB	40~70	0.08~0.2	50~100	0.1~0.3	50~100	0.15~0.4	60~120	0.2~0.5
中碳鋼 MEDIUM CARBON STEEL	~300HB	40~60	0.08~0.15	50~100	0.1~0.25	50~100	0.15~0.4	50~120	0.2~0.5
模具鋼 MOLD STEEL	~300HB	30~60	0.05~0.15	30~60	0.1~0.25	40~80	0.1~0.3	40~100	0.15~0.4
不鏽鋼 STAINESS STEEL	~200HB	20~40	0.06~0.15	30~60	0.08~0.25	30~70	0.1~0.3	30~70	0.1~0.4
高硬度材 TOUGH MATERIAL	HRC40~50	10~40	0.03~0.1	10~40	0.05~0.15	15~40	0.08~0.2	20~50	0.1~0.25
球墨鑄鐵 DUCTILE IRON	170~240HB	40~80	0.08~0.15	50~100	0.1~0.3	50~100	0.15~0.4	50~100	0.2~0.5

型式 MODEL: TXD.WHCD

被削材 WORKPIECE	硬度 HARDNESS	Ø10~Ø15		Ø15~Ø20		Ø20~Ø25		Ø25~Ø30	
		V m/min	f m/rev	V m/min	f m/rev	V m/min	f m/rev	V m/min	f m/rev
低碳鋼 LOW CARBON STEEL	~200HB	50~80	0.1~0.25	50~100	0.1~0.3	50~100	0.15~0.35	50~120	0.2~0.4
中碳鋼 MEDIUM CARBON STEEL	~300HB	50~80	0.1~0.25	50~100	0.1~0.3	50~100	0.15~0.35	50~120	0.2~0.4
模具鋼 MOLD STEEL	~300HB	40~80	0.08~0.2	40~80	0.1~0.25	40~80	0.15~0.35	40~100	0.2~0.35
不鏽鋼 STAINESS STEEL	~200HB	30~70	0.08~0.2	30~70	0.1~0.25	30~70	0.1~0.3	30~70	0.15~0.35
高硬度材 TOUGH MATERIAL	HRC40~50	10~40	0.06~0.15	20~50	0.08~0.2	20~50	0.1~0.25	20~50	0.1~0.25
球墨鑄鐵 DUCTILE IRON	170~240HB	50~80	0.1~0.25	50~100	0.1~0.3	50~100	0.15~0.35	50~120	0.2~0.4

型式 MODEL: GSD.GOD

被削材 WORKPIECE	硬度 HARDNESS	Ø4~Ø7		Ø7~Ø10		Ø10~Ø15		Ø15~Ø20	
		V m/min	f m/rev	V m/min	f m/rev	V m/min	f m/rev	V m/min	f m/rev
鋁合金 ALUMIN ALLOY		40~100	0.08~0.2	50~120	0.1~0.25	60~140	0.1~0.4	60~160	0.2~0.5
鑄鐵 CAST IRON	FC250	40~80	0.1~0.2	50~100	0.1~0.25	50~100	0.1~0.3	60~120	0.15~0.4
球墨鑄鐵 DUCTILE IRON	FCD450	40~80	0.08~0.5	50~100	0.1~0.2	50~100	0.1~0.3	50~120	0.15~0.35

鑽頭切削實例

DRILL CUTTING TEST REPORT

鑽頭型號 DRILL	工件材質 WORKPIECE MATERIAL	切削條件 CUTTING CONDITIONS	使用機械 MACHINE	加工數量 QUANTITY
CCD-5059	S45C	回轉速R.P.M :2100 進刀量mm/Rev :0.14 鑽孔深mm :30	CNC車床 CNC LATHE	約3000 Pcs
WHCD-6135	快削S45C	回轉速R.P.M :1200 切削速度M/Min :70 進刀量mm/Rev :0.2 鑽孔深mm :35	CNC車床 42型 CNC LATHE Mod. 42	約12000 Pcs
HOD-7130	SCM435	回轉速R.P.M :1500 切削速度M/Min :60 進刀量mm/Rev :0.15 鑽孔深mm :50	CNC車床 CNC LATHE	約6000 Pcs
CCD-5048	SKD11	回轉速R.P.M :3000 進刀量mm/Rev :0.06 鑽孔深mm :10	CNC車床 CNC LATHE	約10000 Pcs
HOD-5089	SUS316	回轉速R.P.M :1800 切削速度M/Min :50 進刀量mm/Rev :0.15 鑽孔深mm :12	CNC車床 CNC LATHE	約11000 Pcs
HOD-7079	SUS304	回轉速R.P.M :2400 切削速度M/Min :60 進刀量mm/Rev :0.12 鑽孔深mm :15	CNC車床 42型 CNC LATHE Mod. 42	約6000 Pcs
CCD-5048	SK2	回轉速R.P.M :1800 進刀量mm/Rev :0.08 鑽孔深mm :10	CNC車床走心式 CNC LATHE Traveling Spindle	約2000 Pcs
CCD-5068	FC25	回轉速R.P.M :2400 切削速度M/Min :51 進刀量mm/Rev :420 鑽孔深mm :30	CNC銑床 CNC Milling Machine	約12000 Pcs
CCD-5089	SUS316	回轉速R.P.M :1800 切削速度M/Min :50 進刀量mm/Rev :0.15 鑽孔深mm :12	CNC車床 CNC LATHE	約1400 Pcs
TXD-6220	S45C	回轉速R.P.M :1200 切削速度M/Min :83 床台進給mm/Min :350 鑽孔深mm :30	CNC 銑床中心出水 CNC Milling Machine Coolant Through Spindle	約1100 Pcs

鑽頭型號 DRILL	工件材質 WORKPIECE MATERIAL	切削條件 CUTTING CONDITIONS	使用機械 MACHINE	加工數量 QUANTITY
HOD-7130	CCM415	回轉速R.P.M :1500 切削速度M/Min :61 進刀量mm/Rev :0.15 鑽孔深mm :50	CNC車床 CNC LATHE	約6000 Pcs
HOD-5175	SCM21	回轉速R.P.M :1467 切削速度M/Min :80 進刀量mm/Rev :0.3 鑽孔深mm :75	CNC車床 CNC LATHE	約1250 Pcs
CCD-5127	S45C	回轉速R.P.M :2000 切削速度M/Min :80 進刀量mm/Rev :600 鑽孔深mm :30	CNC加工中心機 MACHINE CENTER	約2200 Pcs
GSD-7080	鋁合金	回轉速R.P.M :2400 切削速度M/Min :60 進刀量mm/Rev :0.15 鑽孔深mm :30	CNC車床 CNC LATHE	約3300 Pcs
GSD-7130	FC25	回轉速R.P.M :1700 切削速度M/Min :70 進刀量mm/Rev :0.2 床台進給mm/Min :340 鑽孔深mm :30	CNC銑刀 CNC Milling Machine	約1430 Pcs
CCD-5130	SS41	回轉速R.P.M :1500 切削速度M/Min :60 進刀量mm/Rev :0.16 鑽孔深mm :19	CNC車床 CNC LATHE	約6000 Pcs
CCD-5110	SCM21 HRC22	回轉速R.P.M :1800 床台進給mm/Min :140 鑽孔深mm :18	CNC車床 CNC LATHE	約900 Pcs
CCD-5097	快削鉛	回轉速R.P.M :2200 進刀量mm/Rev :0.25 鑽孔深mm :18	CNC車床 CNC LATHE	約10000 Pcs
HOD-5130	SUS303	回轉速R.P.M :1500 進刀量mm/Rev :0.15 鑽孔深mm :50	CNC車床 CNC LATHE	約11000 Pcs

HOL 歐樂

HOL 鎢鋼端銑刀系列

HOL MILL SERIES

卓越研發能力　　追求切削技術新境界

Outstanding R&D Capabilities
Always Pursuing for New Level of Cutting Technology

HOL MILL 端銑刀之所以能夠贏得全球客戶的肯定，其背後之重要因素之一是我們擁專業的有技術研發能力。無論是在刀具幾何結構，切屑排除方式，刀具材質與工件加工特性等方面，我們的研發人員都深入探討與分析，以徹底滿足客戶對於重切削，快速切削之需求。並且展現優異的加工精度，表面細度與加工效率等。

HOL MILL have being fully satisfied customers around the world, one of the most important factors is our dedication to technological research and development. No matter it's about tool geometrical structure chip removing methods or tool materials or work piece machining characteristics, the R&D team conduct deep research and analysis to meet customers' requirements in heaving cutting and high speed cutting. Furthermore, each end mill from HOLER will present the superior machining accuracy, surface, roughness, and machining efficiency.

HOL MILL 端銑刀系列以卓越的品質與切削性能深受國內外客戶的肯定與讚賞。除了採用高級超細微粒碳化鎢材質製成，更採用先進的加工設備加工，配合世界頂級瑞士CNC刀具研磨機研磨，保證每一支端銑刀都表露出最值得信賴的品質與加工精度。廣泛的產品系列，更提供客戶最多元化的選擇。

HOL MILL has being highly reputed in outstanding quality and cutting performance. Manufactured from top quality micro-grain tungsten carbide material, and using top-level Swiss CNC tool grinding machine for precision grinding are assure the best quality and machining accuracy for each end mill from HOLER. In addition, HOLER offers the most comprehensive range of end mills for customers to choose.

銑刀編號說明 END MILL MODEL NUMBER IDENTIFICATION

2 E - D10.0 L75 R05 AK45

刀具刃數
Flute No.

2	2刃
62	
3	3刃
63	
4	4刃
64	
6	6刃
65	

刀具系列
End Mill Series

E	平口立銑刀 Flat end
ET	波浪型立銑刀 Wave shape
EP	口袋型立銑刀 Pockt type
BE	球頭立銑刀 Ball end
EAL	平口鋁用立銑刀 Flat end for aluminum
BEAL	球頭鋁用立銑刀 Ball end for aluminum
ECR	圓鼻立銑刀 Corner radius end mills

TP	斜度立銑刀 Taper
ETAL	鋁用波浪立銑刀 Sinus edge aluminum
EH	重切削立銑刀 4-FLUTE
EIR	內R倒角立銑刀 Internal R Chamfering
EHCR	圓鼻重切削立銑刀 Round Nose
EQ	粗銑立銑刀 Roughing end mills

刀徑
Flute Dia.

R	球頭刀圓半徑值 Ball end radius
D	刀具直徑值 End mill dia

刀具總長
Overall Length

75	75 mm
100	100 mm

刀具圓鼻值
Round Nose

無標識為平口刀 Omit:flat end	
R05	圓鼻角 0.5r Nose radius
C03	倒角 0.3c Chamf. angle

刀具材質
End mill material

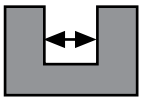
AK 925
AK 25
AK 35
AK 45
PK 66

銑刀材質選用推薦 END MILL MATERIAL PROPERTIES

No.	WC%	CO%	TIC/Ta(Nb)c%	硬度 Hardness	平均晶粒度 Average Grain Size	被切削 Workpiece	鍍層顏色 Color
AK 925	89.8	9	1.2	93.2	0.2 μm	~65° HRC	Blue
AK 25	89.8	12	1.4	92.3	0.4 μm	~58° HRC	Gold
AK 35	86.7	12	1.3	92.1	0.5 μm	~55° HRC	Brown
AK 45	86.7	12	1.3	92.1	0.5 μm	~55° HRC	Black
PK 66	83~85	12~14	3	92.2	0.4 μm~0.7 μm	~50° HRC	Black

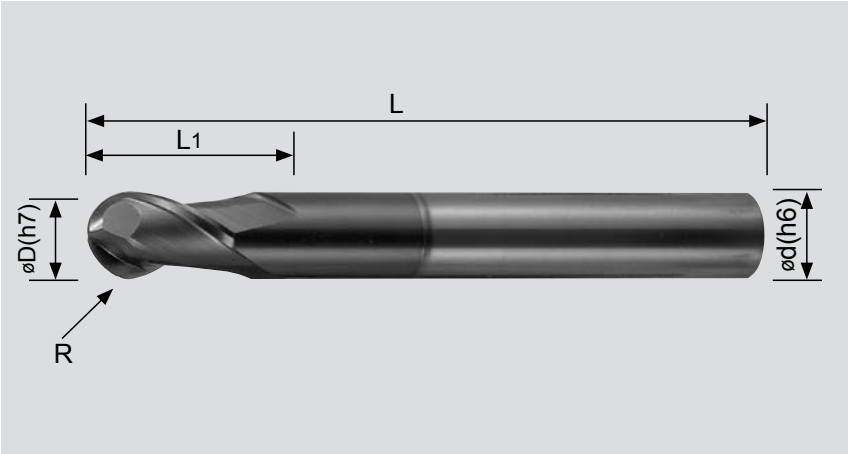
鎢鋼 2刃球形立銑刀

TUNGSTEN CARBIDE 2-FLUTE BALL END MILL



3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053

R = ± 0.02



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
鐵材、碳素鋼、鑄鐵、模具鋼、合金鋼、
工具鋼、不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Ferous metal, carbon steel,
cast iron, mold steel, alloy steel, tool steel,
stainless steel, heat-treated steel, welded steel.

單位/Unit : mm

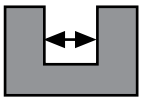
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	PK66
2BE-R0.5L50	1.0	R 0.5	2.0	50	4.0	2	●	●
2BE-R0.75L50	1.5	R 0.75	3.0	50	4.0	2	●	●
2BE-R1.0L50	2.0	R 1.0	4.0	50	4.0	2	●	●
2BE-R1.5L50	3.0	R 1.5	6.0	50	4.0	2	●	●
2BE-R1.5L50	3.0	R 1.5	6.0	50	3.0	2	●	●
2BE-R2.0L50	4.0	R 2.0	8.0	50	4.0	2	●	●
2BE-R2.5L50	5.0	R 2.5	10.0	50	5.0	2	●	●
2BE-R3.0L50	6.0	R 3.0	12.0	50	6.0	2	●	●
2BE-R4.0L75	8.0	R 4.0	16.0	60	8.0	2	●	●
2BE-R5.0L75	10.0	R 5.0	20.0	75	10.0	2	●	●
2BE-R6.0L75	12.0	R 6.0	24.0	75	12.0	2	●	●
2BEL-R1.0L75	2.0	R 1.0	4.0	75	4.0	2	●	●
2BEL-R1.5L75	3.0	R 1.5	6.0	75	4.0	2	●	●
2BEL-R1.5L100	3.0	R 1.5	15.0	100	3.0	2	●	●
2BEL-R2.0L75	4.0	R 2.0	8.0	75	4.0	2	●	●
2BEL-R2.0L100	4.0	R 2.0	20.0	100	4.0	2	●	●
2BEL-R2.5L75	5.0	R 2.5	10.0	75	5.0	2	●	●
2BEL-R2.5L100	5.0	R 2.5	25.0	100	5.0	2	●	●
2BEL-R3.0L100	6.0	R 3.0	30.0	100	6.0	2	●	●
2BEL-R4.0L100	8.0	R 4.0	35.0	100	8.0	2	●	●
2BEL-R5.0L100	10.0	R 5.0	40.0	100	10.0	2	●	●
2BEL-R6.0L100	12.0	R 6.0	50.0	100	12.0	2	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第74頁

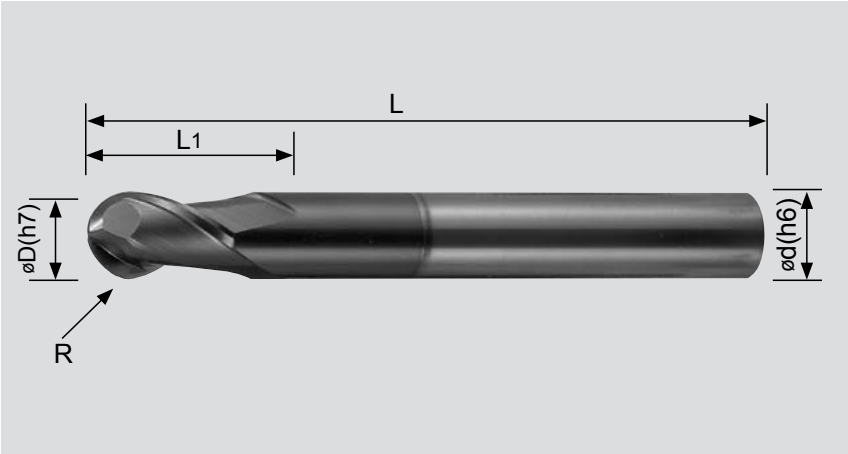
鎢鋼 2刃球形立銑刀

TUNGSTEN CARBIDE 2-FLUTE BALL END MILL



3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053

R = ± 0.02



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
鐵材、碳素鋼、鑄鐵、模具鋼、合金鋼、
工具鋼、不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Ferous metal, carbon steel,
cast iron, mold steel, alloy steel, tool steel,
stainless steel, heat-treated steel, welded steel.

單位/Unit : mm

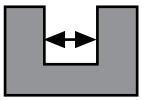
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK25	AK45	AK925	PK66
62BE-R0.5L51	1.0	R 0.5	2.0	51	4.0	2		●	●	●
62BE-R0.75L51	1.5	R 0.75	3.0	51	4.0	2		●	●	●
62BE-R1.0L51	2.0	R 1.0	4.0	51	4.0	2		●	●	●
62BE-R1.5L51	3.0	R 1.5	6.0	51	4.0	2		●	●	●
62BE-R2.0L51	4.0	R 2.0	8.0	51	4.0	2		●	●	●
62BE-R2.5L51	5.0	R 2.5	10.0	51	6.0	2		●	●	●
62BE-R3.0L51	6.0	R 3.0	12.0	51	6.0	2		●	●	●
62BE-R4.0L63	8.0	R 4.0	16.0	63	8.0	2		●	●	●
62BE-R5.0L75	10.0	R 5.0	20.0	75	10.0	2		●	●	●
62BE-R6.0L75	12.0	R 6.0	24.0	75	12.0	2		●	●	●
62BE-R1.5L100	3.0	R 1.5	6.0	100	3.0	2		●	●	●
62BE-R2.0L100	4.0	R 2.0	8.0	100	4.0	2		●	●	●
62BE-R2.5L100	5.0	R 2.5	10.0	100	5.0	2		●	●	●
62BE-R3.0L100	6.0	R 3.0	12.0	100	6.0	2		●	●	●
62BE-R4.0L100	8.0	R 4.0	16.0	100	8.0	2		●	●	●
62BE-R5.0L100	10.0	R 5.0	20.0	100	10.0	2		●	●	●
62BE-R6.0L100	12.0	R 6.0	24.0	100	12.0	2		●	●	●
62BE-R8.0L100	16.0	R 8.0	32.0	100	16.0	2		●	●	●
62BE-R0.3L50	0.6	R 0.3	1.2	50	4.0	2	●			
62BE-R0.4L50	0.8	R 0.4	1.4	50	4.0	2	●			
62BE-R0.5L50	1.0	R 0.5	2.5	50	4.0	2	●			
62BE-R0.5L50	1.0	R 0.5	2.5	50	4.0	2	●			
62BE-R0.5L50	1.0	R 0.5	2.5	50	4.0	2	●			
62BE-R0.75L50	1.5	R 0.75	3.0	50	4.0	2	●			
62BE-R0.75L50	1.5	R 0.75	3.0	50	4.0	2	●			
62BE-R1.0L50	2.0	R 1.0	5.0	50	4.0	2	●			
62BE-R1.0L50	2.0	R 1.0	5.0	50	4.0	2	●			
62BE-R1.5L50	3.0	R 1.5	7.0	50	4.0	2	●			
62BE-R1.5L75	3.0	R 1.5	7.0	75	6.0	2	●			
62BE-R1.5L75	3.0	R 1.5	7.0	75	6.0	2	●			

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第74頁

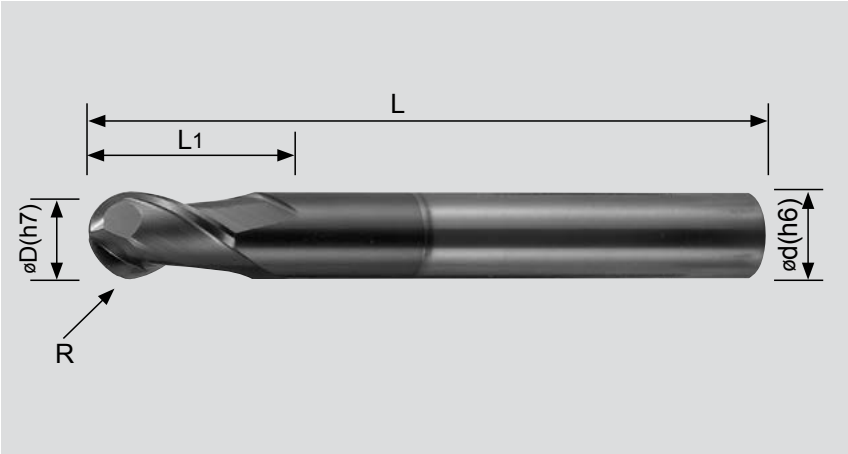
鎢鋼 2刃球形立銑刀

TUNGSTEN CARBIDE 2-FLUTE BALL END MILL



3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053

R = ± 0.02



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
鐵材、碳素鋼、鑄鐵、模具鋼、合金鋼、
工具鋼、不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Ferous metal, carbon steel,
cast iron, mold steel, alloy steel, tool steel,
stainless steel, heat-treated steel, welded steel.

單位/Unit : mm

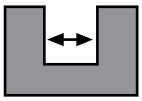
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK35	AK925	PK66
62BE-R0.5L39	1.0	R 0.5	2.0	39	3.0	2	●		●
62BE-R0.75L39	1.5	R 0.75	3.0	39	3.0	2	●		●
62BE-R1.0L39	2.0	R 1.0	4.0	39	3.0	2	●		●
62BE-R1.25L39	2.5	R 1.25	6.0	39	3.0	2	●		●
62BE-R1.5L39	3.0	R 1.5	6.0	39	3.0	2	●		●
62BE-R2.0L51	4.0	R 2.0	8.0	51	4.0	2	●	●	●
62BE-R2.5L51	5.0	R 2.5	10.0	51	5.0	2	●	●	●
62BE-R3.0L63	6.0	R 3.0	12.0	63	6.0	2	●	●	●
62BE-R4.0L63	8.0	R 4.0	16.0	63	8.0	2	●	●	●
62BE-R5.0L75	10.0	R 5.0	20.0	75	10.0	2	●	●	●
62BE-R6.0L75	12.0	R 6.0	24.0	75	12.0	2	●	●	●
62BEL-R1.0L100	3.0	R 1.5	6.0	100	3.0	2	●	●	●
62BEL-R2.0L100	4.0	R 2.0	8.0	100	4.0	2	●	●	●
62BEL-R2.5L100	5.0	R 2.5	10.0	100	5.0	2	●	●	●
62BEL-R3.0L100	6.0	R 3.0	12.0	100	6.0	2	●	●	●
62BEL-R4.0L100	8.0	R 4.0	16.0	100	8.0	2	●	●	●
62BEL-R5.0L100	10.0	R 5.0	20.0	100	10.0	2	●	●	●
62BEL-R6.0L100	12.0	R 6.0	24.0	100	12.0	2	●	●	●
62BEL-R8.0L100	16.0	R 8.0	32.0	100	16.0	2	●	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

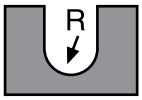
切削條件表請參考第74頁

鎢鋼 4刃球形立銑刀

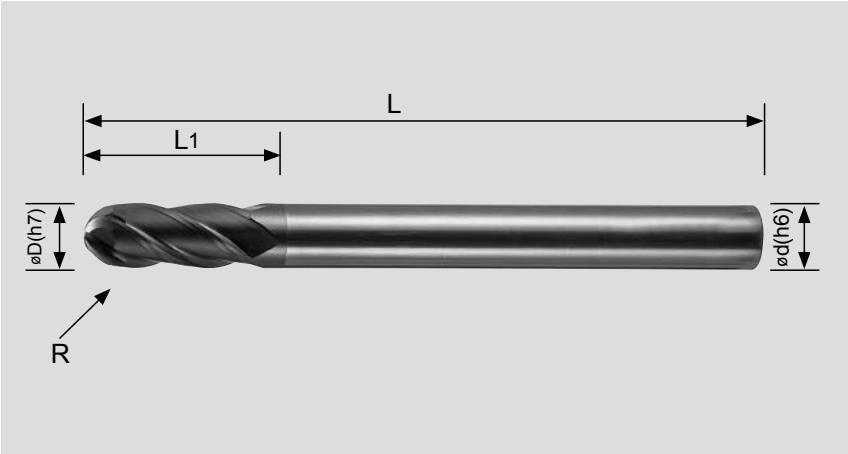
TUNGSTEN CARBIDE 4-FLUTE BALL END MILL



3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



R = ± 0.02



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
鑄鐵、不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, tool steel,
alloy steel, cast iron, stainless steel,
heat-treated steel, welded steel.

單位/Unit : mm

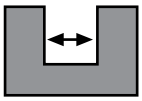
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK35	AK45	PK66
4BE-R2.0L50	4.0	R 2.0	11.0	50	4.0	4	●	●	●
4BE-R2.5L50	5.0	R 2.5	15.0	50	5.0	4	●	●	●
4BE-R3.0L50	6.0	R 3.0	19.0	50	6.0	4	●	●	●
4BE-R4.0L60	8.0	R 4.0	21.0	60	8.0	4	●	●	●
4BE-R5.0L75	10.0	R 5.0	22.0	75	10.0	4	●	●	●
4BE-R6.0L75	12.0	R 6.0	25.0	75	12.0	4	●	●	●
4BE-R7.0L90	14.0	R 7.0	30.0	90	14.0	4	●	●	●
4BE-R8.0L100	16.0	R 8.0	35.0	100	16.0	4	●	●	●
4BEL-R2.0L100	4.0	R 2.0	20.0	100	4.0	4	●	●	●
4BEL-R2.5L100	5.0	R 2.5	25.0	100	5.0	4	●	●	●
4BEL-R3.0L100	6.0	R 3.0	30.0	100	6.0	4	●	●	●
4BEL-R4.0L100	8.0	R 4.0	35.0	100	8.0	4	●	●	●
4BEL-R5.0L100	10.0	R 5.0	40.0	100	10.0	4	●	●	●
4BEL-R6.0L100	12.0	R 6.0	50.0	100	12.0	4	●	●	●
4BEL-R7.0L100	14.0	R 7.0	55.0	120	12.0	4	●	●	●
4BEL-R8.0L100	16.0	R 8.0	60.0	150	14.0	4	●	●	●
4BEL-R9.0L100	18.0	R 9.0	65.0	150	18.0	4	●	●	●
4BEL-R10.0L100	20.0	R 10.0	70.0	200	20.0	4	●	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

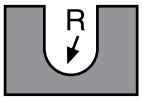
切削條件表請參考第76頁

鎢鋼 4刃球形立銑刀

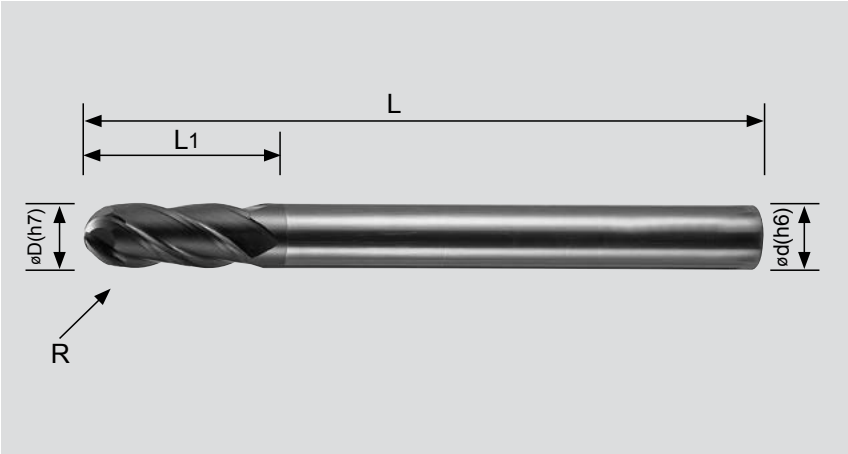
TUNGSTEN CARBIDE 4-FLUTE BALL END MILL



3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



R = ± 0.02



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
鑄鐵、不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, tool steel,
alloy steel, cast iron, stainless steel,
heat-treated steel, welded steel.

單位/Unit : mm

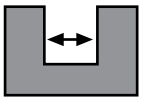
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	PK66
64BE-R0.5L39	1.0	R 0.5	3.0	39	3.0	4	●	●
64BE-R0.75L39	1.5	R 0.75	4.0	39	3.0	4	●	●
64BE-R1.0L39	2.0	R 1.0	7.0	39	3.0	4	●	●
64BE-R1.25L39	2.5	R 1.25	7.0	39	3.0	4	●	●
64BE-R1.5L39	3.0	R 1.5	10.0	39	3.0	4	●	●
64BE-R2.0L51	4.0	R 2.0	14.0	51	4.0	4	●	●
64BE-R2.5L51	5.0	R 2.5	15.0	51	5.0	4	●	●
64BE-R3.0L51	6.0	R 3.0	19.0	51	6.0	4	●	●
64BE-R4.0L63	8.0	R 4.0	21.0	63	8.0	4	●	●
64BE-R5.0L75	10.0	R 5.0	22.0	75	10.0	4	●	●
64BE-R6.0L75	12.0	R 6.0	25.0	75	12.0	4	●	●
64BEL-R1.5L100	3.0	R 1.5	15.0	100	3.0	4	●	●
64BEL-R2.0L100	4.0	R 2.0	20.0	100	4.0	4	●	●
64BEL-R2.5L100	5.0	R 2.5	25.0	100	5.0	4	●	●
64BEL-R3.0L100	6.0	R 3.0	30.0	100	6.0	4	●	●
64BEL-R4.0L100	8.0	R 4.0	35.0	100	8.0	4	●	●
64BEL-R5.0L100	10.0	R 5.0	40.0	100	10.0	4	●	●
64BEL-R6.0L100	12.0	R 6.0	45.0	100	12.0	4	●	●
64BEL-R8.0L100	16.0	R 8.0	50.0	100	16.0	4	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第76頁

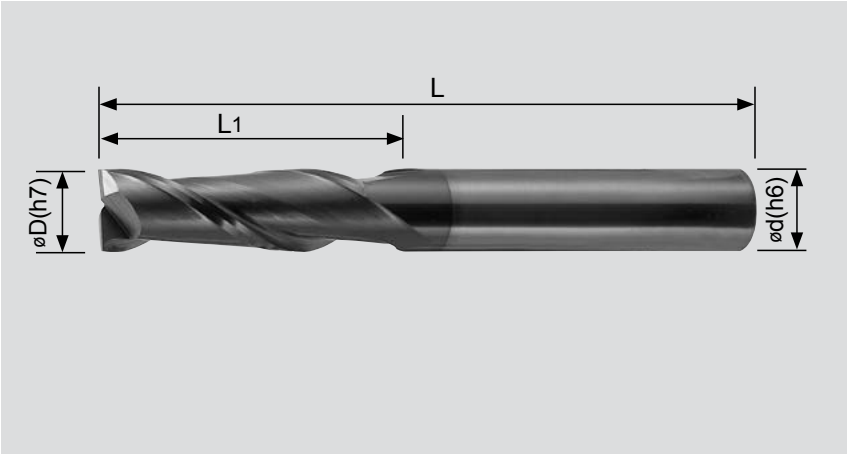
鎢鋼 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053

- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**



適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、鑄鐵、
不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel, tool steel,
stainless steel, heat-treated steel,
welded steel,cast iron.

單位/Unit : mm

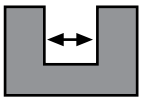
型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925	PK66
2E-D1.0L50	1.0	3.0	50	4.0	2	●	●	●
2E-D1.5L50	1.5	4.0	50	4.0	2	●	●	●
2E-D2.0L50	2.0	6.0	50	4.0	2	●	●	●
2E-D3.0L50	3.0	8.0	50	4.0	2	●	●	●
2E-D3.0L38	3.0	8.0	38	3.0	2	●	●	●
2E-D4.0L50	4.0	14.0	50	4.0	2	●	●	●
2E-D5.0L50	5.0	13.0	50	6.0	2	●	●	●
2E-D6.0L50	6.0	17.0	50	6.0	2	●	●	●
2E-D8.0L60	8.0	20.0	60	8.0	2	●	●	●
2E-D10.0L75	10.0	25.0	75	10.0	2	●	●	●
2E-D12.0L75	12.0	30.0	75	12.0	2	●	●	●
2E-D16.0L100	16.0	40.0	100	16.0	2	●	●	●
2E-D20.0L100	20.0	45.0	100	20.0	2	●	●	●
2EL-D2.0L75	2.0	15.0	75	4.0	2			●
2EL-D3.0L75	3.0	15.0	75	4.0	2			●
2EL-D3.0L100	3.0	15.0	100	3.0	2			●
2EL-D4.0L75	4.0	20.0	75	4.0	2			●
2EL-D4.0L100	4.0	20.0	100	4.0	2			●
2EL-D5.0L75	5.0	25.0	75	5.0	2			●
2EL-D5.0L100	5.0	25.0	100	5.0	2			●
2EL-D6.0L100	6.0	30.0	100	6.0	2			●
2EL-D8.0L100	8.0	35.0	100	8.0	2			●
2EL-D10.0L100	10.0	40.0	100	10.0	2			●
2EL-D12.0L100	12.0	50.0	100	12.0	2			●
2EL-D16.0L150	16.0	55.0	150	16.0	2			●
2EL-D20.0L150	20.0	60.0	150	20.0	2			●

註: 有●者表示有庫存
NOTE: ● means items in stock

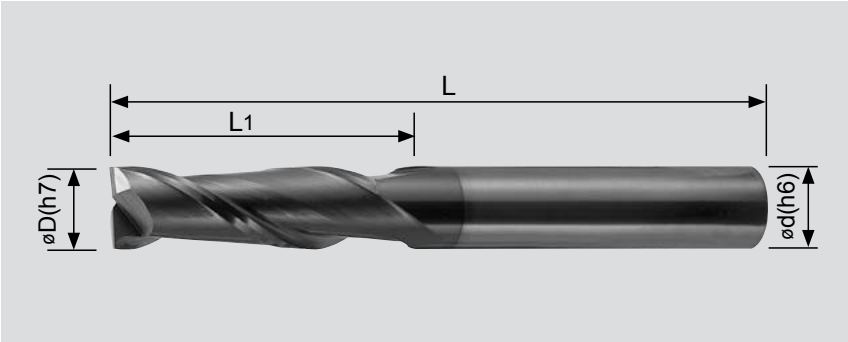
切削條件表請參考第77頁

鎢鋼 3刃立銑刀

TUNGSTEN CARBIDE 3-FLUTE SQUARE END MILL



d≦ 3	-0.005 ~ -0.028
3 < d≦ 6	-0.015 ~ -0.038
6 < d≦18	-0.020 ~ -0.047
18 < d	-0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
鑄鐵、不鏽鋼、熱處理鋼、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, tool steel,
alloy steel, cast iron, stainless steel,
heat-treated steel, welded steel.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925	PK66
3E-D3.0L50	3.0	8.0	50	4.0	3	●	●	●
3E-D4.0L50	4.0	10.0	50	4.0	3	●	●	●
3E-D3.0L50-6	3.0	8.0	50	6.0	3	●	●	●
3E-D4.0L50-6	4.0	10.0	50	6.0	3	●	●	●
3E-D5.0L50	5.0	13.0	50	6.0	3	●	●	●
3E-D6.0L50	6.0	15.0	50	6.0	3	●	●	●
3E-D7.0L60	7.0	20.0	60	8.0	3	●	●	●
3E-D8.0L60	8.0	20.0	60	8.0	3	●	●	●
3E-D10.0L75	10.0	25.0	75	10.0	3	●	●	●
3E-D12.0L75	12.0	30.0	75	12.0	3	●	●	●
3E-D16.0L100	16.0	45.0	100	16.0	3	●	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第78頁

單位/Unit : mm

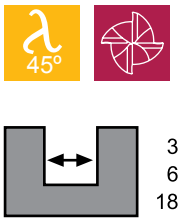
型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK25	AK925	PK66
62E-D0.5L50	0.5	1.0	50	4.0	2	●	●	●
62E-D0.6L50	0.6	1.2	50	4.0	2	●	●	●
62E-D0.8L50	0.8	1.4	50	4.0	2	●	●	●
62E-D4.1L50	1.0	2.5	50	4.0	2	●	●	●
62E-D1.0L50	1.0	2.5	50	4.0	2	●	●	●
62E-D1.0L50	1.0	2.5	50	4.0	2	●	●	●
62E-D1.5L50	1.5	3.0	50	4.0	2	●	●	●
62E-D1.5L50	1.5	3.0	50	4.0	2	●	●	●
62E-D2.0L50	2.0	5.0	50	4.0	2	●	●	●
62E-D2.0L50	2.0	5.0	50	4.0	2	●	●	●
62E-D3.0L50	3.0	7.0	50	4.0	2	●	●	●
62E-D3.0L75	3.0	7.0	75	6.0	2	●	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

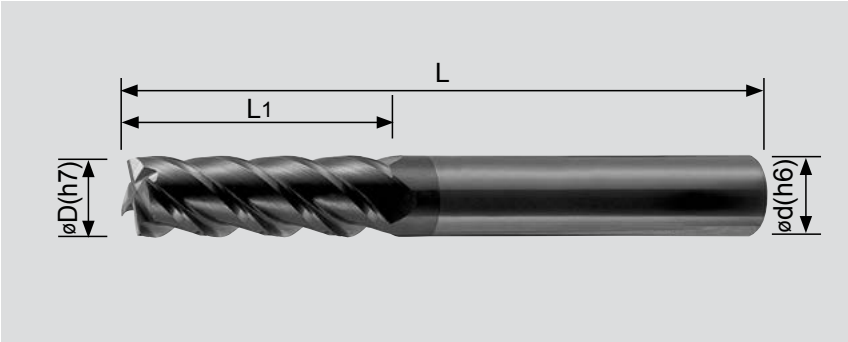
切削條件表請參考第78頁

鎢鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel, tool steel, stainless steel, cast iron, heat-treated steel, welded steel.

單位/Unit : mm

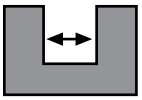
型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925	PK66
4E-D1.0L50	1.0	3.0	50	4.0	4	●	●	●
4E-D1.5L50	1.5	4.0	50	4.0	4	●	●	●
4E-D2.0L50	2.0	6.0	50	4.0	4	●	●	●
4E-D3.0L50	3.0	8.0	50	4.0	4	●	●	●
4E-D4.0L50	4.0	14.0	50	4.0	4	●	●	●
4E-D5.0L50	5.0	15.0	50	5.0	4	●	●	●
4E-D6.0L50	6.0	17.0	50	6.0	4	●	●	●
4E-D8.0L60	8.0	20.0	60	8.0	4	●	●	●
4E-D10.0L75	10.0	25.0	75	10.0	4	●	●	●
4E-D12.0L75	12.0	30.0	75	12.0	4	●	●	●
4E-D16.0L100	16.0	40.0	100	16.0	4	●	●	●
4E-D20.0L100	20.0	45.0	100	20.0	4	●	●	●
4EL-D2.0L75	2.0	15.0	75	4.0	4	●	●	●
4EL-D3.0L75	3.0	15.0	75	4.0	4	●	●	●
4EL-D3.0L100	3.0	15.0	100	3.0	4	●	●	●
4EL-D4.0L75	4.0	20.0	75	4.0	4	●	●	●
4EL-D4.0L100	4.0	20.0	100	4.0	4	●	●	●
4EL-D5.0L75	5.0	25.0	75	5.0	4	●	●	●
4EL-D5.0L100	5.0	25.0	100	5.0	4	●	●	●
4EL-D6.0L100	6.0	30.0	100	6.0	4	●	●	●
4EL-D8.0L100	8.0	35.0	100	8.0	4	●	●	●
4EL-D10.0L100	10.0	40.0	100	10.0	4	●	●	●
4EL-D12.0L100	12.0	50.0	100	12.0	4	●	●	●
4EL-D16.0L150	16.0	55.0	150	16.0	4	●	●	●
4EL-D20.0L150	20.0	60.0	150	20.0	4	●	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

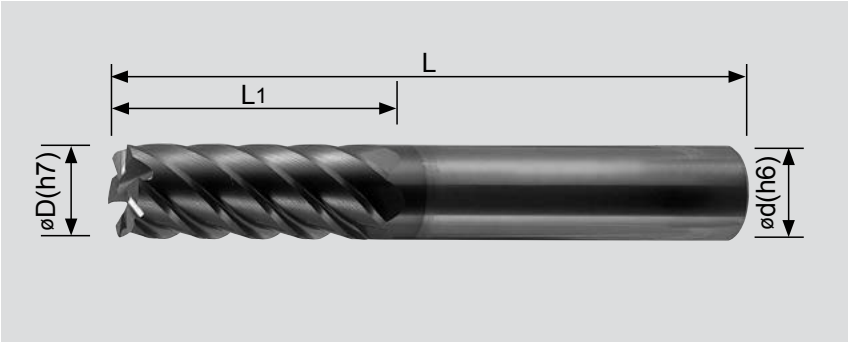
切削條件表請參考第80頁

鎢鋼 5,6,7刃立銑刀

TUNGSTEN CARBIDE 5,6,7-FLUTE END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel,
tool steel, cast iron, stainless steel,
heat-treated steel, welded steel.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
5E-D4.0L50	4.0	10.0	50	4.0	5		●
5E-D5.0L50	5.0	13.0	50	5.0	5		●
5E-D6.0L50	6.0	15.0	50	6.0	5		●
5E-D8.0L60	8.0	20.0	60	8.0	5		●
5E-D10.0L75	10.0	22.0	75	10.0	5		●
5E-D12.0L75	12.0	25.0	75	12.0	5		●
5E-D14.0L100	14.0	35.0	100	14.0	5		●
5E-D16.0L100	16.0	40.0	100	16.0	5		●

單位/Unit : mm

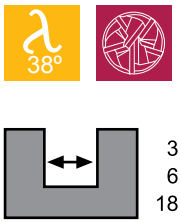
型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
6E-D6.0L50	6.0	15.0	50	6.0	6	●	●
6E-D8.0L60	8.0	20.0	60	8.0	6	●	●
6E-D10.0L75	10.0	22.0	75	10.0	6	●	●
6E-D12.0L75	12.0	25.0	75	12.0	6	●	●
6E-D14.0L100	14.0	30.0	100	14.0	6	●	●
6E-D16.0L100	16.0	35.0	100	16.0	6	●	●
6E-D20.0L100	20.0	40.0	100	20.0	6	●	●
7E-D6.0L63	6.0	15.0	63	6.0	7		●
7E-D8.0L63	8.0	20.0	63	8.0	7		●
7E-D10.0L75	10.0	22.0	75	10.0	7		●
7E-D12.0L75	12.0	25.0	75	12.0	7		●
7E-D14.0L100	14.0	30.0	100	14.0	7		●
7E-D16.0L100	16.0	35.0	100	16.0	7		●
7E-D20.0L100	20.0	40.0	100	20.0	7		●

註: 有●者表示有庫存
NOTE: ● means items in stock

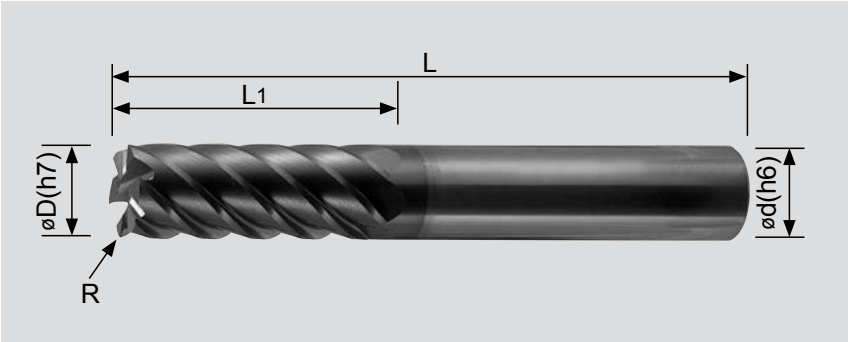
切削條件表請參考第83頁

鎢鋼 5刃立銑刀

TUNGSTEN CARBIDE 5-FLUTE END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel,
tool steel, cast iron, stainless steel,
heat-treated steel, welded steel.

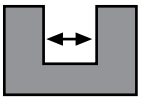
單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK925
65ECR-D5.0L50R0.5	5.0	R 0.5	12.0	50	6.0	5	●
65ECR-D5.0L50R0.5	6.0	R 0.5	12.0	50	6.0	5	●
65ECR-D6.0L50R1.0	6.0	R 1.0	12.0	50	6.0	5	●
65ECR-D8.0L63R0.5	8.0	R 0.5	15.0	63	8.0	5	●
65ECR-D8.0L63R1.0	8.0	R 1.0	15.0	63	8.0	5	●
65ECR-D10.0L75R0.5	10.0	R 0.5	20.0	75	10.0	5	●
65ECR-D10.0L75R1.0	10.0	R 1.0	20.0	75	10.0	5	●
65ECR-D12.0L75R0.5	12.0	R 0.5	20.0	75	12.0	5	●
65ECR-D12.0L75R1.0	12.0	R 1.0	20.0	75	12.0	5	●
65ECR-D5.0L75R0.5	5.0	R 0.5	25.0	75	6.0	5	●
65ECR-D6.0L100R0.5	6.0	R 0.5	25.0	100	6.0	5	●
65ECR-D6.0L100R1.0	6.0	R 1.0	30.0	100	6.0	5	●
65ECR-D8.0L100R0.5	8.0	R 0.5	30.0	100	8.0	5	●
65ECR-D8.0L100R1.0	8.0	R 1.0	30.0	100	8.0	5	●
65ECR-D10.0L100R0.5	10.0	R 0.5	30.0	100	10.0	5	●
65ECR-D10.0L100R1.0	10.0	R 1.0	30.0	100	10.0	5	●
65ECR-D12.0L100R0.5	12.0	R 0.5	30.0	100	12.0	5	●
65ECR-D12.0L100R1.0	12.0	R 1.0	30.0	100	12.0	5	●

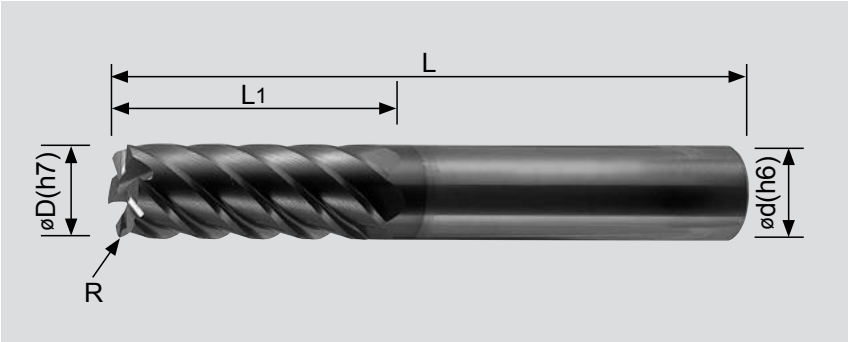
註: 有●者表示有庫存
NOTE: ● means items in stock

鎢鋼 6刃立銑刀

TUNGSTEN CARBIDE 6-FLUTE END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel,
tool steel, cast iron, stainless steel,
heat-treated steel, welded steel.

單位/Unit : mm

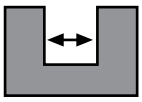
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK925
66ECR-D8.0L60R0.5	8.0	R 0.5	15.0	60	8.0	6	●
66ECR-D8.0L60R1.0	8.0	R 1.0	15.0	60	8.0	6	●
66ECR-D10.0L75R0.5	10.0	R 0.5	20.0	75	10.0	6	●
66ECR-D10.0L75R1.0	10.0	R 1.0	20.0	75	10.0	6	●
66ECR-D12.0L75R0.5	12.0	R 0.5	20.0	75	12.0	6	●
66ECR-D12.0L75R1.0	12.0	R 1.0	20.0	75	12.0	6	●
66ECR-D8.0L100R0.5	8.0	R 0.5	30.0	100	8.0	6	●
66ECR-D8.0L100R1.0	8.0	R 1.0	30.0	100	8.0	6	●
66ECR-D10.0L100R0.5	10.0	R 0.5	30.0	100	10.0	6	●
66ECR-D10.0L100R1.0	10.0	R 1.0	30.0	100	10.0	6	●
66ECR-D12.0L100R0.5	12.0	R 0.5	30.0	100	12.0	6	●
66ECR-D12.0L100R1.0	12.0	R 1.0	30.0	100	12.0	6	●

註: 有●者表示有庫存
NOTE: ● means items in stock

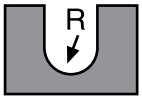
切削條件表請參考第83頁

鎢鋼 鋁用 2刃球形立銑刀

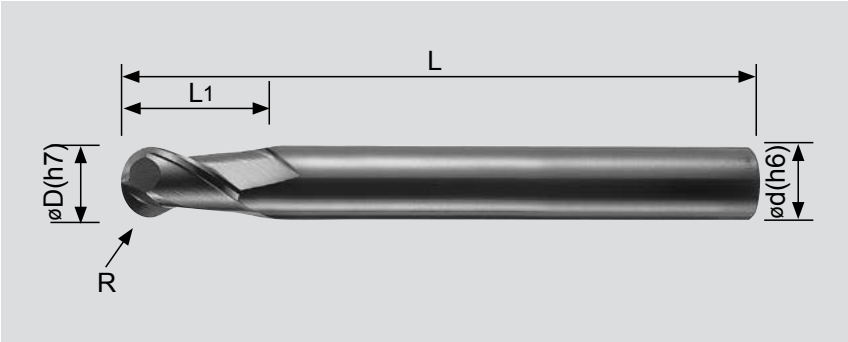
TUNGSTEN CARBIDE 2-FLUTE ALUMINUM BALL END MILL



3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



R = ± 0.02



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：

鋁合金、銅合金、鎂合金、各種軟質材質。

Applicable materials:

Aluminum alloy, copper alloy, magnesium alloy, and various soft materials.

主要特性：

切刃口銳利配合較寬大之排屑溝槽設計，適合軟質材料之切削，可在高速M/C上進行高速切削

Features:

The sharp edge combined with oversized flute makes it ideal for cutting soft materials, excellent for high speed cutting on a high speed machining center.

單位/Unit : mm

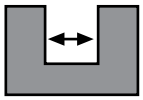
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	PK66
2BEAL-R0.5L50	1.0	R 0.5	2.0	50	4.0	2	●
2BEAL-R0.75L50	1.5	R 0.75	3.0	50	4.0	2	●
2BEAL-R1.0L50	2.0	R 1.0	4.0	50	4.0	2	●
2BEAL-R1.5L50	3.0	R 1.5	6.0	50	4.0	2	●
2BEAL-R2.0L50	4.0	R 2.0	8.0	50	4.0	2	●
2BEAL-R2.5L50	5.0	R 2.5	10.0	50	5.0	2	●
2BEAL-R3.0L50	6.0	R 3.0	12.0	50	6.0	2	●
2BEAL-R4.0L60	8.0	R 4.0	16.0	60	8.0	2	●
2BEAL-R5.0L75	10.0	R 5.0	20.0	75	10.0	2	●
2BEAL-R6.0L75	12.0	R 6.0	24.0	75	12.0	2	●
2BEAL-R1.0L100	2.0	R 1.0	4.0	100	6.0	2	●
2BEAL-R1.5L100	3.0	R 1.5	6.0	100	6.0	2	●
2BEAL-R2.0L100	4.0	R 2.0	8.0	100	6.0	2	●
2BEAL-R2.5L100	5.0	R 2.5	10.0	100	6.0	2	●
2BEAL-R3.0L100	6.0	R 3.0	12.0	100	6.0	2	●
2BEAL-R4.0L100	8.0	R 4.0	16.0	100	8.0	2	●
2BEAL-R5.0L100	10.0	R 5.0	20.0	100	10.0	2	●
2BEAL-R6.0L100	12.0	R 6.0	24.0	100	12.0	2	●

註: 有●者表示有庫存
NOTE: ● means items in stock

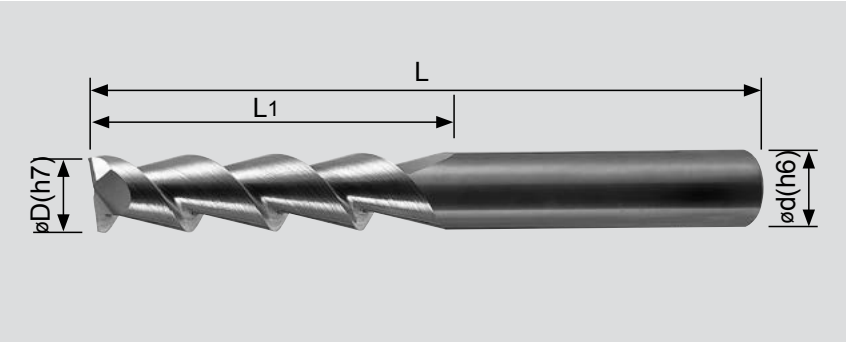
切削條件表請參考第84頁

鎢鋼 鋁用立銑刀

TUNGSTEN CARBIDE END MILL FOR ALUMINUM



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- 鋁合金加工專用
- **Micro-Grain Tungsten Carbide**
- **Ideal for Aluminum Alloy Machining**

適合材質：

鐵鋁合金、銅合金、鎂合金、各種軟質材料。

Applicable materials:

Iron aluminum alloy, copper alloy, magnesium alloy, and various soft materials,

主要特性：

排屑槽較寬大之設計，適合軟質材料之切削，切刃口銳利較不易黏屑，精銑時可得到極佳之表面光滑度可在高速M/C上進行高速切削

Features:

The end mill features oversize flute, and it's ideal for cutting soft materials, The sharp edge avoids chip adhering and provides extremely fine surface effect. Ideal for use on a high speed machining center.

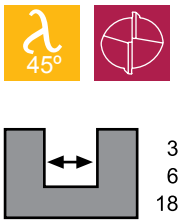
單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	PK66
2EAL-D3.0L50	3.0	9.0	50	4.0	2	●
2EAL-D4.0L50	4.0	12.0	50	4.0	2	●
2EAL-D5.0L50	5.0	15.0	50	6.0	2	●
2EAL-D6.0L50	6.0	18.0	50	6.0	2	●
2EAL-D8.0L60	8.0	20.0	60	8.0	2	●
2EAL-D10.0L75	10.0	30.0	75	10.0	2	●
2EAL-D12.0L75	12.0	32.0	75	12.0	2	●
3EAL-D1.0L50	1.0	3.0	50	4.0	3	●
3EAL-D1.5L50	1.5	4.0	50	4.0	3	●
3EAL-D2.0L50	2.0	6.0	50	4.0	3	●
3EAL-D3.0L50	3.0	9.0	50	4.0	3	●
3EAL-D4.0L50	4.0	14.0	50	4.0	3	●
3EAL-D5.0L50	5.0	15.0	50	6.0	3	●
3EAL-D6.0L50	6.0	19.0	50	6.0	3	●
3EAL-D8.0L60	8.0	20.0	60	8.0	3	●
3EAL-D10.0L75	10.0	25.0	75	10.0	3	●
3EAL-D12.0L75	12.0	30.0	75	12.0	3	●

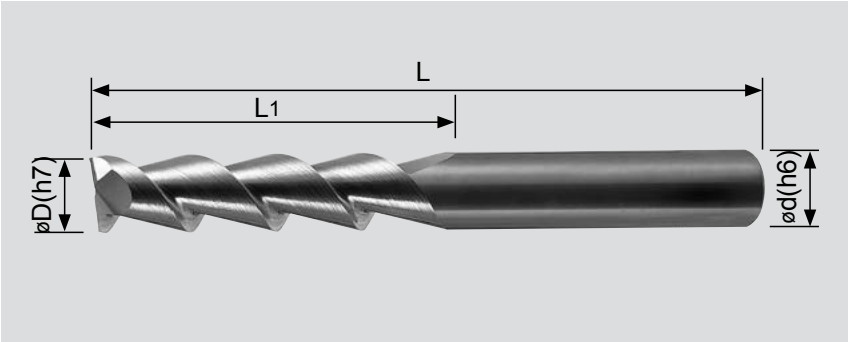
註: 有●者表示有庫存
NOTE: ● means items in stock

鎢鋼 鋁用立銑刀

TUNGSTEN CARBIDE END MILL FOR ALUMINUM



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- 鋁合金加工專用
- **Micro-Grain Tungsten Carbide**
- **Ideal for Aluminum Alloy Machining**

適合材質：

鐵鋁合金、銅合金、鎂合金、各種軟質材料。

Applicable materials:

Iron aluminum alloy, copper alloy, magnesium alloy, and various soft materials,

主要特性：

排屑槽較寬大之設計，適合軟質材料之切削，切刃口銳利較不易黏屑，精銑時可得到極佳之表面光滑度可在高速M/C上進行高速切削

Features:

The end mill features oversize flute, and it's ideal for cutting soft materials, The sharp edge avoids chip adhering and provides extremely fine surface effect. Ideal for use on a high speed machining center.

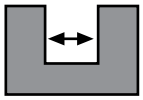
單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	PK66
2EUAL-D1.0L50	1.0	3.0	50	4.0	2	●
2EUAL-D1.5L50	1.5	4.0	50	4.0	2	●
2EUAL-D2.0L50	2.0	6.0	50	4.0	2	●
2EUAL-D3.0L50	3.0	9.0	50	4.0	2	●
2EUAL-D4.0L50	4.0	14.0	50	4.0	2	●
2EUAL-D5.0L50	5.0	15.0	50	6.0	2	●
2EUAL-D6.0L50	6.0	19.0	50	6.0	2	●
2EUAL-D8.0L60	8.0	20.0	60	8.0	2	●
2EUAL-D10.5L75	10.0	25.0	75	10.0	2	●
2EUAL-D12.0L75	12.0	30.0	75	12.0	2	●
2EUAL-D3.0L100	3.0	15.0	100	6.0	2	●
2EUAL-D4.0L100	4.0	20.0	100	6.0	2	●
2EUAL-D5.0L100	5.0	25.0	100	6.0	2	●
2EUAL-D6.0L100	6.0	30.0	100	6.0	2	●
2EUAL-D8.0L100	8.0	35.0	100	8.0	2	●
2EUAL-D10.0L100	10.0	40.0	100	10.0	2	●
2EUAL-D12.0L100	12.0	45.0	100	12.0	2	●

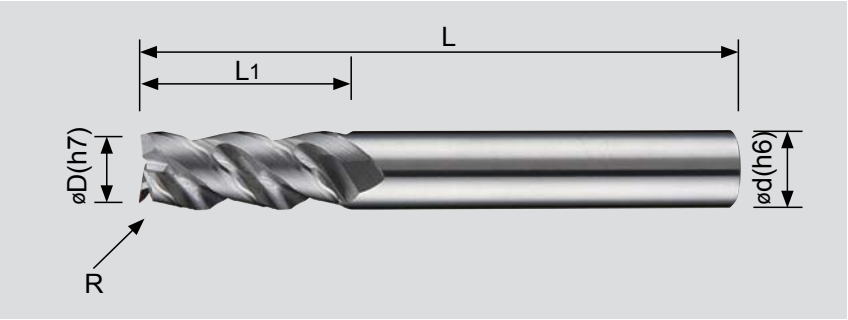
註: 有●者表示有庫存
NOTE: ● means items in stock

鎢鋼 波浪 鋁用立銑刀

TUNGSTEN CARBIDE SINUS EDGE ALUMINUM ROUGHING END MILL



6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
鐵鋁合金、銅合金、鎂合金、
各種軟質材料。

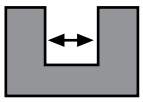
Applicable materials:
Iron aluminum alloy, copper alloy,
magnesium alloy, and various soft materials,

單位/Unit : mm

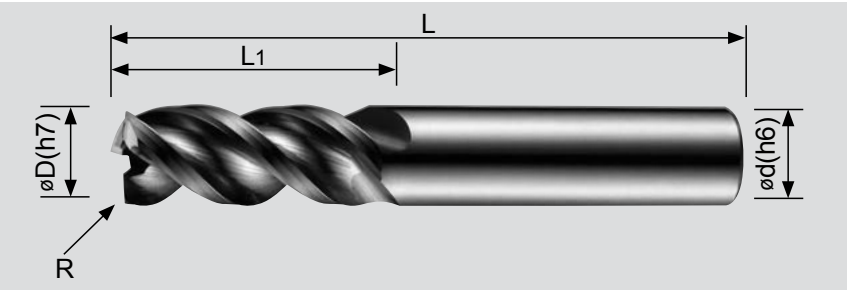
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	PK66
3ETAL-D6.0L50	6.0	18.0	50	6.0	3	3	●
3ETAL-D8.0L60	8.0	20.0	60	8.0	3	3	●
3ETAL-D10.0L75	10.0	30.0	75	10.0	3	3	●
3ETAL-D12.0L75	12.0	32.0	75	12.0	3	3	●
4ETAL-D16.0L100	16.0	45.0	100	16.0	4	3	●
4ETAL-D20.0L100	20.0	50.0	100	20.0	4	4	●
4ETAL-D25.0L150	25.0	70.0	150	25.0	4	4	●

鎢鋼 鋁用重切削立銑刀

Tungsten Carbide Heavy Duty Aluminum End Mill



6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	PK66
3EHAL-D4.0L50	4.0	11.0	50	6.0	4	●
3EHAL-D5.0L50	5.0	13.0	50	6.0	4	●
3EHAL-D6.0L50	6.0	13.0	50	6.0	4	●
3EHAL-D8.0L60	8.0	19.0	60	8.0	4	●
3EHAL-D10.0L75	10.0	22.0	75	10.0	4	●
3EHAL-D12.0L75	12.0	26.0	75	12.0	4	●
3EHAL-D16.0L100	16.0	35.0	100	16.0	4	●
3EHAL-D20.0L100	20.0	40.0	100	20.0	4	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第88頁

請採用剛性較強之側固式立銑刀架夾持本刀具。
Suggested to use high rigidity side clamping tool holder

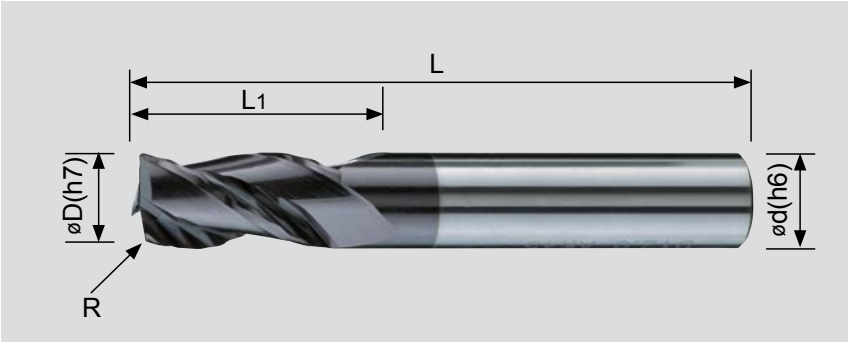
鎢鋼 3刃波浪 粗銑立銑刀

TUNGSTEN CARBIDE 3-FLUTE SINUS EDGE ROUGHING END MILL

TIALN

35°

6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel, tool steel,
stainless steel, cast iron, heat-treated steel, welded steel.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
3ET-D6.0L50	6.0	R 0.3	15	50	6.0	3	●	●
3ET-D8.0L60	8.0	R 0.4	19	60	8.0	3	●	●
3ET-D10.0L75	10.0	R 0.5	22	75	10.0	3	●	●
3ET-D12.0L75	12.0	R 0.6	26	75	12.0	3	●	●
3ET-D14.0L80	14.0	R 0.7	30	80	14.0	3	●	●
4ET-D16.0L80	16.0	R 0.8	32	80	16.0	4	●	●
4ET-D18.0L100	18.0	R 0.9	40	100	18.0	4	●	●
4ET-D20.0L100	20.0	R 1.0	40	100	20.0	4	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第84頁

請採用剛性較強之側固式立銑刀架夾持本刀具。
Suggested to use high rigidity side clamping tool holder

鎢鋼 3刃波浪 長刃型 粗銑立銑刀

TUNGSTEN CARBIDE 3-FLUTE SINUS EDGE LONG FLUTE ROUGHING END MILL

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
3ETL-D6.0L75	6.0	R 0.3	20.0	75	6.0	3	●	●
3ETL-D8.0L75	8.0	R 0.4	25.0	75	8.0	3	●	●
3ETL-D10.0L80	10.0	R 0.5	30.0	80	10.0	3	●	●
3ETL-D12.0L100	12.0	R 0.6	36.0	100	12.0	3	●	●
3ETL-D14.0L100	14.0	R 0.7	40.0	100	14.0	3	●	●
4ETL-D16.0L100	16.0	R 0.8	45.0	100	16.0	4	●	●
4ETL-D18.0L150	18.0	R 0.9	60.0	150	18.0	4	●	●
4ETL-D20.0L150	20.0	R 1.0	60.0	150	20.0	4	●	●

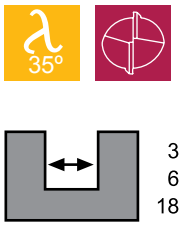
註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第87頁

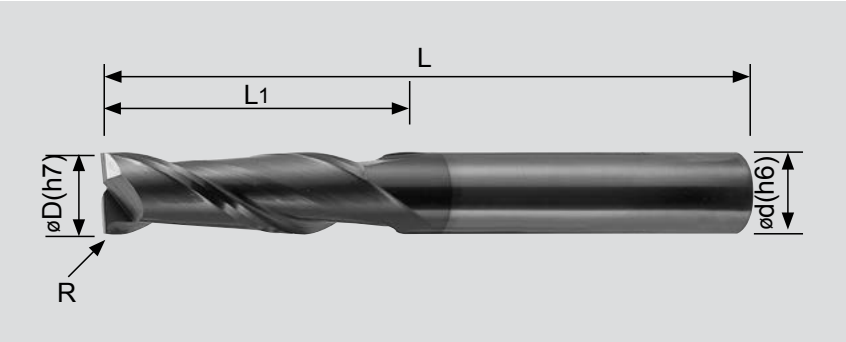
請採用剛性較強之側固式立銑刀架夾持本刀具。
Suggested to use high rigidity side clamping tool holder

鎢鋼 2刃 圓鼻 立銑刀

TUNGSTEN CARBIDE 2-FLUTE CORNER RADIUS END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable material:
Carbon steel, mold steel, alloy steel, welded steel,
tool steel, stainless steel, cast iron, heat-treated steel.

R角結構適合切削高硬度材，刀尖不易崩裂，
並可替代小徑球型銑刀，可作清角和曲面銑削

The R corner configuration is excellent for cutting
high hardness materials without edge collapse.
Also, It's replacable for small radius ball end mill, and
permitting for corner cleaning and curving surface milling.

單位/Unit : mm

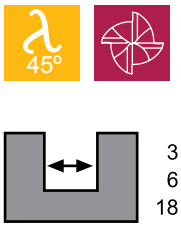
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
2ECR-D3.0L50R0.5	3.0	R 0.5	6.0	50	4.0	2	●	●
2ECR-D4.0L50R0.5	4.0	R 0.5	8.0	50	4.0	2	●	●
2ECR-D4.0L50R1.0	4.0	R 1.0	8.0	50	4.0	2	●	●
2ECR-D5.0L50R0.5	5.0	R 0.5	10.0	50	5.0	2	●	●
2ECR-D5.0L50R1.0	5.0	R 1.0	10.0	50	5.0	2	●	●
2ECR-D6.0L50R0.5	6.0	R 0.5	12.0	50	6.0	2	●	●
2ECR-D6.0L50R0.5	6.0	R 0.5	12.0	50	6.0	2	●	●
2ECR-D8.0L60R0.5	8.0	R 0.5	16.0	60	8.0	2	●	●
2ECR-D8.0L60R1.0	8.0	R 1.0	16.0	60	8.0	2	●	●
2ECR-D10.0L75R0.5	10.0	R 0.5	20.0	75	10.0	2	●	●
2ECR-D10.0L75R1.0	10.0	R 1.0	20.0	75	10.0	2	●	●
2ECR-D12.0L75R0.5	12.0	R 0.5	25.0	75	12.0	2	●	●
2ECR-D12.0L75R1.0	12.0	R 1.0	25.0	75	12.0	2	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

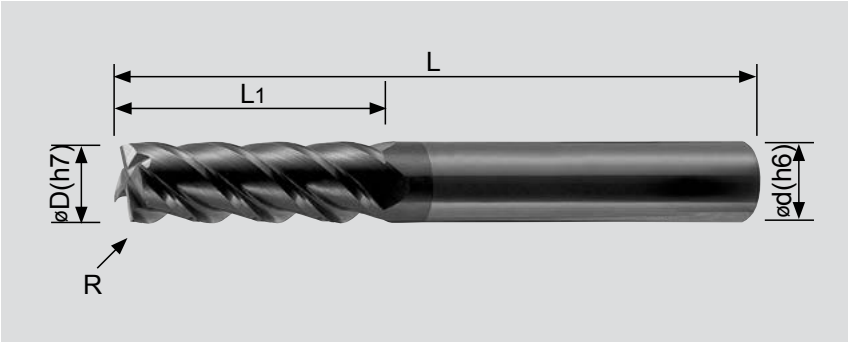
切削條件表請參考第89頁

鎢鋼 4刃 圓鼻 立銑刀

TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料。

Applicable material:
Carbon steel, mold steel, alloy steel, tool steel,
stainless steel, cast iron, heat-treated steel.

R角結構適合切削高硬度材，刀尖不易崩裂，
並可替代小徑球型銑刀，可作清角和曲面銑削

The R corner configuration is excellent for cutting
high hardness materials without edge collapse.
Also, It's replacable for small radius ball end mill, and
permitting for corner cleaning and curving surface milling.

單位/Unit : mm

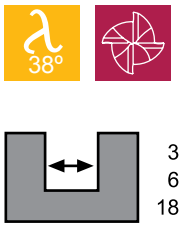
型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
4ECR-D3.0L50R0.3	3.0	R 0.3	6.0	50	4.0	4	●	●
4ECR-D4.0L50R0.5	4.0	R 0.5	8.0	50	4.0	4	●	●
4ECR-D4.0L50R1.0	4.0	R 1.0	8.0	50	4.0	4	●	●
4ECR-D5.0L50R0.5	5.0	R 0.5	10.0	50	5.0	4	●	●
4ECR-D5.0L50R1.0	5.0	R 1.0	10.0	50	5.0	4	●	●
4ECR-D6.0L50R0.5	6.0	R 0.5	12.0	50	6.0	4	●	●
4ECR-D6.0L50R1.0	6.0	R 1.0	12.0	50	6.0	4	●	●
4ECR-D8.0L60R0.5	8.0	R 0.5	16.0	60	8.0	4	●	●
4ECR-D8.0L60R1.0	8.0	R 1.0	16.0	60	8.0	4	●	●
4ECR-D10.0L75R0.5	10.0	R 0.5	20.0	75	10.0	4	●	●
4ECR-D10.0L75R1.0	10.0	R 1.0	20.0	75	10.0	4	●	●
4ECR-D12.0L75R0.5	12.0	R 0.5	25.0	75	12.0	4	●	●
4ECR-D12.0L75R1.0	12.0	R 1.0	25.0	75	12.0	4	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

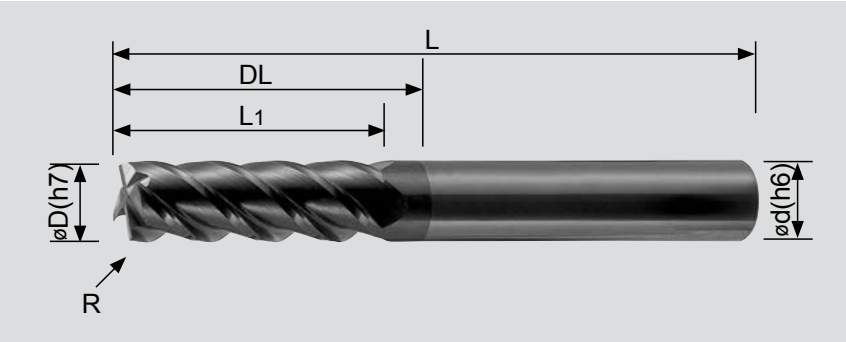
切削條件表請參考第90頁

鎢鋼 4刃 圓鼻 立銑刀

TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS END MILL



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料。

Applicable material:
Carbon steel, mold steel, alloy steel, tool steel,
stainless steel, cast iron, heat-treated steel.

R角結構適合切削高硬度材，刀尖不易崩裂，
並可替代小徑球型銑刀，可作清角和曲面銑削

The R corner configuration is excellent for cutting
high hardness materials without edge collapse.
Also, It's replacable for small radius ball end mill, and
permitting for corner cleaning and curving surface milling.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	DL Effective Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
64ECR-D3.0L50R0.3	3.0	R 0.3	6.0	50	8	6.0	4	●	●
64ECR-D3.0L50R0.5	3.0	R 0.5	6.0	50	8	6.0	4	●	●
64ECR-D4.0L50R0.5	4.0	R 0.5	8.0	50	10	6.0	4	●	●
64ECR-D4.0L50R1.0	4.0	R 1.0	8.0	50	10	6.0	4	●	●
64ECR-D5.0L50R0.5	5.0	R 0.5	8.0	50	12	6.0	4	●	●
64ECR-D5.0L50R1.0	5.0	R 1.0	8.0	50	12	6.0	4	●	●
64ECR-D6.0L50R0.5	6.0	R 0.5	8.0	50	12	6.0	4	●	●
64ECR-D6.0L50R1.0	6.0	R 1.0	8.0	50	12	6.0	4	●	●
64ECR-D8.0L63R0.5	8.0	R 0.5	10.0	63	15	8.0	4	●	●
64ECR-D8.0L63R1.0	8.0	R 1.0	10.0	63	15	8.0	4	●	●
64ECR-D10.0L75R0.5	10.0	R 0.5	12.0	75	20	10.0	4	●	●
64ECR-D10.0L75R1.0	10.0	R 1.0	12.0	75	20	10.0	4	●	●
64ECR-D12.0L75R0.5	12.0	R 0.5	15.0	75	20	12.0	4	●	●
64ECR-D12.0L75R1.0	12.0	R 1.0	15.0	75	20	12.0	4	●	●
64ECR-D4.0L75R0.5	4.0	R 0.5	8.0	75	10	6.0	4	●	●
64ECR-D4.0L75R1.0	4.0	R 1.0	8.0	75	10	6.0	4	●	●
64ECR-D5.0L75R0.5	5.0	R 0.5	8.0	75	12	6.0	4	●	●
64ECR-D5.0L75R1.0	5.0	R 1.0	8.0	75	12	6.0	4	●	●
64ECR-D6.0L100R0.5	6.0	R 0.5	8.0	100	12	6.0	4	●	●
64ECR-D6.0L100R1.0	6.0	R 1.0	8.0	100	12	6.0	4	●	●
64ECR-D8.0L100R0.5	8.0	R 0.5	10.0	100	15	8.0	4	●	●
64ECR-D8.0L100R1.0	8.0	R 1.0	10.0	100	15	8.0	4	●	●
64ECR-D10.0L100R0.5	10.0	R 0.5	12.0	100	20	10.0	4	●	●
64ECR-D10.0L100R1.0	10.0	R 1.0	12.0	100	20	10.0	4	●	●
64ECR-D12.0L100R0.5	12.0	R 0.5	15.0	100	20	12.0	4	●	●
64ECR-D12.0L100R1.0	12.0	R 1.0	15.0	100	20	12.0	4	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

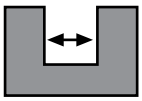
切削條件表請參考第90頁

鎢鋼 5,6刃 圓鼻 立銑刀

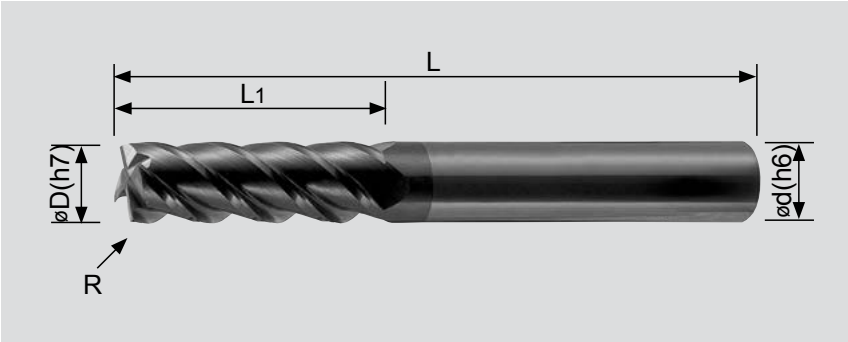
TUNGSTEN CARBIDE 5,6-FLUTE CORNER RADIUS END MILL

TIALN

45°



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料。

Applicable material:
Carbon steel, mold steel, alloy steel, tool steel,
stainless steel, cast iron, heat-treated steel.

R角結構適合切削高硬度材，刀尖不易崩裂，
並可替代小徑球型銑刀，可作清角和曲面銑削

The R corner configuration is excellent for cutting
high hardness materials without edge collapse.
Also, It's replacable for small radius ball end mill, and
permitting for corner cleaning and curving surface milling.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	DL Effective Length	柄徑 d Shank Diameter	刃數 Flute Number	AK925
65ECR-D5.0L50R0.5	5.0	R 0.5	8.0	50	12.0	6.0	5	●
65ECR-D6.0L50R0.5	6.0	R 0.5	8.0	50	12.0	6.0	5	●
65ECR-D6.0L50R1.0	6.0	R 1.0	8.0	50	12.0	6.0	5	●
65ECR-D8.0L60R0.5	8.0	R 0.5	10.0	63	15.0	8.0	5	●
65ECR-D8.0L60R1.0	8.0	R 1.0	10.0	63	15.0	8.0	5	●
65ECR-D10.0L75R0.5	10.0	R 0.5	12.0	75	20.0	10.0	5	●
65ECR-D10.0L75R1.0	10.0	R 1.0	12.0	75	20.0	10.0	5	●
65ECR-D12.0L75R0.5	12.0	R 0.5	15.0	75	20.0	12.0	5	●
65ECR-D12.0L75R1.0	12.0	R 1.0	15.0	75	20.0	12.0	5	●
66ECR-D8.0L63R0.5	8.0	R 0.5	10.0	60	15.0	8.0	6	●
66ECR-D8.0L63R1.0	8.0	R 1.0	10.0	60	15.0	8.0	6	●
66ECR-D10.0L75R0.5	10.0	R 0.5	12.0	75	20.0	10.0	6	●
66ECR-D10.0L75R1.0	10.0	R 1.0	12.0	75	20.0	10.0	6	●
66ECR-D12.0L75R0.5	12.0	R 0.5	15.0	75	20.0	12.0	6	●
66ECR-D12.0L75R1.0	12.0	R 1.0	15.0	75	20.0	12.0	6	●

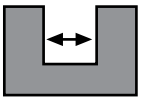
註: 有●者表示有庫存
NOTE: ● means items in stock

鎢鋼 4刃 口袋型立銑刀

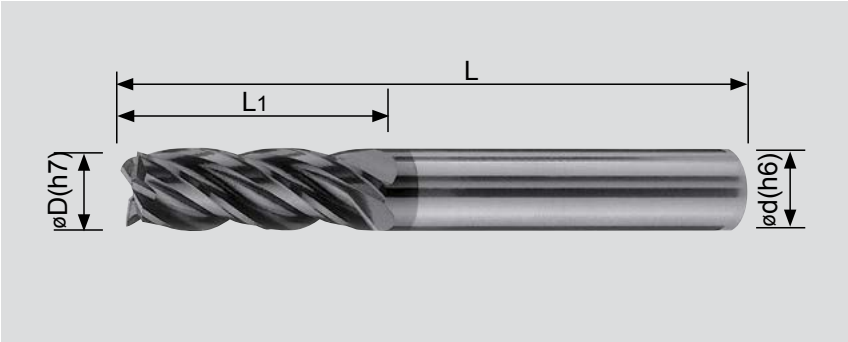
TUNGSTEN CARBIDE 4-FLUTE POCKET TYPE END MILL

TIALN

λ 45°



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable material:
Carbon steel, mold steel, alloy steel, tool steel,
stainless steel, cast iron, heat-treated steel, welded steel.

強力推薦使用於不鏽鋼加工
Especially ideal for cutting stainless steel.

單位/Unit : mm

型號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45	AK925
4EP-D3.0L50	3.0	8	50	4.0	4	●	●
4EP-D4.0L50	4.0	11	50	4.0	4	●	●
4EP-D3.0L50-6	3.0	11	50	6.0	4		
4EP-D4.0L50-6	4.0	11	50	6.0	4		
4EP-D5.0L50	5.0	13	50	6.0	4	●	●
4EP-D6.0L50	6.0	15	50	6.0	4	●	●
4EP-D8.0L60	8.0	19	60	8.0	4	●	●
4EP-D10.0L75	10.0	22	75	10.0	4	●	●
4EP-D12.0L75	12.0	26	75	12.0	4	●	●
4EP-D14.0L80	14.0	30	80	14.0	4	●	●
4EP-D16.0L80	16.0	32	80	16.0	4	●	●
4EP-D18.0L100	18.0	40	100	18.0	4	●	●
4EP-D20.0L100	20.0	40	100	20.0	4	●	●
4EPL-D3.0L50	3.0	12	50	4.0	4	●	●
4EPL-D4.0L50	4.0	16	50	4.0	4	●	●
4EPL-D3.0L50-6	3.0	12	50	6.0	4		
4EPL-D4.0L50-6	4.0	12	50	6.0	4		
4EPL-D5.0L60	5.0	18	60	6.0	4	●	●
4EPL-D6.0L60	6.0	20	60	6.0	4	●	●
4EPL-D8.0L75	8.0	25	75	8.0	4	●	●
4EPL-D10.0L80	10.0	30	80	10.0	4	●	●
4EPL-D12.0L100	12.0	36	100	12.0	4	●	●
4EPL-D14.0L100	14.0	40	100	14.0	4	●	●
4EPL-D16.0L100	16.0	45	100	16.0	4	●	●
4EPL-D18.0L150	18.0	60	150	18.0	4	●	●
4EPL-D20.0L150	20.0	60	150	20.0	4	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

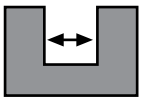
切削條件表請參考第91頁

鎢鋼 4刃內R 倒角立銑刀

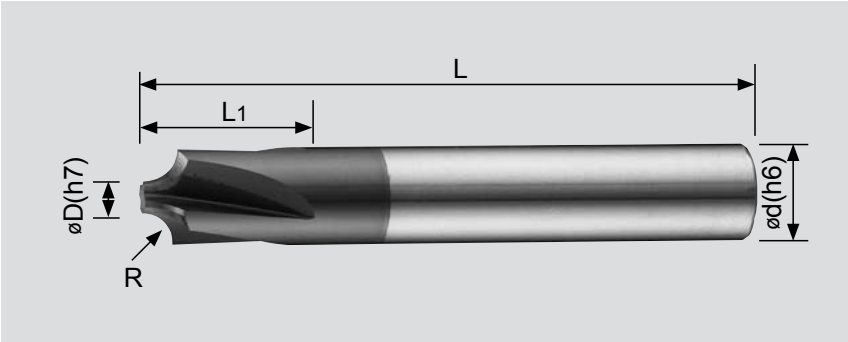
TUNGSTEN CARBIDE 4-FLUTE INTERNAL R CHAMFERING END MILL

TIALN

λ 10°



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable material:
Carbon steel, mold steel, alloy steel, tool steel, stainless steel, cast iron, heat-treated steel, welded steel.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	R徑 Radius	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	Ds徑 Flute Flute Dia	刃數 Flute Number	AK45	AK925
4EIR-D6.0L50-R10	6.0	R 1.0	9	50	6.0	4.0	4	●	●
4EIR-D6.0L50-R15	6.0	R 1.5	9	50	6.0	3.0	4	●	●
4EIR-D8.0L60-R20	8.0	R 2.0	12	60	8.0	4.0	4	●	●
4EIR-D10.0L75-R25	10.0	R 2.5	15	75	10.0	5.0	4	●	●
4EIR-D10.0L75-R30	10.0	R 3.0	15	75	10.0	4.0	4	●	●
4EIR-D12.0L75-R40	12.0	R 4.0	24	75	16.0	4.0	4	●	●
4EIR-D16.0L100-R50	16.0	R 5.0	24	100	16.0	6.0	4	●	●
4EIR-D20.0L100-R60	20.0	R 6.0	30	100	20.0	8.0	4	●	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第92頁

全鎢鋼三刃倒角刀

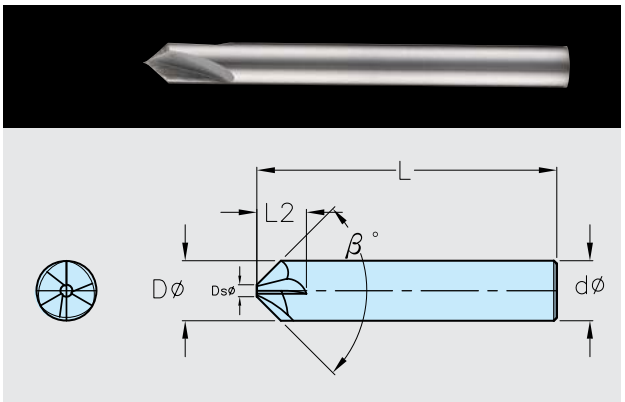
TUNGSTEN CARBIDE 3-FLUTE CHAMFERING END MILL

鎢鋼材質 高硬度、耐摩耗，鑽頂角90°、120°。
Tungsten Carbide material, high hardness, high wear resistance, point angle 90°or 120°

適用材質：
銅一般鋼料、合金鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable materials:
General steel, alloy steel, stainless steel, copper, aluminum, cast iron.

型　號 EDP NO.	ß°	直徑 ØD	刃長 L2	全長 L	柄徑 Ød	柄徑 Ød
3CMF-D4.0L38	90˚	4.0	8	38	4.0	4.0
3CMF-D6.0L45	90˚	6.0	12	45	6.0	6.0
3CMF-D8.0L50	90˚	8.0	15	50	8.0	8.0
3CMFS-D12.0L50-10	90˚	12.0	20	50	10.0	10.0
3CMFS-D16.0L50-10	90˚	16.0	20	50	10.0	10.0

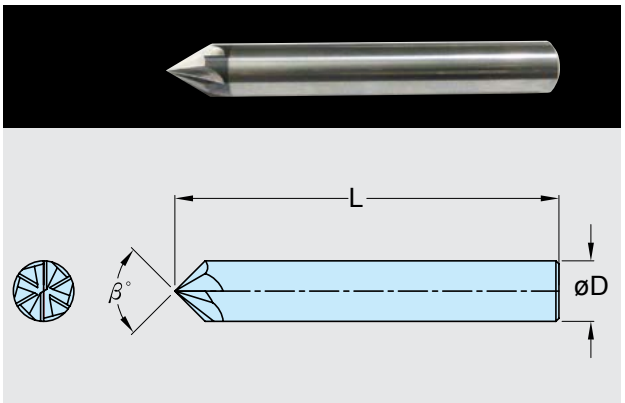


全鎢鋼倒角刀

TUNGSTEN CARBIDE CHAMFERING END MILL

型　號 EDP NO.	ß°	直徑 ØD	全長 L	柄徑 Ød	刃數 Z	AK45
4CMFS-6004L38	60˚	4.0	38	4.0	4	●
4CMFS-6006L50	60˚	6.0	50	6.0	4	●
5CMFS-6008L50	60˚	8.0	50	8.0	5	●
6CMFS-6010L50	60˚	10.0	50	10.0	6	●
6CMFS-6012L50-10	60˚	12.0	50	10.0	6	●

型　號 EDP NO.	ß°	直徑 ØD	全長 L	柄徑 Ød	刃數 Z	AK45
4CMFS-9004L38	90˚	4.0	38	4.0	4	●
4CMFS-9006L50	90˚	6.0	50	6.0	4	●
5CMFS-9008L50	90˚	8.0	50	8.0	5	●
6CMFS-9010L50	90˚	10.0	50	10.0	6	●
6CMFS-9012L50-10	90˚	12.0	50	10.0	6	●

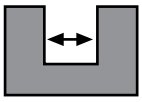


鎢鋼 4刃 重切削立銑刀

TUNGSTEN CARBIDE 4-FLUTE HEAVY DUTY END MILL

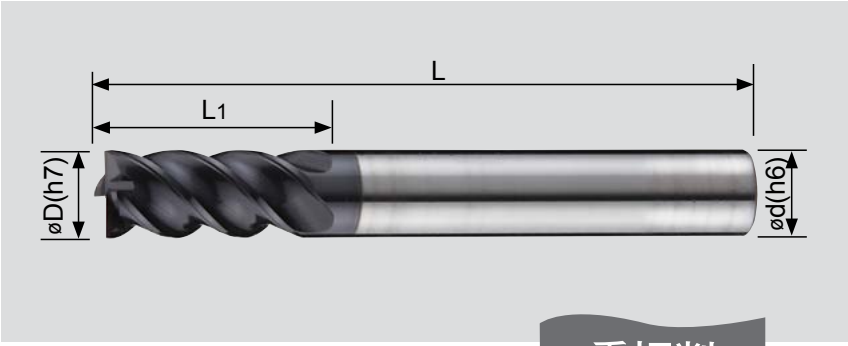
TIALN

λ 45°



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053

- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**



重切削
Heavy duty

AK-45
Tungsten Carbide 0.5μm
Co12% WC86.7% TC/Ta(Nb)C 1.3%

單位/Unit : mm

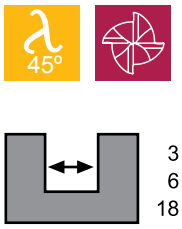
型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45
4EHS-D3.0L50	3.0	4.5	50	6.0	4	
4EHS-D4.0L50	4.0	6.0	50	6.0	4	
4EHS-D5.0L50	5.0	7.5	50	6.0	4	
4EHS-D6.0L50	6.0	9.0	50	6.0	4	
4EHS-D8.0L60	8.0	12.0	60	8.0	4	
4EHS-D10.0L75	10.0	15.0	75	10.0	4	●
4EHS-D12.0L75	12.0	18.0	75	12.0	4	
4EHS-D16.0L100	16.0	24.0	100	16.0	4	
4EHS-D20.0L100	20.0	30.0	100	20.0	4	
4EH-D3.0L50	3.0	8.0	50	6.0	4	●
4EH-D4.0L50	4.0	11.0	50	6.0	4	●
4EH-D5.0L50	5.0	13.0	50	6.0	4	●
4EH-D6.0L50	6.0	13.0	50	6.0	4	●
4EH-D8.0L60	8.0	19.0	60	8.0	4	●
4EH-D10.0L75	10.0	22.0	75	10.0	4	●
4EH-D12.0L75	12.0	26.0	75	12.0	4	●
4EH-D16.0L100	16.0	35.0	100	16.0	4	●
4EH-D20.0L100	20.0	40.0	100	20.0	4	●
4EHM-D3.0L60	3.0	12.0	60	6.0	4	●
4EHM-D4.0L60	4.0	16.0	60	6.0	4	●
4EHM-D5.0L60	5.0	18.0	60	6.0	4	●
4EHM-D6.0L60	6.0	20.0	60	6.0	4	●
4EHM-D8.0L60	8.0	25.0	75	8.0	4	●
4EHM-D10.0L75	10.0	30.0	75	10.0	4	●
4EHM-D12.0L75	12.0	35.0	100	12.0	4	●
4EHM-D16.0L100	16.0	45.0	110	16.0	4	●
4EHM-D20.0L100	20.0	50.0	125	20.0	4	●
4EHL-D3.0L60	3.0	15.0	60	6.0	4	●
4EHL-D4.0L60	4.0	20.0	60	6.0	4	●
4EHL-D5.0L60	5.0	22.0	60	6.0	4	●
4EHL-D6.0L75	6.0	25.0	75	6.0	4	●
4EHL-D8.0L75	8.0	30.0	75	8.0	4	●
4EHL-D10.0L80	10.0	35.0	80	10.0	4	●
4EHL-D12.0L100	12.0	40.0	100	12.0	4	●
4EHL-D16.0L110	16.0	55.0	110	16.0	4	●
4EHL-D20.0L125	20.0	60.0	125	20.0	4	●

請採用剛性較強之側固定式立銑刀架挾持本刀具。
註: 有●者表示有庫存 NOTE: ● means items in stock

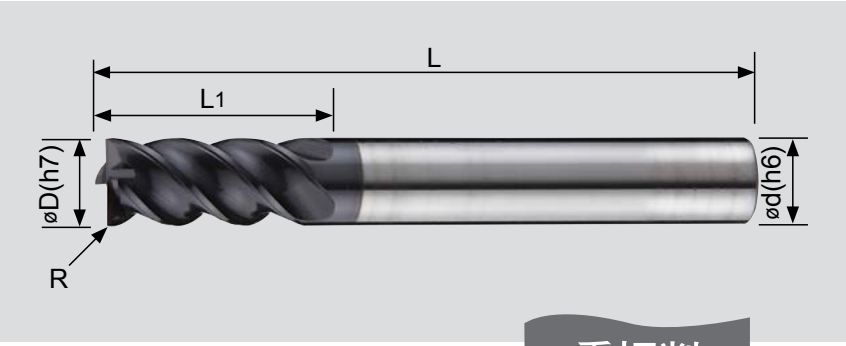
切削條件表請參考第81頁

鎢鋼 4刃圓鼻 重切削立銑刀

TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS HEAVY DUTY END MILL



d≦ 3	-0.005 ~ -0.028
3 < d≦ 6	-0.015 ~ -0.038
6 < d≦18	-0.020 ~ -0.047
18 < d	-0.020 ~ -0.053



重切削
Heavy duty

- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

主要特性：
R角結構適合切削高硬度材質，刀尖不易崩裂，並可替代小徑球形銑刀，可作清角和曲面銑削。

Feature:
The R corner configuration is excellent for cutting high hardness materials without edge collapse. Also, It's replacable for small radius ball end mill, and permitting for corner cleaning and curving surface milling.

單位/Unit : mm

型號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	圓角 R Nose R	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45
4EHCR-D3.0L50R02	3.0	8.0	0.2	50	6.0	4	●
4EHCR-D3.0L50R05	3.0	8.0	0.5	50	6.0	4	●
4EHCR-D4.0L50R02	4.0	8.0	0.2	50	6.0	4	●
4EHCR-D4.0L50R05	4.0	11.0	0.5	50	6.0	4	●
4EHCR-D4.0L50R10	4.0	11.0	1.0	50	6.0	4	●
4EHCR-D5.0L50R02	5.0	13.0	0.2	50	6.0	4	●
4EHCR-D5.0L50R05	5.0	13.0	0.5	50	6.0	4	●
4EHCR-D5.0L50R10	5.0	13.0	1.0	50	6.0	4	●
4EHCR-D6.0L50R03	6.0	13.0	0.3	50	6.0	4	●
4EHCR-D6.0L50R05	6.0	13.0	0.5	50	6.0	4	●
4EHCR-D6.0L50R10	6.0	13.0	1.0	50	6.0	4	●
4EHCR-D8.0L60R03	8.0	19.0	0.3	60	8.0	4	●
4EHCR-D8.0L60R05	8.0	19.0	0.5	60	8.0	4	●
4EHCR-D8.0L60R10	8.0	19.0	1.0	60	8.0	4	●
4EHCR-D8.0L60R15	8.0	19.0	1.5	60	8.0	4	●
4EHCR-D8.0L60R20	8.0	19.0	2.0	60	8.0	4	●
4EHCR-D10.0L75R03	10.0	22.0	0.3	60	10.0	4	●
4EHCR-D10.0L75R05	10.0	22.0	0.5	75	10.0	4	●
4EHCR-D10.0L75R10	10.0	22.0	1.0	75	10.0	4	●
4EHCR-D10.0L75R15	10.0	22.0	1.5	75	10.0	4	●
4EHCR-D10.0L75R20	10.0	22.0	2.0	75	10.0	4	●
4EHCR-D10.0L75R30	10.0	22.0	3.0	75	10.0	4	●
4EHCR-D12.0L75R05	12.0	26.0	0.5	75	12.0	4	●
4EHCR-D12.0L75R10	12.0	26.0	1.0	75	12.0	4	●
4EHCR-D12.0L75R15	12.0	26.0	1.5	75	12.0	4	●
4EHCR-D12.0L75R20	12.0	26.0	2.0	75	12.0	4	●
4EHCR-D12.0L75R30	12.0	26.0	3.0	75	12.0	4	●
4EHCR-D16.0L80R10	16.0	35.0	1.0	80	16.0	4	●
4EHCR-D16.0L80R15	16.0	35.0	1.5	80	16.0	4	●
4EHCR-D16.0L80R20	16.0	35.0	2.0	80	16.0	4	●
4EHCR-D16.0L80R30	16.0	35.0	3.0	80	16.0	4	●
4EHCR-D20.0L100R10	20.0	40.0	1.0	100	20.0	4	●
4EHCR-D20.0L100R15	20.0	40.0	1.5	100	20.0	4	●
4EHCR-D20.0L100R20	20.0	40.0	2.0	100	20.0	4	●
4EHCR-D20.0L100R30	20.0	40.0	3.0	100	20.0	4	●

請採用剛性較強之側固定式立銑刀架挾持本刀具。
註: 有●者表示有庫存　NOTE: ● means items in stock

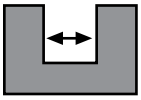
切削條件表請參考第90頁

鎢鋼 4刃粗銑立銑刀

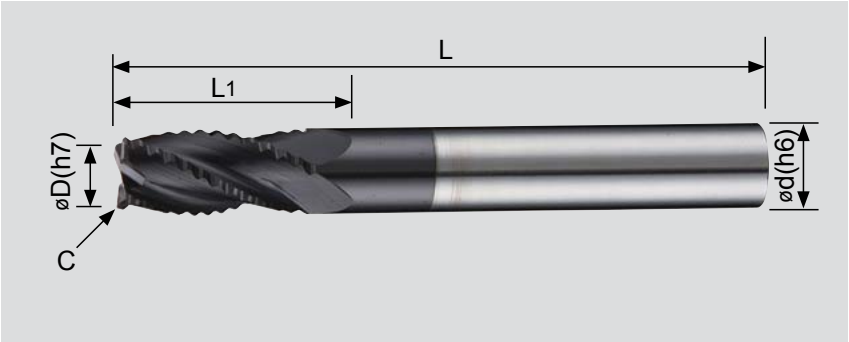
TUNGSTEN CARBIDE 4-FLUTE ROUGHING END MILL

TIALN

λ 30°



d≦ 3 -0.005 ~ -0.028
3 < d≦ 6 -0.015 ~ -0.038
6 < d≦18 -0.020 ~ -0.047
18 < d -0.020 ~ -0.053



- 超細微粒碳化鎢材質
- **Micro-Grain Tungsten Carbide**

適合材質：
碳素鋼、模具鋼、合金鋼、工具鋼、
不鏽鋼、鑄鐵、熱處理鋼料、焊補鋼料。

Applicable materials:
Carbon steel, mold steel, alloy steel,
tool steel, stainless steel, cast iron,
heat-treated steel, welded steel.

單位/Unit : mm

型 號 EDP NO.	刃徑 D Flute Dia.	刃長 L1 Length of Cut	刀尖倒角 C	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number	AK45
4EQ-D6.0L50	6.0	13.0	0.5	50	6.0	4	●
4EQ-D8.0L60	8.0	20.0	0.5	60	8.0	4	●
4EQ-D10.0L75	10.0	23.0	0.5	75	10.0	4	●
4EQ-D12.0L75	12.0	26.0	0.5	75	12.0	4	●
4EQ-D14.0L80	14.0	28.0	0.5	80	14.0	4	●
4EQ-D16.0L80	16.0	32.0	0.6	80	16.0	4	●
4EQ-D18.0L100	18.0	35.0	0.6	100	18.0	4	●
4EQ-D20.0L105	20.0	40.0	0.6	105	20.0	4	●
4EQ-D22.0L105	22.0	45.0	0.6	105	22.0	4	
4EQ-D25.0L120	25.0	50.0	0.6	120	25.0	4	●

註: 有●者表示有庫存
NOTE: ● means items in stock

切削條件表請參考第80頁

全鎢鋼鉸刀

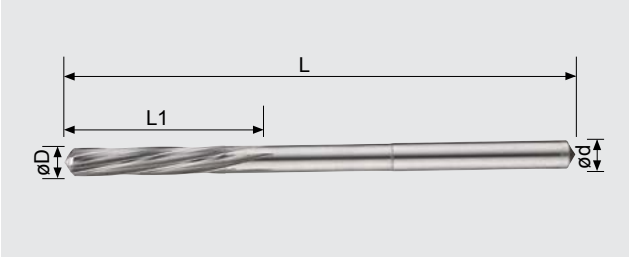
TUNGSTEN CARBIDE REAMERS

適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable material:

General steel,alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.



單位:Unit: mm 公差 H7

型 號 EDP NO.	直徑 DØ Diameter	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number
SRM478-D2.00	2.00	11	50	2.0	4
SRM478-D2.10	2.10	15	60	3.0	4
SRM478-D2.20	2.20	15	60	3.0	4
SRM478-D2.30	2.30	15	60	3.0	4
SRM478-D2.40	2.40	15	60	3.0	4
SRM478-D2.50	2.50	15	60	3.0	4
SRM478-D2.60	2.60	15	60	3.0	4
SRM478-D2.70	2.70	15	60	3.0	4
SRM478-D2.80	2.80	15	60	3.0	4
SRM478-D2.90	2.90	15	60	3.0	4
SRM478-D3.00	3.00	15	60	3.0	4
SRM478-D3.10	3.10	16	65	4.0	4
SRM478-D3.20	3.20	16	65	4.0	4
SRM478-D3.30	3.30	16	65	4.0	4
SRM478-D3.40	3.40	18	70	4.0	4
SRM478-D3.50	3.50	18	70	4.0	4
SRM478-D3.60	3.60	18	70	4.0	4
SRM478-D3.70	3.70	18	70	4.0	4
SRM478-D3.80	3.80	20	75	4.0	4
SRM478-D3.90	3.90	20	75	4.0	4
SRM478-D4.00	4.00	20	75	4.0	4
SRM478-D4.10	4.10	20	75	6.0	4
SRM478-D4.20	4.20	20	75	6.0	4
SRM478-D4.30	4.30	20	75	6.0	4
SRM478-D4.40	4.40	20	75	6.0	4
SRM478-D4.50	4.50	20	75	6.0	4
SRM478-D4.60	4.60	20	75	6.0	4
SRM478-D4.70	4.70	20	75	6.0	4
SRM478-D4.80	4.80	23	86	6.0	4
SRM478-D4.90	4.90	23	86	6.0	4
SRM678-D5.00	5.00	23	86	6.0	6
SRM678-D5.10	5.10	23	86	6.0	6
SRM678-D5.20	5.20	23	86	6.0	6
SRM678-D5.30	5.30	23	86	6.0	6

註:有●者表示有庫存 NOTE:●means items in stock

全鎢鋼鉸刀

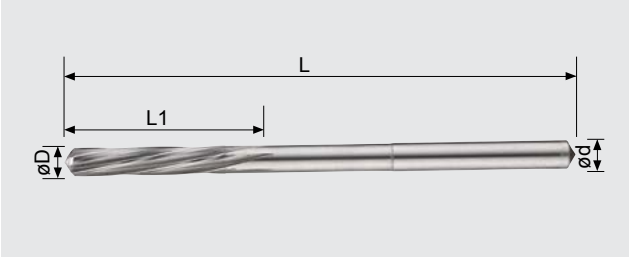
TUNGSTEN CARBIDE REAMERS

適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable material:

General steel,alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.



單位:Unit: mm 公差 H7

型 號 EDP NO.	直徑 DØ Diameter	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number
SRM678-D5.40	5.40	26	95	6.0	6
SRM478-D5.50	5.50	26	95	6.0	6
SRM678-D5.60	5.60	26	95	6.0	6
SRM478-D5.70	5.70	26	95	6.0	6
SRM678-D5.80	5.80	26	95	6.0	6
SRM678-D5.90	5.90	26	95	6.0	6
SRM678-D6.00	6.00	26	95	6.0	6
SRM678-D6.10	6.10	28	100	8.0	6
SRM678-D6.20	6.20	28	100	8.0	6
SRM678-D6.30	6.30	28	100	8.0	6
SRM678-D6.40	6.40	28	100	8.0	6
SRM678-D6.50	6.50	28	100	8.0	6
SRM678-D6.60	6.60	28	100	8.0	6
SRM678-D6.70	6.70	28	100	8.0	6
SRM678-D6.80	6.80	31	110	8.0	6
SRM678-D6.90	6.90	31	110	8.0	6
SRM678-D7.00	7.00	31	110	8.0	6
SRM678-D7.10	7.10	31	110	8.0	6
SRM678-D7.20	7.20	31	110	8.0	6
SRM678-D7.30	7.30	31	110	8.0	6
SRM678-D7.40	7.40	31	110	8.0	6
SRM678-D7.50	7.50	31	110	8.0	6
SRM678-D7.60	7.60	31	110	8.0	6
SRM678-D7.70	7.70	31	110	8.0	6
SRM678-D7.80	7.80	31	110	8.0	6
SRM678-D7.90	7.90	31	110	8.0	6
SRM678-D8.00	8.00	31	110	8.0	6
SRM678-D8.10	8.10	33	117	10.0	6
SRM678-D8.20	8.20	33	117	10.0	6
SRM678-D8.30	8.30	33	117	10.0	6
SRM678-D8.40	8.40	33	117	10.0	6
SRM678-D8.50	8.50	33	117	10.0	6
SRM678-D8.60	8.60	36	125	10.0	6
SRM678-D8.70	8.70	36	125	10.0	6

註:有●者表示有庫存 NOTE:●means items in stock

全鎢鋼鉸刀

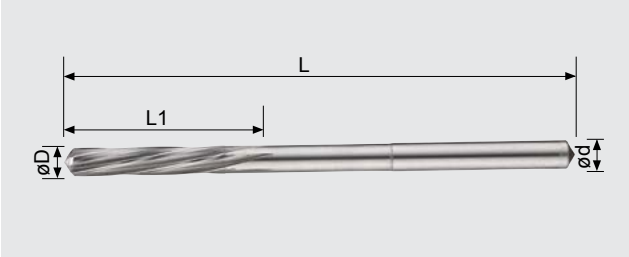
TUNGSTEN CARBIDE REAMERS

適合材質：

一般鋼料、合金鋼、模具鋼、不鏽鋼、銅、鋁、鑄鐵。

Applicable material:

General steel,alloy steel, mold steel, stainless steel, copper, aluminum, cast iron.



單位:Unit: mm 公差 H7

型 號 EDP NO.	直徑 DØ Diameter	刃長 L1 Length of Cut	全長 L Overall Length	柄徑 d Shank Diameter	刃數 Flute Number
SRM678-D8.80	8.80	36	125	10.0	6
SRM678-D8.90	8.90	36	125	10.0	6
SRM678-D9.00	9.00	36	125	10.0	6
SRM678-D9.10	9.10	36	125	10.0	6
SRM678-D9.20	9.20	36	125	10.0	6
SRM678-D9.30	9.30	36	125	10.0	6
SRM678-D9.40	9.40	36	125	10.0	6
SRM678-D9.50	9.50	36	125	10.0	6
SRM678-D9.60	9.60	38	130	10.0	6
SRM678-D9.70	9.70	38	130	10.0	6
SRM678-D9.80	9.80	38	130	10.0	6
SRM678-D9.90	9.90	38	130	10.0	6
SRM678-D10.00	10.00	38	130	10.0	6
SRM678-D10.10	10.10	38	130	12.0	6
SRM678-D10.20	10.20	38	130	12.0	6
SRM678-D10.30	10.30	38	130	12.0	6
SRM678-D10.40	10.40	38	130	12.0	6
SRM678-D10.50	10.50	38	130	12.0	6
SRM678-D10.60	10.60	38	130	12.0	6
SRM678-D10.70	10.70	42	142	12.0	6
SRM678-D10.80	10.80	42	142	12.0	6
SRM678-D10.90	10.90	42	142	12.0	6
SRM678-D11.00	11.00	42	142	12.0	6
SRM678-D11.10	11.10	42	142	12.0	6
SRM678-D11.20	11.20	42	142	12.0	6
SRM678-D11.30	11.30	42	142	12.0	6
SRM678-D11.40	11.40	42	142	12.0	6
SRM678-D11.50	11.50	42	142	12.0	6
SRM678-D11.60	11.60	42	142	12.0	6
SRM678-D11.70	11.70	42	142	12.0	6
SRM678-D11.80	11.80	42	142	12.0	6
SRM678-D11.90	11.90	45	151	12.0	6
SRM678-D12.00	12.00	45	151	12.0	6

註:有●者表示有庫存 NOTE:●means items in stock

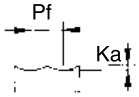
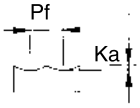
2BE

鎢鋼 2刃球型立銑刀

TUNGSTEN CARBIDE 2-FLUTE BALL END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

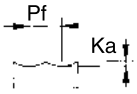
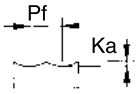
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R0.5	28000~50000	600~1100	24000~42000	350~700	10000~20000	100~250	8000~11000	80~220
R1.0	14000~25000	600~1100	12000~21000	350~700	5000~11000	100~250	4000~5500	80~220
R1.5	10000~17000	600~1100	8000~13500	350~700	3500~6000	100~250	3000~4000	80~220
R2.0	7000~12500	600~1100	5600~10000	350~800	2600~5000	100~270	2500~2800	80~250
R2.5	6000~10000	600~1100	4200~8000	350~800	2200~3500	100~270	2000~2500	80~250
R3.0	5000~8500	600~1200	3800~7000	350~900	2000~3000	100~270	1500~2200	80~250
R4.0	3500~6500	600~1200	2600~5000	450~900	1800~2500	100~270	1200~2000	80~250
R5.0	2800~5000	600~1350	2200~4200	450~900	1500~2000	100~270	900~1500	80~250
R6.0	2500~4500	600~1350	1800~3300	400~900	1000~1500	100~270	700~1200	80~250
R7.0	2200~3600	600~1300	1800~2800	400~900	900~1500	100~270	600~1000	80~250
R8.0	1800~3200	500~1100	1300~2600	400~900	800~1100	100~270	500~900	80~250
R10.0	1500~2600	500~1000	1200~2200	400~850	600~900	80~220	400~700	60~180
R12.5	1300~2200	400~900	850~1600	300~660	450~800	80~220	350~500	60~180
最大切削量 Max. Cutting	 Ka = ~0.06 R Pf = ~0.1 R		粗加工時 Coarse Cutting	Ka = ~0.2 R Pf = ~0.5 R	 Ka = ~0.03 R Pf = ~0.05 R			

鎢鋼 2刃球型立銑刀

TUNGSTEN CARBIDE 2-FLUTE BALL END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R0.5	32000~55000	1300~2800	32000~55000	1200~2450	20000~35000	700~1350	10000~20000	100~250
R1.0	16000~27500	1300~2800	16000~27000	1200~2450	10000~19000	700~1450	5000~10000	100~250
R1.5	10000~18000	1300~2800	10000~18000	1200~2450	7000~13000	700~1450	3500~6000	100~250
R2.0	9000~17000	1700~3200	9000~17000	1300~2700	7000~12000	950~1900	2800~5500	120~280
R2.5	9000~17000	2000~3800	9000~16000	1400~2800	6000~11000	1000~2000	2000~4000	120~280
R3.0	8500~15000	2200~4100	7000~13000	1300~2700	6000~11000	1100~2300	1500~3000	120~280
R4.0	6000~11000	1800~3100	5500~10000	1000~2100	4500~8000	900~1700	1200~2500	100~250
R5.0	5000~9000	1200~2700	4500~8000	900~1700	3500~6500	700~1350	900~2000	100~250
R6.0	4200~8000	1000~2100	3500~7000	700~1450	2800~5500	500~1150	700~1500	100~250
R7.0	4000~7000	1100~1900	3500~6000	600~1200	2500~4500	500~1150	600~1100	100~250
R8.0	3200~6000	800~1700	2800~5500	500~1050	2200~4200	450~1050	500~1100	100~250
R10.0	2500~5000	600~1300	2200~4200	400~900	1700~3500	320~750	400~900	100~250
R12.5	2000~4000	500~1100	1800~3500	300~750	1200~2500	250~500	350~700	100~250
最大切削量 Max. Cutting	 Ka = ~0.03 R Pf = ~0.05 R				 Ka = ~0.015 R Pf = ~0.025 R			

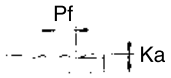
3BE

鎢鋼 3刃球型立銑刀

TUNGSTEN CARBIDE 3-FLUTE BALL END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

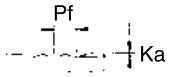
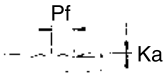
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R3.0	5000~8500	600~2400	3800~7000	350~1800	2000~3000	100~540	1500~2200	80~500
R4.0	3500~6500	600~2400	2600~5000	450~1800	1800~2500	100~540	1200~2000	80~500
R5.0	2800~5000	600~2700	2200~4200	450~1800	1500~2000	100~540	900~1500	80~500
R6.0	2500~4500	600~2700	1800~3300	400~1800	1000~1500	100~540	700~1200	80~500
R7.0	2200~3600	600~2700	1800~2800	400~1800	900~1500	100~540	600~1000	80~500
R8.0	1800~3200	600~2200	1300~2600	400~1800	800~1100	100~540	500~900	80~500
R10.0	1500~2600	600~2000	1200~2200	400~1700	600~900	80~440	400~700	60~360
R12.0	1300~2200	600~1800	850~1600	300~1320	450~800	80~440	350~500	60~360
最大切削量 Max. Cutting	 Ka = ~0.1 R Pf = ~0.3 R		粗加工時 Coarse Cutting	Ka = ~0.3 R Pf = ~0.2 R	Ka = ~0.05 R Pf = ~0.15 R		Ka = ~0.15 R Pf = ~0.05 R	

鎢鋼 3刃球型立銑刀

TUNGSTEN CARBIDE 3-FLUTE BALL END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R3.0	8500~15000	2200~8200	7000~13000	1300~5400	6000~11000	1100~4600	1500~3000	120~560
R4.0	6000~11000	1800~6200	5500~10000	1000~4200	4500~8000	900~3400	1200~2500	100~500
R5.0	5000~9000	1200~5400	4500~8000	900~3400	3500~6500	700~2700	900~2000	100~500
R6.0	4200~8000	1000~4200	3800~7000	700~2900	2800~5500	500~2300	700~1500	100~500
R7.0	4000~7000	1100~3800	3500~6000	600~2400	2500~4500	500~2300	600~1100	100~500
R8.0	3200~6000	800~3400	2800~5500	500~2100	2200~4200	450~2100	500~1100	100~500
R10.0	2500~5000	600~2600	2200~4200	400~1800	1700~3500	320~1500	400~900	100~500
R12.5	2000~4000	500~2200	1800~3500	300~1500	1200~2500	250~1000	350~700	100~500
最大切削量 Max. Cutting	 Ka = ~0.03 R Pf = ~0.05 R				 Ka = ~0.015 R Pf = ~0.025 R			

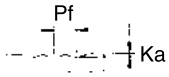
4BE

鎢鋼 4刃球型立銑刀

TUNGSTEN CARBIDE 4-FLUTE BALL END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

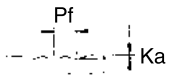
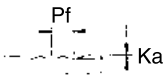
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R3.0	5000~8500	600~2400	3800~7000	350~1800	2000~3000	100~540	1500~2200	80~500
R4.0	3500~6500	600~2400	2600~5000	450~1800	1800~2500	100~540	1200~2000	80~500
R5.0	2800~5000	600~2700	2200~4200	450~1800	1500~2000	100~540	900~1500	80~500
R6.0	2500~4500	600~2700	1800~3300	400~1800	1000~1500	100~540	700~1200	80~500
R7.0	2200~3600	600~2700	1800~2800	400~1800	900~1500	100~540	600~1000	80~500
R8.0	1800~3200	550~2200	1300~2600	400~1800	800~1100	100~540	500~900	80~500
R10.0	1500~2600	500~2000	1200~2200	400~1700	600~900	80~440	400~700	60~360
R12.5	1300~2200	400~1800	850~1600	300~1320	4500~800	80~440	350~500	60~360
最大切削量 Max. Cutting		Ka = ~0.1 R Pf = ~0.3 R	粗加工時 Coarse Cutting	Ka = ~0.3 R Pf = ~0.2 R	Ka = ~0.05 R Pf = ~0.15 R		Ka = ~0.15 R Pf = ~0.05 R	

鎢鋼 4刃球型立銑刀

TUNGSTEN CARBIDE 4-FLUTE BALL END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

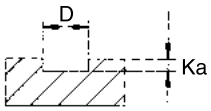
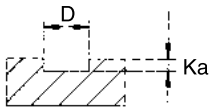
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R3.0	8500~15000	2200~8200	7000~13000	1300~5400	6000~11000	1100~4600	1500~3000	120~560
R4.0	6000~11000	1800~6200	5500~10000	1000~4200	4500~8000	900~3400	1200~2500	100~500
R5.0	5000~9000	1200~5400	4500~8000	900~3400	3500~6500	700~2700	900~2000	100~500
R6.0	4200~8000	1000~4200	3800~7000	700~2900	2800~5500	500~2300	700~1500	100~500
R7.0	4000~7000	1100~3800	3500~6000	600~2400	2500~4500	500~2300	600~1100	100~500
R8.0	3200~6000	800~3400	2800~5500	500~2100	2200~4200	450~2100	500~1100	100~500
R10.0	2500~5000	600~2600	2200~4200	400~1800	1700~3500	320~1500	400~900	100~500
R12.5	2000~4000	500~2200	1800~3500	300~1500	1200~2500	250~1000	350~700	100~500
最大切削量 Max. Cutting		Ka = ~0.03 R Pf = ~0.05 R				Ka = ~0.015 R Pf = ~0.025 R		

鎢鋼 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE BALL END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

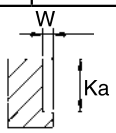
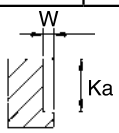
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D1.0	14000~19500	55~90	7000~11000	35~65	4000~7000	25~45	3000~4000	10~35
D2.0	8500~11000	75~120	4000~6350	40~80	3000~4000	25~45	1500~2200	15~40
D3.0	6000~9000	130~180	3000~5000	50~100	2000~2800	30~60	1000~1700	20~50
D4.0	5000~7500	160~240	2700~4500	70~140	1500~2200	30~60	900~1500	25~60
D5.0	4500~7000	150~300	2200~4000	80~160	1200~1900	30~60	600~1200	30~70
D6.0	4000~6500	150~420	2000~3600	100~210	1000~1600	30~60	500~1100	40~80
D8.0	2800~5000	150~420	1400~3000	100~210	800~1200	25~60	350~850	40~80
D10.0	2200~4000	150~420	1000~2200	100~210	600~980	25~60	300~700	40~80
D12.0	1800~3000	120~380	900~1900	100~210	500~800	25~60	280~600	40~80
D16.0	1800~2500	160~300	800~1400	80~180	350~600	20~65	250~450	30~70
D18.0	1400~2200	150~260	700~1200	60~150	250~550	20~65	200~400	25~60
D20.0	1200~2000	120~240	600~1100	50~140	200~500	20~50	180~350	20~50
D25.0	1000~1800	100~190	500~900	50~120	150~400	15~50	130~280	15~50
最大切削量 Max. Cutting	 D = ~3 mm Ka = ~0.3 D D = 3 mm ~Ka = ~0.5 D				 D = ~3 mm Ka = ~0.02D D = 3 mm ~Ka = ~0.05 D			

鎢鋼 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE FLUTE END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D1.0	14000~19500	80~110	8000~11000	35~80	4000~7000	25~60	3000~4000	10~35
D2.0	8500~11000	90~150	4000~6350	50~100	3000~4000	25~70	1500~2200	15~40
D3.0	6500~9000	130~250	3000~5000	60~140	2000~2800	30~90	1000~1700	30~60
D4.0	5500~7500	160~320	2700~4500	800~180	1500~2200	30~90	900~1500	30~60
D5.0	5000~7000	200~450	2500~4000	100~240	1200~1900	40~120	600~1200	30~70
D6.0	4500~5500	250~450	2200~3600	120~300	1000~1600	40~120	500~1100	30~70
D8.0	3200~4500	250~450	1600~3000	120~300	800~1200	40~120	350~850	30~70
D10.0	2800~3600	250~420	1200~2500	120~300	600~980	40~120	300~700	30~70
D12.0	2200~3000	250~320	1100~1900	120~270	500~800	30~90	280~600	25~60
D16.0	1800~2500	200~300	800~1500	100~240	350~600	30~90	250~450	25~60
D18.0	1500~2200	180~300	700~1300	80~216	250~550	30~90	200~400	25~60
D20.0	1200~1800	150~250	600~1200	70~150	200~500	20~90	180~350	15~60
D25.0	1000~1430	120~220	500~900	60~130	150~400	20~90	130~280	15~60
最大切削量 Max. Cutting	 Ka = ~2.5 D W = ~0.05 D				 Ka = ~2.5 D W = ~0.025 D			

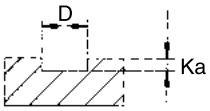
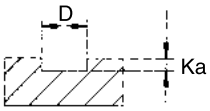
3E

鎢鋼 3刃立銑刀

TUNGSTEN CARBIDE 3-FLUTE END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

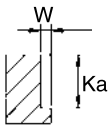
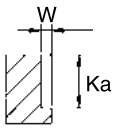
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	6000~9000	130~270	3000~5000	50~150	2000~2800	30~90	1000~1700	20~75
D4.0	5000~7500	160~360	2700~4500	70~210	1500~2200	30~90	900~1500	25~90
D5.0	4500~7000	150~450	2200~4000	80~240	1200~1900	30~90	600~1200	30~105
D6.0	4000~6500	150~630	2000~3600	100~310	1000~1600	30~90	500~1100	40~120
D8.0	2800~5000	150~630	1400~3000	100~310	800~1200	25~90	350~850	40~120
D10.0	2200~4000	150~630	1000~2200	100~310	600~9800	25~90	300~700	40~120
D12.0	1800~3000	120~630	900~1900	100~310	500~8000	25~90	280~600	40~120
D16.0	1800~2500	160~570	800~1400	80~270	350~600	20~95	250~450	30~105
最大切削量 Max. Cutting			D = ~3 mm Ka = ~0.3 D D = 3 mm ~Ka = ~0.5 D				D = ~3 mm Ka = ~0.02D D = 3 mm ~Ka = ~0.05 D	

鎢鋼 3刃立銑刀

TUNGSTEN CARBIDE 3-FLUTE END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	6500~9000	130~370	3000~5000	60~210	2000~2800	30~130	1000~1700	30~90
D4.0	5500~7500	160~480	2700~4500	80~270	1500~2200	30~130	900~1500	30~90
D5.0	5000~7000	200~670	2500~4000	100~360	1200~1900	40~180	600~1200	30~105
D6.0	4500~5500	250~670	2200~3600	120~450	1000~1600	40~180	500~1100	30~105
D8.0	3200~4500	250~670	1600~3000	120~450	800~1200	40~180	350~850	30~105
D10.0	2800~3600	250~630	1200~2500	120~450	600~980	40~180	300~700	30~105
D12.0	2200~3000	250~480	1100~1900	120~450	500~800	30~130	280~600	25~90
D16.0	1800~2500	200~450	800~1500	100~360	350~600	30~130	250~450	25~90
最大切削量 Max. Cutting			Ka = ~2.5 D W = ~0.05 D				Ka = ~2.5 D W = ~0.025 D	

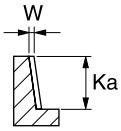
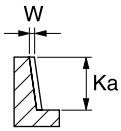
2TP

鎢鋼 2刃斜度立銑刀

TUNGSTEN CARBIDE TAPER 2-FLUTE END MILL

●超細微粒碳化鎢2刃斜度立銑刀

●Micro-Grain Tungsten carbide

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D1.0	14000~18000	70~100	8000~11000	40~70	7000~8500	30~50	3000~3500	12~23
D2.0	10000~14000	75~125	6000~8500	50~85	5000~6500	40~60	2300~2800	18~28
D3.0	8000~11000	80~145	4500~6500	50~90	4000~5500	50~70	1800~2500	20~35
D4.0	7000~10000	70~145	4000~7000	65~120	3200~4500	50~80	1600~2200	22~40
D5.0	3500~4000	70~125	1800~2500	45~80	1600~2000	35~65	700~900	15~25
D6.0	3000~3500	70~150	1700~2200	45~80	1400~1700	35~65	600~700	15~25
D8.0	2600~3200	70~150	1400~2000	45~80	1200~1500	35~65	500~600	15~25
最大切削量 Max. Cutting	 Ka = ~2.5 D W = ~0.02 D						 Ka = ~2.5 D W = ~0.01 D	

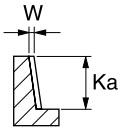
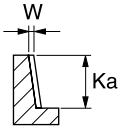
4TP

鎢鋼 4刃斜度立銑刀

TUNGSTEN CARBIDE TAPER 4-FLUTE FLUTE END MILL

●超細微粒碳化鎢4刃斜度立銑刀

●Micro-Grain Tungsten carbide

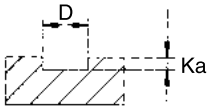
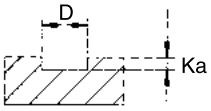
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D4.0	3000~3500	120~200	1700~2200	50~85	1400~1700	50~80	600~700	20~35
D5.0	2600~3200	120~200	1400~2000	70~125	1200~1500	60~100	500~600	25~40
D6.0	3500~4000	70~125	1800~2500	45~80	1600~2000	35~65	700~900	15~25
D8.0	3000~3500	120~200	1700~2200	50~55	1400~1700	50~80	600~700	20~35
D10.0	2600~3200	120~200	1400~2000	70~110	1200~1500	60~100	500~600	25~40
最大切削量 Max. Cutting	 Ka = ~2.5 D W = ~0.02 D						 Ka = ~2.5 D W = ~0.01 D	

鎢鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

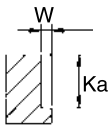
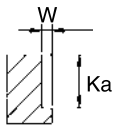
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	6000~9000	150~360	3000~5000	80~200	2000~1800	35~120	1300~1800	30~100
D4.0	5000~7500	200~480	2700~4500	100~280	1500~1500	40~120	1100~1500	40~120
D5.0	4500~7000	250~600	2200~4000	120~320	1200~1300	50~120	1000~1300	50~140
D6.0	4000~6500	300~840	2000~3600	150~420	1000~1200	60~120	950~1200	60~160
D8.0	2800~5000	300~840	1400~3000	150~420	800~1000	60~120	700~900	60~160
D10.0	2200~4000	300~840	1000~2200	150~420	600~900	60~120	550~800	60~160
D12.0	2200~3000	300~570	900~1900	150~420	500~700	60~120	450~600	60~160
D16.0	1800~2500	250~520	850~1400	130~360	350~500	50~130	300~500	50~140
D18.0	1400~2200	220~520	700~1200	100~360	250~450	40~130	280~400	35~120
D20.0	1200~2000	200~480	600~1100	100~280	200~360	40~100	250~380	30~100
D25.0	1000~1800	150~380	500~800	80~240	150~300	30~100	200~300	25~100
最大切削量 Max. Cutting	 Ka = ~0.25 D				 Ka = ~0.05 D			

鎢鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	6500~9000	200~500	3000~5000	100~280	2000~2800	40~180	1000~1700	30~120
D4.0	5500~7500	300~640	2700~4500	160~360	1500~2200	50~180	900~1500	40~120
D5.0	5000~7000	300~900	2500~4000	160~480	1200~1900	60~240	600~1200	50~140
D6.0	4500~5500	400~900	2200~3600	200~600	1000~1600	80~240	500~1100	70~140
D8.0	3200~4500	400~900	1600~3000	200~600	800~1200	80~240	350~850	70~140
D10.0	2800~3600	400~840	1200~2500	200~600	600~980	80~240	300~700	70~140
D12.0	2200~3000	400~640	1100~1900	200~540	500~800	80~180	280~600	70~120
D16.0	1800~2500	300~600	800~1500	150~480	350~600	60~180	250~450	50~120
D18.0	1500~2200	280~600	700~1300	130~430	250~550	60~180	200~400	40~120
D20.0	1200~1800	250~500	600~1200	120~300	200~500	50~180	180~350	40~120
D25.0	1000~1430	220~440	500~900	100~260	150~400	40~180	130~280	30~120
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.05 D				 Ka = ~1.0 D W = ~0.02 D			

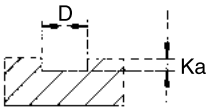
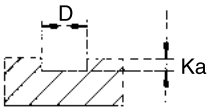
4EH, 4EHCR

極細微粒碳化鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE HEAVY DUTY END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

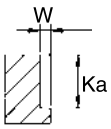
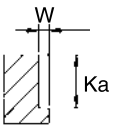
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	6300~9000	550~730	5200~6000	380~470	3700~4600	280~350	1850~2300	95~120
D4.0	4700~6500	550~730	4000~4500	420~470	2800~3500	320~400	1450~1800	100~135
D5.0	3700~5200	630~750	3000~3600	450~500	2250~2800	320~400	1200~1500	100~150
D6.0	3100~4500	630~750	2500~3000	500~570	2000~2500	350~430	1050~1300	120~150
D8.0	2300~3400	600~700	1800~2300	450~550	1525~1900	360~450	720~900	120~150
D10.0	1800~2700	500~650	1500~1800	450~550	1200~1500	320~400	560~700	100~125
D12.0	1500~2300	500~650	1200~1500	400~470	1050~1300	300~380	520~650	100~125
D16.0	1000~1800	450~650	1000~1200	350~400	800~1000	265~330	440~550	75~95
D20.0	900~1400	350~550	800~900	300~370	680~850	240~300	360~450	75~95
最大切削量 Max. Cutting	 Ka = ~0.5 D				 Ka = ~0.05 D			

極細微粒碳化鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS HEAVY DUTY END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	8200~11000	700~1000	6500~7200	500~600	5400~6500	400~500	2800~3500	180~220
D4.0	6000~88000	800~1200	4800~5400	550~620	4000~5000	425~530	2100~2600	180~220
D5.0	4800~7000	800~1200	3800~4500	550~620	3200~4000	440~550	1800~2200	180~220
D6.0	4000~5500	850~1500	3200~3700	600~750	2800~3500	440~550	1520~1900	180~220
D8.0	3000~4200	850~1500	2300~2800	580~700	2250~2800	460~570	1200~1500	160~200
D10.0	2400~3400	800~1250	1800~2350	550~650	1750~2200	440~550	960~1200	150~185
D12.0	2000~2800	800~1250	1500~2000	500~600	1600~2000	400~500	720~900	150~185
D16.0	1400~2300	700~1000	1000~1500	400~550	1200~1500	350~430	600~750	150~185
D20.0	1000~1800	500~800	800~1250	350~500	960~1200	310~380	520~650	150~185
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.02 D				 Ka = ~1.0 D W = ~0.05 D			

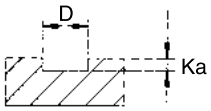
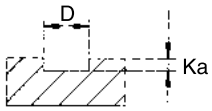
4EQ

極細微粒碳化鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

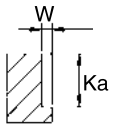
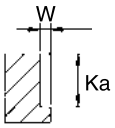
被切削材 WORKPIECE	鑄鐵 FC250 FCD		鐵材、碳素鋼、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		合金鋼、工具鋼、模具鋼 SUS316 SKD SUS304		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		~ 300 HB		30 ~40 HRC		38 ~45 HRC		45 ~55 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	5000~5900	600~710	3500~4600	270~550	2600~3200	200~260	2100~2700	170~220	1300~1700	90~110
D8.0	3800~4500	600~710	2500~3500	310~550	2000~2500	240~290	1500~2000	200~250	1000~1300	120~150
D10.0	3000~3600	600~710	2000~2800	330~550	1500~2000	550~310	1300~1600	210~260	850~1100	130~170
D12.0	2500~3000	600~710	1600~2400	350~550	1200~1600	260~320	1000~1350	220~270	700~900	140~180
D14.0	2000~2500	550~700	1500~2100	360~580	1000~1400	270~330	800~1100	220~270	600~800	150~190
D16.0	1800~2250	600~710	1200~1850	380~550	900~1350	280~350	700~1000	230~280	500~700	150~190
D18.0	1500~2000	550~700	1100~1700	390~550	850~1100	270~320	600~900	220~270	450~600	140~180
D20.0	1400~1800	600~710	900~1500	380~530	750~1000	270~320	550~800	210~260	400~550	120~170
D22.0	1200~1600	600~710	850~1400	360~520	700~900	270~320	550~800	200~250	380~490	120~170
D25.0	1100~1500	550~700	700~1350	350~490	600~800	260~300	500~700	200~250	350~440	130~160
最大切削量 Max. Cutting	 Ka = ~0.75 D				 Ka = ~0.5 D					

極細微粒碳化鋼 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鑄鐵 FC250 FCD		鐵材、碳素鋼、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		合金鋼、工具鋼、模具鋼 SUS316 SKD SUS304		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		~ 300 HB		30 ~40 HRC		38 ~45 HRC		45 ~55 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	5700~6500	690~840	3500~4600	350~650	3100~3800	250~310	2400~3000	190~230	1600~2000	100~130
D8.0	4200~5000	690~840	2500~3500	390~650	2300~2900	280~340	1800~2200	220~265	1200~1500	150~180
D10.0	3500~4200	690~840	2000~2800	400~650	1800~2300	300~360	1500~1800	240~290	1000~1250	150~180
D12.0	3000~3500	700~850	1600~2300	430~650	1500~1900	300~360	1200~1500	250~300	820~1050	160~200
D14.0	2500~3000	700~850	1450~2000	450~660	1350~1700	330~400	1000~1300	255~310	700~900	170~210
D16.0	2200~2700	700~850	2250~1850	470~650	1200~1500	330~400	900~1100	255~310	600~800	170~210
D18.0	1900~2300	690~840	1100~1700	470~640	1000~1300	320~390	800~1000	250~300	550~700	170~210
D20.0	1700~2100	690~840	1000~1500	450~620	950~1200	320~390	700~900	240~290	500~620	160~200
D22.0	1600~1900	700~850	900~1300	450~600	900~1100	300~360	680~850	240~290	450~570	150~180
D25.0	1400~1700	670~820	800~1200	420~580	770~950	300~360	600~730	220~265	400~500	150~180
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.4 D				 Ka = ~1.5 D W = ~0.3 D					

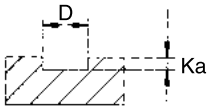
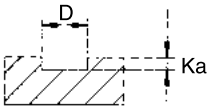
6E, 8E

鎢鋼 6刃&8刃立銑刀

TUNGSTEN CARBIDE 6-FLUTE & 8-FLUTE END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

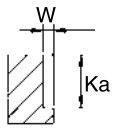
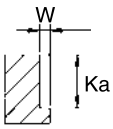
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	4000~5500	300~740	3000~4500	300~660	1200~2500	150~330	1000~1400	100~270
D8.0	3000~4500	300~740	2200~3300	300~660	900~1800	150~330	750~1100	100~270
D10.0	2200~3500	300~740	1800~2500	300~660	800~1600	150~330	600~900	100~270
D12.0	2000~3000	300~740	1500~2200	300~660	700~800	150~330	500~600	80~200
D16.0	1500~2300	250~610	1100~1600	200~540	500~900	120~270	350~550	60~160
D20.0	1100~1800	240~640	900~1300	240~640	450~800	120~240	280~450	60~150
D25.0	900~1500	180~500	700~1100	240~640	350~600	120~240	220~350	40~110
最大切削量 Max. Cutting	 Ka = ~0.10 D				 Ka = ~0.025 D			

鎢鋼 6刃&8刃立銑刀

TUNGSTEN CARBIDE 6-FLUTE & 8-FLUTE END MIL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	4000~5500	700~1100	3000~4500	500~1000	1200~2500	180~330	1000~1400	100~250
D8.0	3000~4500	700~1100	2200~3300	500~1000	900~1800	180~330	750~1100	100~250
D10.0	2200~3500	700~1100	1800~2500	500~1000	800~1600	180~330	600~900	100~250
D12.0	2000~3000	500~1000	1500~2200	400~800	700~800	180~330	500~600	90~200
D16.0	1500~2300	400~800	1100~1600	350~550	500~900	150~280	350~550	70~170
D20.0	1100~1800	420~820	900~1300	300~600	450~800	144~270	280~450	70~165
D25.0	900~1500	300~660	700~1100	240~600	350~600	120~200	220~350	45~110
最大切削量 Max. Cutting	 Ka = ~1.0 D W = ~0.025 D				 Ka = ~1.0 D W = ~0.01 D			

2BEAL

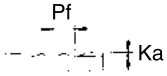
鎢鋼 2刃球型立銑刀

TUNGSTEN CARBIDE 2-FLUTE ALUMINUM BALL END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

被切削材 WORKPIECE	純鋁 Aluminum		鋁合金 Aluminum Alloy		鋁合金 Aluminum Alloy		銅合金 Copper Alloy	
	1070		4032		6061		C1100	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R1.0	23000~25000	1600~2300	1800~2200	130~200	5000~18000	800~1300	23000~25000	1100~1700
R2.0	11000~13000	1600~2300	900~1100	130~200	7000~10000	500~1100	11000~13000	1100~1700
R2.5	9000~11000	1600~2300	700~900	130~200	6000~7000	400~900	9000~11000	1100~1700
R3.0	7500~8500	1400~2000	600~800	130~180	5000~6000	400~900	7500~8500	1200~1800
R4.0	5500~6500	1400~2000	450~600	130~180	3500~4500	400~900	5500~6500	1100~1700
R5.0	4500~6000	1200~1850	350~450	100~160	2800~3500	300~680	4500~6000	1100~1500
R6.0	3500~4500	1000~1600	300~400	100~160	2200~2800	300~680	3500~4500	1100~1400
最大切削量 Max. Cutting	Ka = ~0.2 D Pf = ~04. R							



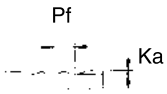
鎢鋼 2刃球型立銑刀

TUNGSTEN CARBIDE 2-FLUTE ALUMINUM BALL END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	純鋁 Aluminum		鋁合金 Aluminum Alloy		鋁合金 Aluminum Alloy		銅合金 Copper Alloy	
	1070		4032		6061		C1100	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
R1.0	46000~50000	3200~4500	3200~4800	280~410	30000~36000	1600~2400	46000~50000	2200~3400
R2.0	22000~26000	3200~4500	1800~2400	280~410	14000~20000	1000~2000	22000~26000	2200~3400
R2.5	18000~22000	3600~5000	1400~1800	280~410	12000~14000	800~1600	18000~22000	2200~3400
R3.0	15000~17000	2800~4100	1200~1600	280~410	10000~12000	800~1600	15000~17000	2400~3700
R4.0	11000~13000	2800~4100	900~1200	280~410	7000~9000	800~1600	11000~13000	2400~3500
R5.0	9000~12000	2400~3600	700~900	200~320	5600~700	600~1200	9000~12000	2200~3000
R6.0	70000~9000	2000~3200	600~800	200~320	4400~5000	600~1200	7000~9000	2200~2800
最大切削量 Max. Cutting	Ka = ~0.1D W = ~0.2 R							



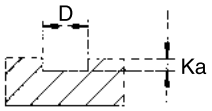
2EAL

極細微粒碳化鋼 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE ALUMINUM END MILL

●超細微粒碳化鎢材質
●鋁合金加工專用(一般M/C使用)

●Micro-Grain Tungsten carbide
●Ideal for Aluminum Alloy Machining(For General Machining Center)

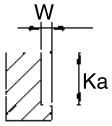
被切削材 WORKPIECE	鑄鐵 FC250 FCD		鐵材、碳素鋼、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		合金鋼、工具鋼、模具鋼 SUS316 SKD SUS304		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
	1070		Si系(4032)		Mg系(5052)		Zn-Mg系(7075)		C1100	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	28000~35000	700~1100	2500~3000	120~200	12000~15000	360~570	25000~29000	600~900	12000~15000	400~1000
D4.0	22000~26000	800~1300	1800~2200	120~200	9000~12000	350~680	18000~22000	700~1000	9000~12000	500~1000
D5.0	17000~21000	800~1300	1500~1800	120~200	7000~9500	350~680	15000~17500	700~1000	7000~95000	500~1000
D6.0	15000~17500	1000~1600	1200~1600	160~280	6000~8000	350~680	12500~15000	700~1000	6000~8000	500~1100
D8.0	11000~13000	1000~1600	900~1200	160~280	4000~6000	300~680	9000~11000	700~1000	4000~6000	500~1100
D10.0	9000~11000	1000~1600	700~1000	150~250	3500~5000	300~680	7000~9000	700~1000	3500~5000	500~1100
D12.0	7000~9000	1000~1600	600~800	120~230	3000~4500	300~680	6000~7000	700~1000	3000~4500	500~1000
D16.0	5000~7000	800~1400	450~600	90~170	2200~3500	350~680	4000~6000	700~1000	2200~3500	500~1000
D20.0	4000~5500	800~1400	350~500	90~170	1800~2200	350~680	3200~4500	700~1000	1800~2200	500~1000
最大切削量 Max. Cutting	 Ka = ~1.0 D									

鎢鋼 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE ALUMINUM END MILL

●超細微粒碳化鎢材質
●鋁合金加工專用(高速M/C使用)

●Micro-Grain Tungsten carbide
●Ideal for Aluminum Alloy Machining(For High Speed Machining Center)

被切削材 WORKPIECE	鑄鐵 FC250 FCD		鐵材、碳素鋼、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		合金鋼、工具鋼、模具鋼 SUS316 SKD SUS304		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
	1070		Si系(4032)		Mg系(5052)		Zn-Mg系(7075)		C1100	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	28000~35000	1700~2200	2500~3000	120~220	12000~15000	600~1000	25000~29000	1000~1350	12000~15000	400~1350
D4.0	22000~26000	1700~2200	1800~2200	120~220	9000~12000	400~1000	18000~22000	800~1100	9000~12000	500~1100
D5.0	17000~21000	1500~2200	1500~1800	120~220	7000~9500	400~1000	15000~17500	800~1100	7000~95000	500~1100
D6.0	15000~17500	1900~2700	1200~1600	160~320	6000~8000	500~1100	12500~15000	800~1100	6000~8000	700~1350
D8.0	11000~13000	1900~2700	900~1200	160~320	4000~6000	400~1000	9000~11000	800~1100	4000~6000	700~1350
D10.0	9000~11000	1900~2700	700~1000	150~270	3500~5000	400~1000	7000~9000	800~1100	3500~5000	600~1350
D12.0	7000~9000	1600~2200	600~800	120~250	3000~4500	400~1000	6000~7000	800~1100	3000~4500	600~1100
D16.0	5000~7000	1600~2200	450~600	100~200	2200~3500	400~1000	4000~6000	700~1350	2200~3500	600~1100
D20.0	4000~5500	1600~2200	350~500	100~200	1800~2200	400~1000	3200~4500	700~1350	1800~2200	600~1100
最大切削量 Max. Cutting	 Ka = ~1.5D W = ~0.1 D									

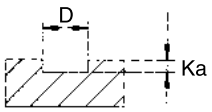
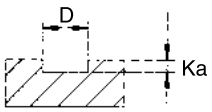
3ET

極細微粒鎢鋼 3刃波浪粗銑立銑刀

MICRO GRAIN TUNGSTEN CARBIDE 3-FLUTE SINUS EDGE ROUGHING END MILLS

●超細微粒碳化鎢3刃波浪粗銑立銑刀(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

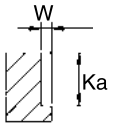
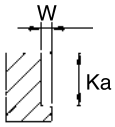
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK55 NAK 101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~45 HRC		30 ~45 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	3500~5500	400~700	2200~3200	200~450	1400~2500	150~350	600~1400	40~170
D8.0	2500~4000	400~700	2000~2400	200~400	1000~2000	100~320	450~1000	40~135
D10.0	2200~3000	400~700	1600~2100	200~350	800~1600	100~320	320~800	35~135
D12.0	1800~2600	300~600	1300~1800	200~350	700~1300	100~280	280~700	35~115
D14.0	1500~2400	300~600	1100~1500	200~350	600~1100	90~270	200~600	25~115
D16.0	1400~2000	300~600	1000~1300	200~350	550~1000	90~270	180~550	25~115
D18.0	1200~1700	300~680	900~1200	180~350	450~850	90~270	160~400	25~115
D20.0	1100~1500	300~680	800~1100	180~350	450~750	90~270	130~350	25~115
最大切削量 Max. Cutting	 Ka = ~0.7 D				 Ka = ~0.3 D			

極細微粒鎢鋼 3刃波浪粗銑立銑刀

MICRO GRAIN TUNGSTEN CARBIDE 3-FLUTE SINUS EDGE ROUGHING END MILLS

●超細微粒碳化鎢3刃波浪粗銑立銑刀(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK55 NAK 101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~45 HRC		30 ~45 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	3800~6000	400~1000	2200~3200	160~500	1500~2600	160~400	600~1400	50~230
D8.0	2700~4200	400~1000	2000~2400	160~430	1100~2000	120~350	450~1000	50~200
D10.0	2200~3500	400~1000	1600~2100	160~400	900~1600	120~350	320~800	45~170
D12.0	1800~3000	300~1000	1300~1800	160~400	800~1300	120~320	280~700	45~170
D14.0	1500~2700	300~1100	1100~1500	160~400	700~1100	100~280	200~600	30~135
D16.0	1400~2200	300~980	1000~1300	160~400	600~1000	100~280	180~550	30~135
D18.0	1200~1900	300~980	900~1200	160~400	500~850	100~280	160~400	30~135
D20.0	1100~1700	300~980	800~1100	160~400	450~750	100~280	130~350	30~135
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.3 D				 Ka = ~1.5 D W = ~0.15 D			

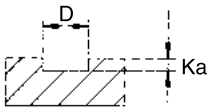
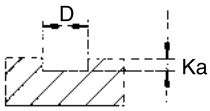
3ETL

極細微粒鎢鋼
3刃波浪 長刃型 粗銑立銑刀

●超細微粒碳化鎢3刃波浪 長刃型 粗銑立銑刀(一般M/C使用)

MICRO GRAIN TUNGSTEN CARBIDE
3-FLUTE SINUS EDGE LONG FLUTE ROUGHING END MILLS

●Micro-Grain Tungsten carbide(For General Machining Center)

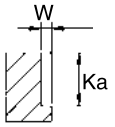
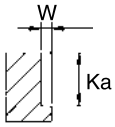
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK55 NAK 101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~45 HRC		30 ~45 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	3500~5000	300~570	2200~3000	150~430	1400~2200	150~280	600~950	40~100
D8.0	2500~3600	220~570	1900~2200	120~360	1000~1700	100~230	450~700	40~80
D10.0	2000~2800	180~570	1500~2000	120~340	800~1400	100~230	320~550	35~75
D12.0	1600~2300	150~570	1200~1700	120~340	700~1100	100~230	280~480	35~75
D14.0	1300~2000	150~570	1000~1400	100~300	600~1000	90~200	200~400	25~75
D16.0	1200~1800	150~630	900~1200	100~300	550~850	90~200	180~350	25~75
D18.0	1000~1500	150~630	800~1100	100~300	450~800	90~200	160~320	25~75
D20.0	900~1400	150~630	700~1000	100~300	400~650	90~200	130~280	25~75
最大切削量 Max. Cutting	 Ka = ~0.5 D				 Ka = ~0.2 D			

極細微粒鎢鋼
3刃波浪 長刃型 粗銑立銑刀

●超細微粒碳化鎢3刃波浪 長刃型 粗銑立銑刀(高速M/C使用)

MICRO GRAIN TUNGSTEN CARBIDE
3-FLUTE SINUS EDGE COARSE END MILLS

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

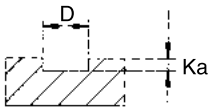
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK55 NAK 101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~45 HRC		30 ~45 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	3800~5000	360~800	2200~3000	200~450	1500~2200	150~340	600~950	60~135
D8.0	2700~3600	280~800	1900~2200	200~400	1100~1700	120~280	500~700	50~100
D10.0	2200~2800	220~690	1500~2000	200~360	900~1400	120~280	380~550	50~100
D12.0	1800~2300	220~690	1200~1700	180~360	700~1100	120~250	300~480	45~100
D14.0	1500~2000	200~690	1000~1400	180~360	600~1000	100~250	270~400	45~100
D16.0	1300~1800	200~800	900~1200	180~360	550~850	100~250	250~350	45~100
D18.0	1100~1500	200~750	800~1100	180~320	500~800	100~250	220~320	45~100
D20.0	1000~1400	200~690	700~1000	180~320	450~650	100~250	190~280	45~100
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.25 D				 Ka = ~1.5 D W = ~0.1 D			

極細微粒碳化鋼 3刃波浪鋁用立銑刀

MICRO GRAIN TUNGSEN CARBIDE 3-FLUTE SINUS EDGE ALUMINUM ROUGHING END MILLS

●(一般M/C使用)

●(For General Machining Center)

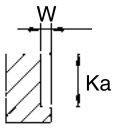
被切削材 WORKPIECE	純鋁 ALUMINUM		鋁合金 ALUMINUM ALLOY		鋁合金 ALUMINUM ALLOY		鋁合金 ALUMINUM ALLOY		銅合金 COPPER ALLOY	
	1070		Si系(4032)		Mg系(5052)		Z系(7075)		C1100	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	28000~35000	700~1300	2500~3000	120~240	12000~15000	360~680	25000~29000	600~1100	12000~15000	400~1200
D4.0	22000~26000	800~1600	1800~2200	120~240	9000~12000	350~840	18000~22000	700~1200	9000~12000	500~1200
D5.0	17000~21000	800~1600	1500~1800	120~240	7000~9500	350~840	15000~17500	700~1200	7000~9500	500~1300
D6.0	15000~17500	1000~1900	1200~1600	160~320	6000~8000	350~840	12500~15000	700~1200	6000~8000	500~1300
D8.0	11000~13000	1000~1900	900~1200	160~320	4000~6000	300~840	9000~11000	700~1200	4000~6000	500~1300
D10.0	9000~11000	1000~1900	700~1000	150~300	3500~5000	300~840	7000~9000	700~1200	3500~5000	500~1200
D12.0	7000~9000	1000~1900	600~800	120~280	3000~4500	300~840	6000~7000	700~1200	3000~4500	500~1200
D16.0	5000~7000	800~1650	450~600	90~200	2200~3500	350~1100	4000~6000	700~1200	2200~3500	500~1200
D20.0	4000~5500	800~1650	350~500	90~200	1800~2200	350~1100	3200~4500	700~1200	1800~2200	500~1200
最大切削量 Max. Cutting	 Ka = ~1.0 D									

極細微粒碳化鋼 3刃波浪鋁用立銑刀

MICRO GRAIN TUNGSEN CARBIDE 3-FLUTE SINUS EDGE ALUMINUM ROUGHING END MILLS

●(高速M/C使用)

●(For High Speed Machining Center)

被切削材 WORKPIECE	純鋁 ALUMINUM		鋁合金 ALUMINUM ALLOY		鋁合金 ALUMINUM ALLOY		鋁合金 ALUMINUM ALLOY		銅合金 COPPER ALLOY	
	1070		Si系(4032)		Mg系(5052)		Z系(7075)		C1100	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	28000~35000	1700~2650	2500~3000	120~260	12000~15000	600~1200	25000~29000	1000~1650	12000~15000	400~1650
D4.0	22000~26000	1700~2650	1800~2200	120~260	9000~12000	400~1200	18000~22000	800~1350	9000~12000	500~1350
D5.0	17000~21000	1500~2650	1500~1800	120~260	7000~9500	400~1200	15000~17500	800~1350	7000~9500	500~1350
D6.0	15000~17500	1900~3200	1200~1600	160~380	6000~8000	500~1350	12500~15000	800~1350	6000~8000	700~1650
D8.0	11000~13000	1900~3200	900~1200	160~380	4000~6000	400~1200	9000~11000	800~1350	4000~6000	700~1650
D10.0	9000~11000	1900~3200	700~1000	150~320	3500~5000	400~1200	7000~9000	800~1350	3500~5000	600~1650
D12.0	7000~9000	1600~2650	600~800	120~300	3000~4500	400~1200	6000~7000	800~1350	3000~4500	600~1350
D16.0	5000~7000	1600~2650	450~600	100~240	2200~3500	400~1200	4000~6000	700~1650	2200~3500	600~1350
D20.0	4000~5500	1600~2650	350~500	100~240	1800~2200	400~1200	3200~4500	700~1650	1800~2200	600~1350
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.15 D									

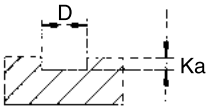
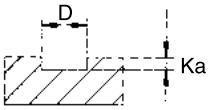
2ECR

鎢鋼 圓鼻 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE CORNER RADIUS NOSE END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

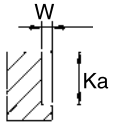
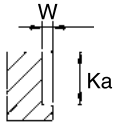
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D1.0	14000~19500	80~140	7000~11000	35~75	4000~7000	25~45	2700~4000	10~35
D2.0	8500~11000	75~145	4000~6350	40~80	3000~4000	25~45	1200~2200	15~40
D3.0	6000~9000	130~290	3000~4500	50~85	2000~2800	30~55	1000~1700	15~40
D4.0	5000~7500	160~350	2700~3600	60~110	1500~2200	30~55	900~1500	15~40
D5.0	4500~7000	150~480	2200~2900	70~150	1200~1900	30~60	600~1200	15~40
D6.0	4000~5500	150~480	2000~2700	70~150	1000~1600	30~60	500~1100	15~40
D8.0	2800~4500	150~510	1400~1800	70~150	800~1200	25~55	350~850	15~40
D10.0	2200~3600	150~400	1000~1450	70~150	600~980	25~55	300~700	15~40
D12.0	1800~3000	120~360	900~1350	70~150	500~800	25~55	280~600	15~40
最大切削量 Max. Cutting	 D = ~3mm Ka = ~0.3D D = 3mm ~Ka = ~0.5 D				 D = ~3mm Ka = ~0.02 D			

鎢鋼 圓鼻 2刃立銑刀

TUNGSTEN CARBIDE 2-FLUTE CORNER RADIUS END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼、不鏽鋼 SCM SKD NAK101 SUS304		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		熱處理鋼、耐熱合金、鎳基合金 HARDENED STEELS	
硬度 HARDNESS	~ 300 HB		30 ~ 45 HRC		45 ~55 HRC		55 ~65 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D1.0	14000~19000	80~210	7000~11000	35~90	4000~7000	25~55	2700~4000	10~35
D2.0	8500~11000	90~210	4000~6350	50~100	3000~4000	25~70	1200~2200	15~45
D3.0	6000~9000	120~220	3000~4500	60~145	2000~2800	30~85	1000~1700	15~45
D4.0	5000~7500	160~220	2700~3600	80~175	1500~2200	30~85	900~1500	15~45
D5.0	4500~7000	160~220	2200~2900	60~140	1200~1900	30~85	600~1200	15~45
D6.0	4000~5500	160~220	2000~2700	60~140	1000~1600	30~85	500~1100	15~45
D8.0	2800~4500	160~220	1400~1800	60~140	800~1200	25~70	350~850	15~45
D10.0	2200~3600	160~220	1000~1450	60~140	600~980	25~70	300~700	15~45
D12.0	1800~3900	130~210	900~1350	60~140	500~800	25~70	280~600	15~45
最大切削量 Max. Cutting	 Ka = ~2.5 D W = ~0.05 D				 Ka = ~2.5 D W = ~0.025 D			

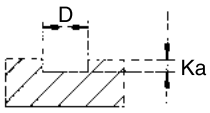
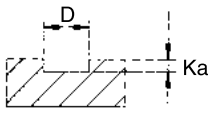
4ECR

鎢鋼 圓鼻 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

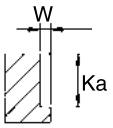
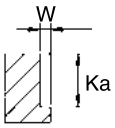
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		熱處理鋼、鈦合金、不鏽鋼 SUS304 SUS316 Ti-6Al-4V		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		30 ~ 35 HRC		35 ~45HRC		45 ~ 50 HRC		45 ~55 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	7500~9000	600~850	5000~6000	350~550	4800~5500	300~450	3800~4500	250~360	1500~2100	75~125
D4.0	5500~6500	600~850	3800~4600	350~550	3500~4200	300~500	2800~3500	250~400	1200~1600	75~135
D5.0	4500~5500	600~850	3000~3700	350~550	2800~3300	300~550	2200~2700	250~450	1000~1300	70~145
D6.0	3500~4500	600~850	2500~3000	300~550	2200~2800	300~550	1900~2300	250~450	800~1100	60~145
D8.0	3000~3500	500~800	1800~2400	300~670	1700~2100	250~550	1400~1700	250~450	600~800	60~145
D10.0	2300~2800	450~750	1500~1900	250~550	1400~1750	250~550	1100~1400	250~450	500~650	50~135
D12.0	1900~2300	450~750	1200~1600	250~550	110~1400	250~500	900~1200	200~400	400~550	50~135
D16.0	1400~1800	400~750	900~1200	200~450	800~1100	200~450	700~900	180~350	300~400	40~115
最大切削量 Max. Cutting	 Ka = ~0.25 D						 Ka = ~0.1 D			

鎢鋼 圓鼻 4刃立銑刀

TUNGSTEN CARBIDE 4-FLUTE CORNER RADIUS END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		熱處理鋼、鈦合金、不鏽鋼 SUS304 SUS316 Ti-6Al-4V		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		30 ~ 35 HRC		35 ~45HRC		45 ~ 50 HRC		45 ~55 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	8500~11000	700~1100	5500~7200	400~670	5000~6600	350~630	4500~6500	300~630	2200~3300	100~220
D4.0	6300~8200	600~1260	4000~5400	400~670	3800~5000	350~670	3500~4800	250~630	1800~2500	100~220
D5.0	5000~6500	600~1260	3200~4400	400~670	3000~4000	350~670	2700~3800	250~630	1400~2000	100~220
D6.0	4000~5500	600~1500	2700~3600	400~800	2500~3400	350~750	2200~3200	250~630	1200~1650	100~220
D8.0	3000~4200	600~1500	1900~2800	300~800	1800~2500	300~750	1500~2500	250~630	900~1250	80~200
D10.0	2400~3500	500~1400	1600~2200	300~800	1500~2000	300~670	1200~2000	250~630	700~1000	80~200
D12.0	2000~2900	500~1400	1300~1900	300~670	1200~1700	300~630	1000~1650	150~560	600~800	80~180
D16.0	1500~2200	400~1100	1000~1400	250~570	960~1300	200~520	700~1250	120~450	420~600	80~180
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.2 D				Ka = ~1.5 D W = ~0.1 D		 Ka = ~1.0 D W = ~0.05 D			

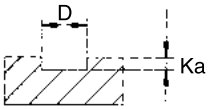
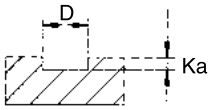
4EP

鎢鋼 4刃口袋型立銑刀

TUNGSTEN CARBIDE 4-FLUTE POCKET TYPE END MILL

●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

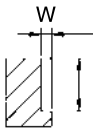
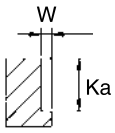
被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		熱處理鋼、鈦合金、不鏽鋼 SUS304 SUS316 Ti-6Al-4V		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		30 ~ 35 HRC		35 ~45HRC		45 ~ 50 HRC		45 ~55 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	7500~9000	600~850	5000~6000	350~550	4800~5500	300~450	3800~4500	250~360	1500~2100	75~120
D4.0	5500~6500	600~850	3800~4600	350~550	3500~4200	300~500	2800~3500	250~400	1200~1600	75~135
D5.0	4500~5500	600~850	3000~3700	350~500	2800~3300	300~570	2200~2700	250~460	1000~1300	70~140
D6.0	3500~4500	600~850	2500~3000	300~500	2200~2800	300~570	1900~2300	250~460	800~1100	60~140
D8.0	3000~3500	500~800	1800~2400	300~700	1700~2100	250~570	1400~1700	250~460	600~800	60~140
D10.0	2300~2800	450~750	1500~1900	250~570	1400~1700	250~570	1100~1400	250~460	500~650	50~135
D12.0	1900~2300	450~750	1200~1600	250~570	1100~1400	250~500	900~1200	200~400	400~550	50~135
D14.0	1600~2000	450~750	1000~1400	200~460	900~1200	200~450	800~1000	200~350	350~460	40~120
D16.0	1400~1800	400~750	900~1200	200~460	800~1100	200~450	700~900	180~350	300~400	40~120
D18.0	1200~1700	300~630	800~1100	180~460	750~1000	150~400	550~750	150~320	270~360	40~120
D20.0	1100~1500	300~630	700~900	180~400	700~850	150~400	500~700	150~320	240~320	40~120
最大切削量 Max. Cutting	 Ka = ~0.5 D						 Ka = ~0.1 D			

鎢鋼 4刃口袋型立銑刀

TUNGSTEN CARBIDE 4-FLUTE POCKET TYPE END MILL

●超細微粒碳化鎢材質(高速M/C使用)

●Micro-Grain Tungsten carbide(For High Speed Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		熱處理鋼、鈦合金、不鏽鋼 SUS304 SUS316 Ti-6Al-4V		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS		鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		30 ~ 35 HRC		35 ~45HRC		45 ~ 50 HRC		45 ~55 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D3.0	8500~11000	700~1100	5500~7200	400~670	5000~6600	350~620	4500~6500	300~630	2200~3300	100~220
D4.0	6300~8200	600~1250	4000~5400	400~670	3800~5000	350~680	3500~4800	250~630	1800~2500	100~220
D5.0	5000~6500	600~1250	3200~4400	400~670	3000~4000	350~680	2700~3800	250~630	1400~2000	100~220
D6.0	4000~5500	600~1500	2700~3600	400~800	2500~3400	350~750	2200~3200	250~630	1200~1650	100~220
D8.0	3000~4200	500~1500	1900~2800	300~800	1800~2500	300~750	1500~2500	200~630	900~1250	80~200
D10.0	2400~3500	500~1400	1600~2200	300~800	1500~2000	300~680	1200~2000	200~630	700~1000	80~200
D12.0	2000~2900	500~1400	1300~1900	300~690	1200~1700	300~630	1000~1650	150~570	600~800	80~180
D14.0	1700~2400	400~1100	1100~1700	300~690	1000~1450	250~570	800~1400	150~570	520~700	80~180
D16.0	1500~2200	400~1100	1000~1400	250~570	960~1300	200~500	700~1250	120~450	420~600	60~180
D18.0	1300~1900	300~900	900~1300	200~570	850~1100	160~450	600~1100	120~450	380~550	60~180
D20.0	1200~1700	300~630	800~1100	200~500	750~1000	160~450	500~1000	100~400	320~500	60~180
最大切削量 Max. Cutting	 Ka = ~1.5 D W = ~0.2 D				Ka = ~1.5 D W = ~0.1 D		 Ka = ~1.0 D W = ~0.05 D			

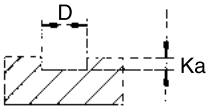
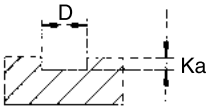
4EIR

全鎢鋼 4刃內R 倒角立銑刀

TUNGSTEN CARBIDE 4-FLUTE INTERNAL CHAMFERING END MILL

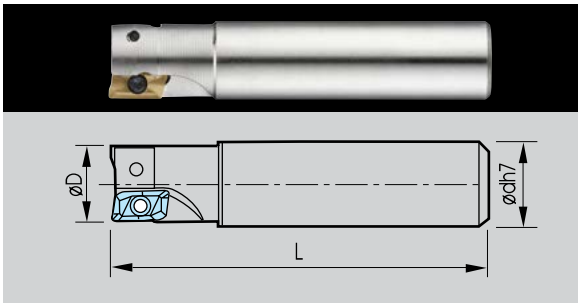
●超細微粒碳化鎢材質(一般M/C使用)

●Micro-Grain Tungsten carbide(For General Machining Center)

被切削材 WORKPIECE	鐵材、碳素鋼、鑄鐵、合金鋼、工具鋼 SS41 S45C S50C SCM SNCM SK SKS FC250 FCD		合金鋼、工具鋼、模具鋼 SCM SKD NAK55 NAK101		熱處理鋼、鈦合金、不鏽鋼 SUS304 SUS316 Ti-6Al-4V		熱處理鋼、鈦合金 HEAT RESISTANT ALLOY STEELS TITANIUM ALLOYS	
硬度 HARDNESS	~ 300 HB		30 ~ 35 HRC		35 ~45HRC		45 ~ 50 HRC	
立銑刀 R徑 mm END MILL "radius" mm	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)	rpm(min-1)	F(mm/min)
D6.0	5000~7000	300~620	2800~4000	150~350	1100~1500	60~110	1000~1400	60~100
D8.0	3700~5500	300~620	2600~3800	150~350	800~1300	60~110	800~1100	60~100
D10.0	3200~4500	300~620	2000~3000	150~350	700~1100	60~110	600~1000	60~100
D12.0	2600~3500	300~570	1400~2200	150~350	600~900	60~110	550~800	60~100
D16.0	2200~2800	250~520	1000~1800	130~250	450~700	50~90	350~600	50~80
D20.0	1400~2300	200~450	700~1400	100~200	320~450	40~70	300~450	30~55
最大切削量 Max. Cutting			Ka = ~0.5 D				Ka = ~0.1 D	

捨棄式立銑刀

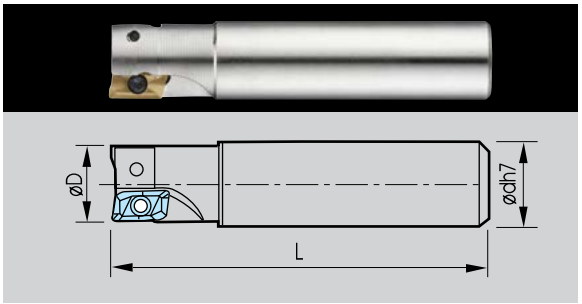
THROW-AWAY TYPE END MILL



型號規格 EDP NO.	刃 徑 Dia	尺 寸 DIMENSION(mm)		刃 數 No.of teeth	適用刀片 Insert	螺 絲 Screw	板 手 Wrench
JRWEM1012-1T10	10	12	80	1	APMT 1035	CS2565	T-8
JRWEM1212-1T10	12	12	80	1			
JRWEM1416-1T10	14	16	80	1			
JRWEM1616-2T10	16	16	90	2			
JRWEM1816-2T10	18	16	90	2			
JRWEM2020-4T10	20	20	110	4			
JRWEM2525-4T10	25	25	120	4			
JRWEM2525-4T16	25	25	120	2	APMT 1605	CS4010	T-15
JRWEM3232-3T16	32	32	120	3			
JRWEM4032-4T16	40	32	125	4			
JRWEM5032-5T16	50	32	125	5			
長柄型 (Long shak type)							
JRWEM2525-2T16-160	25	25	160	2	APMT 1605	CS4010	T-15
JRWEM3232-3T16-180	32	32	180	3			
JRWEM4032-4T16-200	40	32	200	4			

90° 端銑刀

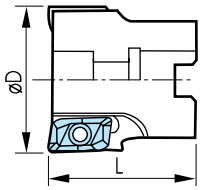
END MILLING CUTTERS (90°)



型號規格 EDP NO.	刃 徑 Dia	尺 寸 Dimension(mm)			刃 數 No.of teeth	適用刀片 Insert	螺 絲 Screw	板 手 Wrench
		d	L1	L2				
JMC1616-11-2T	16	16	120	30	2	BDMT11T3 BDGT11T3	M2.5x0.45	T8
JMC1816-11-2T	18	16	120	30	2			
JMC2020-11-3T	20	20	120	30	3			
JMC2120-3T11	21	20	120	30	3			
JMC2220-3T11	22	20	120	30	3			
JMC2420-3T11	24	20	120	30	3			
JMC2525-3T11	25	25	120	40	3			
JMC2625-3T11	26	25	120	40	3			
JMC3025-4T11	30	25	130	40	4			
JMC3232-4T11	32	32	130	40	4			
JMC3432-5T11	34	32	130	40	5			
JMC4032-5T11	40	32	150	50	5			
JMC2525-2T17	25	25	120	40	2	BDMT1704 BDGT1704	M4x0.7	T15
JMC3232-3T17	32	32	130	40	3			

捨棄式立銑刀

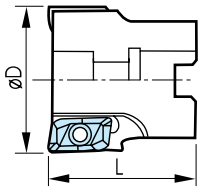
THROW-AWAY TYPE END MILL



型號規格 EDP NO.	刃 徑 Dia	尺 寸 DIMENSION(mm)		刃 數 No.of teeth	適用刀片 Insert	螺 絲 Screw	板 手 Wrench
JRWEM50F-5T16	50	25.4	40	5	APMT 1605	CS4010	T-15
JRWEM63F-6T16	63	25.4	40	6			

90° 殼形平面銑刀

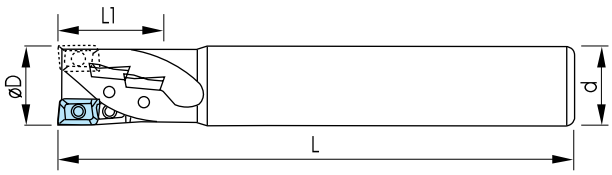
END MILLING CUTTERS (90°)



型號規格 EDP NO.	刃 徑 Dia	尺 寸 Dimension(mm)			刃 數 No.of teeth	適用刀片 Insert	螺 絲 Screw	板 手 Wrench
		d	H	S				
JMC50-6T11	50	25.4	50	10	6	BDMT11T3 BDGT11T3	M2.5x0.45	T8
JMC63-7T11	63	25.4	50		7			
JMC80-7T11	80	25.4	50		7			
JMC100-9T11	100	31.75	50		9			

捨棄式粗銑立銑刀

THROW-AWAY TYPE COARSE CUTTING END MILL



型號規格 EDP NO.	刃 徑 Dia	尺寸 DIMENSION(mm)			刃 數 No.of teeth	適用刀片 Insert	螺 絲 Screw	板 手 Wrench
		D Shank Diamete	L1 Flute Length	L Overall Length				
EM90AP10-D20	20	20	25	120	6	APMT 1035	CS2565	T-8
EM90AP10-D25	25	25	35	130	8			
EM90AP10-D32	32	32	44	140	15			
EM90AP10-D40	40	32	53	150	21			
EM90AP16-D40	40	42	49	150	8	APMT 1605	CS3590	T-15
EM90AP16-D50	50	42	61	165	10			

捨棄式鉆立銑刀

THROW-AWAY TYPE DRILLING END MILL

型號規格 EDP NO.	刃 徑 Dia	尺寸 DIMENSION(mm)			刃 數 No.of teeth	適用刀片 Insert	螺 絲 Screw	板 手 Wrench
		D Shank Diamete	L1 Flute Length	L Overall Length				
DM90AP10-D20	20	20	16	130	3	APMT 1035	CS2565	T-8
DM90AP10-D21	21	20	16	130	3			
DM90AP10-D25	25	25	25	140	4			
DM90AP10-D26	26	25	25	140	4			
DM90AP10-D20L	20	20	16	185	3			
DM90AP10-D21L	21	20	16	185	3			
DM90AP10-D25L	25	25	25	220	4			
DM90AP16-D32	32	32	26	150	3	CS 1605	CS3590	T-15
DM90AP16-D33	33	32	26	150	3			
DM90AP16-D40	40	32	38	160	4			
DM90AP16-D32L	32	32	26	230	3			
DM90AP16-D33L	33	32	26	230	3			
DM90AP16-D40L	40	32	38	240	4			

PVD 各種硬質薄膜特性

PVD Hard Coating Properties

薄膜性質 / 薄膜名稱		薄膜顏色 Symbol color	薄膜硬度 Nanohardness[GPa]	薄膜厚度 Thickness [μm]	摩擦係數 Friction coifficient	最高應用溫度 Max usage Temp[℃]	製程溫度 Coating Temp[℃]
標準薄膜 Standard coating	氮化鈦 TiN	黃金色 Gold	24	1-7	0.55	500	250-400
	氮碳化鈦 TiCN	灰色 Grey	32	1-4	0.3	400	400
	氮化鉻 CrN	銀灰色 Metal-silver	18	1-7	0.4	700	200-400
	類鑽膜 DLC	黑色 Black	20	1-3	0.15	400	150-250
	TiAlxN S-Fire	酒紅色 Burgundy -violet	30	1-4	0.4	800	450↑
	AlTiN	黑色 Black	38	1-4	0.6	900	450↑
奈米複合薄膜 Nanocomposite coating	Super TiN	黃金色 Gold	28	1-3	0.4	500	350↑
	TIX	黃金色 Gold	45	1-5	0.45	800	450↑
	Nano Cerkor m	銀白色 Silver	22	1-3	0.3	800	450↑
	μAlTiN	黑色 Black	38	1-4	0.3	900	450↑
	nACo	紫色–藍色 Violet-Blue	45	1-4	0.45	1200	400↑
	nACRo	灰色 Grey	42	1-7	0.35	1100	400↑
	nACV1c (Hard DLC)	灰色–黑色 Grey-Black	42	1-7	0.2	1100	350↑

鎢鋼材質表

TUNGSTEN CARBIDE MATELIAL PROPERTIES

Konrad Carbide

鎢鋼等級 Tungsten Guade	WC%	Co%	Tic/ Ta(Nb)C % or Cr_3C_2+VC	密度 Density, ISO 3369 [g/cm³]	硬度 Hardness		磁飽和 Manetic saturation $4\pi\sigma$ $\left[\frac{\mu Tm^3}{kg}\right]$	矯頑磁場強度 Coercive field strength HC, ISO 3326 [kA/m]	橫向斷裂強度 Transverse rupture strength ISO 3327 [N/mm²]	多孔性 Porosity ISO 4505			平均晶粒度 Average Grain Size	ISO等級 Classification ISO 513
					HRA, ISO 3738	HV,30 ISO 3738				A	B	C		
KF K 20 F	90,5	8	1,5	14,6	92,2	1710	15	23	3200	≦02	00	00	0.7 μm	K10-K30
KF K 40 UF	89,5	10	0,5	14,5	91,7	1610	16	21	3600	≦02	00	00	0.65 μm	K30-K40
KF K 44 UF	86,7	12	1,3	14,1	92,1	1680	19	26	3800	≦02	00	00	0.5 μm	K40-K50
KF K 55 SF	89,8	9	1,2	14,3	93,2	2000	14	39	4000	≦02	00	00	0.2 μm	-
KF G 20	87	11,5	1,5	14,2	89,1	1300	21	12	2500	≦02	00	00	3 μm	-
WF 25	88	12~1	1,5	14,2	92,2	1300	21	12	2500	≦02	00	00	0.6 μm 0.4 μm 0.7 μm	-

尺寸公差表

DIMENSIONAL TOLERANCE

單位 ：μm

Tolerance 公差 / 直徑 Diameter	H5	H7	H8	H10	m5	m7	h5	h6	h7	h8	h10	e8
3以下	+4 0	+10 0	+14 0	+40 0	+06 +2	+12 +2	0 -4	0 -6	0 -10	0 -14	0 -40	-14 -28
3~6	+5 0	+12 0	+18 0	+48 0	+09 +4	+16 +4	0 -5	0 -8	0 -12	0 -18	0 -48	-20 -38
6~10	+6 0	+15 0	+22 0	+58 0	+12 +6	+21 +6	0 -6	0 -9	0 -15	0 -22	0 -58	-25 -47
10~18	+8 0	+18 0	+27 0	+70 0	+15 +7	+25 +7	0 -8	0 -11	0 -18	0 -27	0 -70	-32 -59
18~30	+9 0	+21 0	+33 0	+84 0	+17 +8	+29 +8	0 -9	0 -13	0 -21	0 -33	0 -84	-40 -73
30~50	+11 0	+25 0	+39 0	+100 0	+20 +9	+34 +9	0 -11	0 -16	0 -25	0 -39	0 -100	-50 -89
50~80	+13 0	+30 0	+46 0	+120 0	+24 +11	+41 +11	0 -13	0 -19	0 -30	0 -46	0 -120	-60 -106
80~100	+15 0	+35 0	+54 0	+140 0	+28 +13	+48 +13	0 -15	0 -22	0 -35	0 -54	0 -140	-72 -126

鑽頭磨損對策

問　　題	PROBLEM
鑽孔中心定位精度不佳	*In accurate of hole center*
對策動作	**CORRECTION**
• 檢查機器主軸、挾具及工件夾持穩固度 • 提高鑽頭、機器、工件及夾具剛性 • 調整頂尖與車床主軸中心，使其確實吻合 • 車床加工時檢查頂尖與軸心重合精度	• Check machine spindle, chuck and work piece clamping stability • Increase rigidity of drill, machine, work piece and clamping • Check and adjust alignment of lathe and drill • While machining, check accuracy of the centre and axe center

問　　題	PROBLEM
孔歪斜	*Unperpendicular hole*
對策動作	**CORRECTION**
• 鑽頭重新研磨並檢查精確度 • 提高中心孔位置精準度 • 依據鑽孔深度選擇適合長度的鑽頭 • 工件調整為水平擺放或預加工	• Regrind and check precision after regrinding • Increase accuracy of center hole. • Choose a proper drills according to drilling depth • The work piece must be horizontal or pre-drilled.

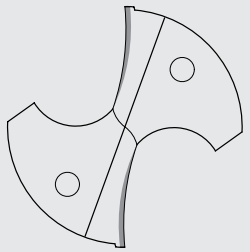
問　　題	PROBLEM
加工時震動聲響大	*High vibration sounds*
對策動作	**CORRECTION**
• 鑽頭重新研磨校正並降低逃隙角 • 提高鑽頭剛性	• Regrind and adjust the drill to increase the lake angle • Increase rigidity of drill

問　　題	PROBLEM
鐵屑纏繞	*Scraps rolled around the drill*
對策動作	**CORRECTION**
• 調整加工方式、切削條件或另選鑽頭型式	• Choose proper drill and adjust cutting way or conditions

問　　題	PROBLEM
鑽頭單側磨耗	*Wear-out on one side*
對策動作	**CORRECTION**
• 調整頂尖與車床主軸中心，使其確實吻合 • 仔細裝夾具並控制其偏擺量	• Check and adjust alignment of lathe and drill • Set the chuck carefully and decrease the run-out.

鎢鋼鑽頭之故障排除

TROUBLE SHOOTING FOR SOLID CARBIDE DRILL



問　　題

切刃口快速磨損

對策動作

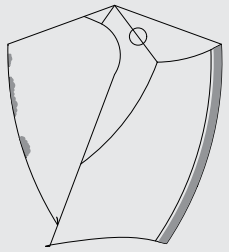
- 檢查機器主軸.挾具及工件挾持穩固度
- 增加冷卻劑的濃度.潤滑度
- 降低切削速度
- 增加進給量

PROBLEM

Fast wear on cutting edge

CORRECTION

- Check machine spindle, chuck and workpiece clamping stability.
- Increase coolant viscosity and lubrication effect.
- Reduce cutting speed.
- Increase feed rate.



問　　題

切削刃帶口磨損

對策動作

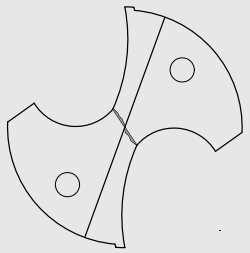
- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 增加冷卻劑的濃度、潤滑度
- 降低切削速度
- 增加進給量
- 增加冷卻液壓力或調整噴嘴方向，多方向冷卻更佳
- 降低中心鑽孔時之進給速度至0.05/rev

PROBLEM

Abnormal wear on cutting edge

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Increase coolant viscosity and lubrication effect.
- Reduce cutting speed.
- Increase feed rate.
- Increase coolant pressure. Adjust direction of coolant nozzle. The better is to use multi-direction cooling.
- Reduce feed rate of center drilling to 0.05/rev.



問　　題

中心刃崩裂

對策動作

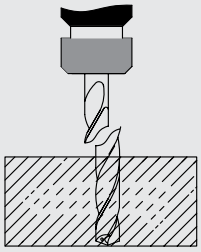
- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 降低中心鑽孔時之進給速度至0.05/rev
- 增加冷卻液壓力以及調整鑽孔之進給速度

PROBLEM

Center cutting edge break

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Reduce feed rate of center drilling to 0.05/rev.
- Increase coolant pressure. Adjust drilling feed rate.



問　　題

在鑽孔內部斷裂

對策動作

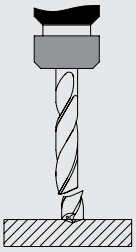
- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 依據鑽孔深度選擇適當的鑽頭
- 增加冷卻液壓力或調整噴嘴方向，多方向冷卻更佳
- 降低中心鑽孔時之進給速度至0.05mm/rev
- 檢查切削參數，可能需降低進給量
- 增加冷卻劑的濃度.潤滑度

PROBLEM

Drill break in hole

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Select a proper drill according to drilling depth.
- Increase coolant pressure. Adjust direction of coolant nozzle. The better is to use multi-direction cooling.
- Reduce feed rate of center drilling to 0.05/rev.
- Check cutting parameters. If necessary, reduce feed.
- Increase coolant viscosity and lubrication effect.



問　　題

與工件接觸時斷裂

對策動作

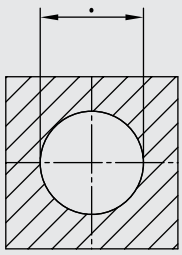
- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 降低中心鑽孔時之進給速度至0.05/rev
- 依據鑽孔深度選擇適當的鑽頭

PROBLEM

Drill break when touching workpiece

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Reduce feed rate of center drilling to 0.05/rev.
- Select a proper drill according to drilling depth.



問　　題

鑽孔公差太大

對策動作

- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 檢查刃口直徑
- 檢查刃口高度差(0.02mm)
- 降低中心鑽孔時之進給速度至0.05mm/rev
- 增加冷卻液壓力或調整噴嘴方向，多方向冷卻更佳
- 降低切削速度或增加進給量
- 再研磨鑽頭

PROBLEM

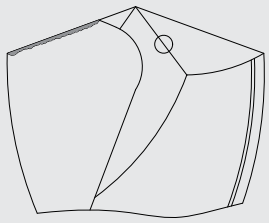
Too much hole tolerance

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Check cutting edge diameter.
- Check height difference between cutting edges (0.02mm).
- Reduce feed rate of center drilling to 0.05/rev.
- Increase coolant pressure. Adjust direction of coolant nozzle. The better is to use multi-direction cooling.
- Reduce cutting speed or increase feed amount.
- Resharpen drill.

鎢鋼鑽頭之故障排除

TROUBLE SHOOTING FOR SOLID CARBIDE DRILL



問　　題

外切刃口崩裂

對策動作

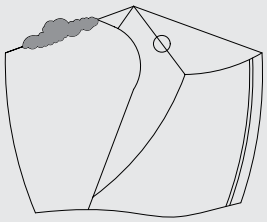
- 檢查機器主軸.挾具及工件挾持穩固度
- 增加冷卻劑的濃度、潤滑度
- 降低中心鑽孔時之進給速度至0.05/rev
- 增加切削速度或進給量

PROBLEM

Outside cutting edge break

CORRECTION

- Check machine spindle, chuck and workpiece clamping stability.
- Increase coolant viscosity and lubrication effect.
- Reduce feed rate of center drilling to 0.05/rev.
- Increase cutting speed or feed rate.



問　　題

刃口切屑溶著

對策動作

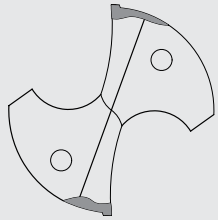
- 增加冷卻劑的濃度、潤滑度
- 提高切削速度
- 再研磨鑽頭

PROBLEM

Chips melt on cutting edge

CORRECTION

- Increase coolant viscosity and lubrication effect.
- Increase cutting speed.
- Resharpen drill.



問　　題

外刃口破裂

對策動作

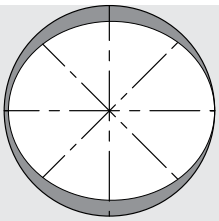
- 檢查機器主軸、挾具及工件挾持穩固度
- 增加冷卻劑的濃度.潤滑度
- 依據鑽孔深度選擇適當的鑽頭
- 增加冷卻液壓力或調整噴嘴方向，多方向冷卻更佳
- 檢查切削參數，可能需降低進給量

PROBLEM

Outside cutting edge break

CORRECTION

- Check machine spindle, chuck and workpiece clamping stability.
- Increase coolant viscosity and lubrication effect.
- Select a proper drill according to drilling depth.
- Increase coolant pressure. Adjust direction of coolant nozzle. The better is to use multi-direction cooling.
- Check cutting parameters. If necesary, reduce feed amount.



問　　題

真圓度有問題(同心度不準)

對策動作

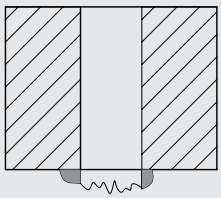
- 檢查機器主軸、挾具及工件挾持穩固度
- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 降低中心鑽孔時之進給速度至0.05mm/rev
- 依據鑽孔深度選擇適當的鑽頭

PROBLEM

Poor circularity (Poor concentricity)

CORRECTION

- Check machine spindle, chuck and workpiece clamping stability.
- Check and make sure that drill run-out accuracy is under 0.03mm.
- Reduce feed rate of center drilling to 0.05/rev.
- Select a proper drill according to drilling depth.



問　　題

鑽削出口有大毛邊

對策動作

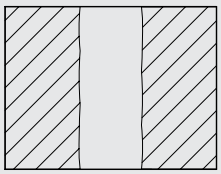
- 縮短刀具更換時機
- 降低進給量
- 減小刃口倒角

PROBLEM

Burrs exist on hole edge

CORRECTION

- Shorten drill change frequency.
- Reduce feed amount.
- Reduce cutting edge chamferring.



問　　題

表面粗度不良

對策動作

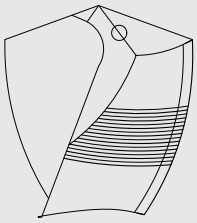
- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 降低進給量
- 增加冷卻液壓力以及調整鑽孔之進給速度

PROBLEM

Poor surface roughness

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Reduce feed amount.
- Increase coolant pressure. Adjust drilling feed rate.



問　　題

刀具本體磨擦

對策動作

- 檢查以及確定鑽頭偏擺度在0.03mm以下
- 檢查機器主軸、挾具及工件挾持穩固度
- 增加冷卻劑的濃度、潤滑度
- 降低進給量

PROBLEM

Friction of drill body

CORRECTION

- Check and make sure that drill run-out accuracy is under 0.03mm.
- Check machine spindle, chuck and workpiece clamping stability.
- Increase coolant viscosity and lubrication effect.
- Reduce feed amount.

計算式 FORMULAE

● 床台進給量與每一刃的進給量
● FEED RATE PER FLUTE

$$fz = \frac{F}{Z \times N}$$

fz:每一刃的進給量[mm/刃]
F:床台進給量[mm/min]
Z:刀具刃數
N:主軸迴轉數[r.p.m]

fz:Feed rate per flute (mm/flute)
F:Machine feed rate (mm/min)
Z:Cutter flute numbers
N:Spindle speed (r.p.m)

● 所需動力
● POWER REQUIRED

$$P_{KW} = \frac{Ks \times Q}{6120 \times \eta} = \frac{Ks \times W \times F \times d}{6120000 \times \eta}$$

$$= \frac{Ks \times W \times fz \times Z \times N \times d}{6120000 \times \eta}$$

$$P_{HP} = \frac{6120}{4500} \times P_{KW}$$

PKW:所需動力[KW]
PHP:所需動力(馬力)[HP]
W:切屑寬[mm]
F:床台進給量[mm/min]
fz: 進給量[mm/rev]
Z:主軸迴轉數[枚]
d:切深[mm]
Ks:比切削抵抗值[kgf/mm^2]
η:機械效率(0.7~0.8)

PKW:Feed rate per flute
Power required(KW)
PHP:Horsepower require (HP)
F:Machine feed rate (mm/min)
fz:Feed rate (mm/res)
Z:Tool flute numbers
N:Spindle speed (r.p.m)
d:Cutting depth(mm)
Ks:Specific cutting resistant value (kgf/mm^2)
η: Machine efficiency (0.7~0.8)

ks的概略值 APPROX KS VALUE		
軟　鋼	Soft Steel	190
中炭素鋼	Medium Carbon Steel	210
高炭素鋼	High Carbon Steel	240
低合金鋼	Low Alloy Steel	190
高合金鋼	High Alloy Steel	245
鑄　鐵	Cast Iron	93
可鍛鑄鐵	Forging Cast Iron	120
青銅黃銅	Brass . Copper	70

● 切屑排出量
● CHIP REMOVAL RATE

$$Q = V \times F \times d = V \times fz \times Z \times d$$

Q:切屑排出量[cm^3/min]
V:切屑速度[m/min]
F:床台進給量[mm/min]
fz:每一刃的進給量[mm/刃]
Z:刀具數量
d:切深[mm]

Q:Chip removal rate (cm^3/min)
V:Cutting speed (m/min)
F:Machine feed rate (mm/min)
fz:Feed rate per flute (mm/flute)
Z:Tool flute numbers
d:Cutting depth (mm)

計算式 FORMULAE

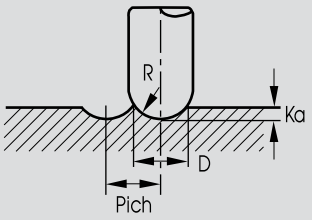
● 球型立銑刀的切削速度與迴轉速
● BALL END MILL CUTTING SPEED AND RUNNING SPEED

$$N = \frac{500 \times V_c}{\pi \times \sqrt{ka \times (D-ka)}}$$

$$Vc = \frac{\pi \times N \times \sqrt{ka \times (D-ka)}}{500}$$

N:迴轉數[r.p.m]
D:球頭立銑刀的外徑 [mm]
π:圓周率≒3.1416
Vc:實際切削速度
Ka:立銑刀的切深

N:Speed (r.p.m)
D:Ball end mill diameter (mm)
π:3.1416
Vc:Actual cutting speed
Ka: Cutting depth



● 切削速度
● CUTTING SPEED

$$V = \frac{\pi \times D \times N}{1000}$$

V:切削速度[m/min]
Ds:加工徑[mm]
N:主軸迴轉數[r.p.m]

V:Cutting speed(m/min)
Ds:Machining diameter (mm)
N:Spindle speed (r.p.m)

銑削加工的場合
MILLING APPLICATION

$$F = fz \times Z \times N$$

F:床台進給量[mm/min]
fz: 每一刃的進給量[mm/刃]
Z: 刀數 (以刃數=1計算之)
N: 主軸迴轉數[r.p.m]

F:Machine feed rate (mm/min)
fz:Feed rate per flute (mm/flute)
Z:Flute numbers (1)
N:Spindle speed (r.p.m)

● 切削時間
● CUTTING TIME

$$T = \frac{60 \times L}{f \times N} = \frac{60 \times \pi \times D \times L}{1000 \times V \times f}$$

T:切削秒數[秒]
L:加工長度[mm]
f:每一回轉的進給量 [mm/rev]
N:主軸迴轉數[r.p.m]
V:切削速度[m/min]
Ds:加工徑[mm]

T:Cutting time (sec.)
L:Cutting length (mm)
f:Feed rate per revolution (mm/rev)
N:Spindle speed (r.p.m)
V:Cutting speed
Ds:Cutting diameter (mm)

切削刀具使用上注意事項

對象製品	危險性	對策
全系列切削工具	◎ 刀刃銳利，直接用手接觸十分危險	※ 特別從箱子取出或裝置機械時，請使用保護手套等護具。
	◎ 使用方法或使用條件不適當的話，會導致刀具破損或飛散而有受傷的危險。	※ 使用安全護蓋與防護眼鏡等護具。 ※ 請在推薦條件範圍內使用，請參照使用說明書與目錄。
	◎ 由於衝擊的負荷與過度的磨耗致使切削低抗急速增加，產生刀具破損飛散的危險而導致受傷。	※ 使用安全護蓋與防護眼鏡等護具。 ※ 及早進行刀具交換。
	◎ 高溫切屑飛散或試過長的切屑排出，而有受傷與燙傷的危險。	※ 使用安全護蓋與防護眼鏡等護具。 ※ 去除切屑時，停止機械，戴上保護手套並使用鍋子、夾鉗等工具。
	◎ 切削時，刀具與被削材溫度極高，加工後直接用手接觸的話有受傷燙傷的危險。	※ 使用保護手套等護具。
	◎ 切削中發生火花與破損而引起的高熱，切屑引火、導致火災危險。	※ 請勿在有引火、爆發危險的地方使用。 ※ 使用非水溶性切削油劑的場合，請務必準備好防火對策。
	◎ 高速回轉使用之際，工作機械若不能保持平衡，由於振動的緣故，將導致刀具破損而有受傷的危險。	※ 使用安全護蓋與防護眼鏡等護具。 ※ 務必實施試運轉，並確認無任何振動等異常聲音。
	◎ 加工物的毛邊若直接用手接觸會有受傷的危險。	※ 請勿用手接觸。
捨棄式 (刀片交換式) 所有刀具	◎ 刀片與零件若未確定夾緊，在切削中會有脫落、飛散的危險發生。	※ 安裝座面與固定用零件上不得有異物附著，須清理乾淨後再安裝刀片。 ※ 安裝時，使用附屬板手，確實地將刀片與零件夾緊。又，除了規定的刀片與零件以外絕對不可以使用。
	◎ 使用管材等輔助工具過度栓緊則刀片與刀具會產生破損，脫落飛散的危險。	※ 不要使用管材輔助工具，請使用附屬板手。
	◎ 刀具在高速回轉的使用場合，由於離心力的緣故，刀片的零件會有飛出去的情形發生，十分危險，使用之際，安全方面請補充注意。	※ 請在推薦條件範圍內使用請參照使用說明書與目錄。
各種銑刀與其他回轉使用的刀具	◎ 銑刀類有銳利的切刃，直接用手接觸會受傷。 ◎ 刀具在偏心回轉或平衡不良時會產生振動，發生破損，飛散而導致受傷。	※ 請使用保護手套等護具。 ※ 請使用推薦條件範圍內的回轉速度。 ※ 由於軸承受等磨耗而產生偏心回轉與振動。請定期調整回轉部的經度與平衡度。
鑽頭	◎ 利用加工物回轉，進行穴貫通加工時，切剩的部份因高速而飛出，該圓盤十分銳利非常危險。 ◎ 銑刀類有銳利的切刃，直接用手接觸會受傷。 ◎ 極子徑鑽頭先端尖而銳利，指尖直接接觸摸就會導致刺傷，又折斷而飛散的情形也會發生。	※ 請使用安全護罩與防護眼鏡的護具。又夾頭部請安裝護罩。 ※ 使用時，請充分注意安全面請使用保護手套、防護眼鏡。

●最後●　本手冊之內容，乃記載有關安全上之基本項目，其他詳細事項，請參照各種刀具之使用說明書，目錄等資料，或向本公司詢問。

又，本公司不了解之情況下，進行改造等仕樣更而發生事故，本公司不負任何責任。

對應鋼的韋氏之近似換算值

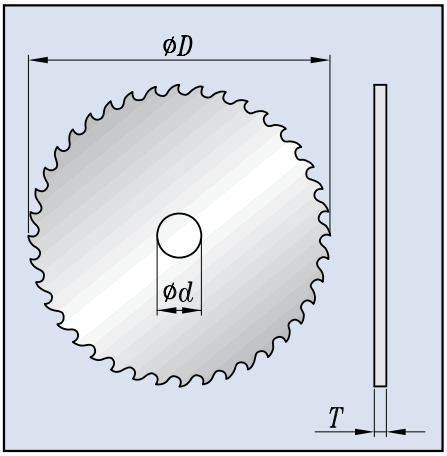
維氏硬度	勃氏硬度 10mm球 荷重3000kgf		洛氏硬度			蕭氏硬度	拉抗強度（近似值）Mpa(1)
	標準球	碳化球	A量規 荷重60kgf 鑽石圓錐壓子	B量規 荷重100kgf 徑1.6mm (1/16in)球	C量規 荷重150kgf 鑽石圓錐壓子		
940	—	—	85.6	—	68.0	97	
920	—	—	85.3	—	67.5	96	
900	—	—	85.0	—	67.0	95	
880	—	(767)	84.7	—	66.4	93	
860	—	(757)	84.4	—	65.9	92	
840	—	(745)	84.1	—	65.3	91	
820	—	(733)	83.8	—	64.7	90	
800	—	(722)	83.4	—	64.0	88	
780	—	(710)	83.0	—	63.3	87	
760	—	(698)	82.6	—	62.5	86	
740	—	(684)	82.2	—	61.8	84	
720	—	(670)	81.8	—	61.0	83	
700	—	(656)	81.3	—	60.1	81	
690	—	(647)	81.1	—	59.7	—	
680	—	(638)	80.8	—	59.2	80	
670	—	630	80.6	—	58.8	—	
660	—	620	80.3	—	58.3	79	
650	—	611	80.0	—	57.8	—	
640	—	601	79.8	—	57.3	77	
630	—	591	79.5	—	56.8	—	
620	—	582	79.2	—	56.3	75	
610	—	573	78.9	—	55.7	—	
600	—	564	78.6	—	55.2	74	
590	—	554	78.4	—	54.7	—	2055
580	—	545	78.0	—	54.1	72	2020
570	—	535	77.8	—	53.6	—	1985
560	—	525	77.4	—	53.0	71	1950
550	505	517	77.0	—	52.3	—	1905
540	496	507	76.7	—	51.7	69	1860
530	488	497	76.4	—	51.1	—	1825
520	480	488	76.1	—	50.5	67	1795
510	473	479	75.7	—	49.8	—	1750
500	465	471	75.3	—	49.1	66	1705
490	456	460	74.9	—	48.4	—	1660
480	448	452	74.5	—	47.7	64	1620
470	441	442	74.1	—	46.9	—	1570
460	433	433	73.6	—	46.1	62	1530
450	425	425	73.3	—	45.3	—	1495
440	415	415	72.8	—	44.5	59	1460
430	405	405	72.3	—	43.6	—	1410
420	397	397	71.8	—	42.7	57	1370
410	388	388	71.4	—	41.8	—	1330
400	379	379	70.8	—	40.8	55	1290
390	369	369	70.3	—	39.8	—	1240
380	360	360	69.8	(110.0)	38.8	52	1205
370	350	350	69.2	—	37.7	—	1170
360	341	341	68.7	(109.0)	36.6	50	1130
350	331	331	68.1	—	35.5	—	1095
340	322	322	67.6	(108.0)	34.4	47	1070
330	313	313	67.0	—	33.3	—	1035
320	303	303	66.4	(107.0)	32.2	45	1005
310	294	294	65.8	—	31.0	—	980
300	284	284	65.2	(105.5)	29.8	42	950
295	280	280	64.8	—	29.2	—	935
290	275	275	64.5	(104.5)	28.5	41	915
285	270	270	64.2	—	27.8	—	905
280	265	265	63.8	(103.5)	27.1	40	890
275	261	261	63.5	—	26.4	—	875
270	256	256	63.1	(102.0)	25.6	38	855
265	252	252	62.7	—	24.8	—	840
260	247	247	62.4	(101.0)	24.0	37	825
255	243	243	62.0	—	23.1	—	805
250	238	238	61.6	99.5	22.2	36	795
245	233	233	61.2	—	21.3	—	780
240	228	228	60.7	98.1	20.3	34	765
230	219	219	—	96.7	(18.0)	33	730
220	209	209	—	95.0	(15.7)	32	695
210	200	200	—	93.4	(13.4)	30	670
200	190	190	—	91.5	(11.0)	29	635
190	181	181	—	89.5	(8.5)	28	605
180	171	171	—	87.1	(6.0)	26	580
170	162	162	—	85.0	(3.0)	25	545
160	152	152	—	81.7	(0.0)	24	515
150	143	143	—	78.7	—	22	490
140	133	133	—	75.0	—	21	455
130	124	124	—	71.2	—	20	425
120	114	114	—	66.7	—	—	390
110	105	105	—	62.3	—	—	—
100	95	95	—	56.2	—	—	—
95	90	90	—	52.0	—	—	—
90	86	86	—	48.0	—	—	—
85	81	81	—	41.0	—	—	—

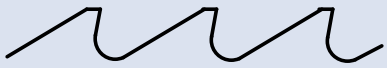
·本摘錄自JIS鐵鋼手冊(SAEH417)

注 1)1MPa=1N/mm^2

注 2)中（）內的數值，包括不常用範圍的項目僅供參考。

全鎢鋼金屬圓鋸片
SOLID TUNGSTEN METAL CIRCULAR SAWBLADE





A 型齒
A Tooth Shape

A+A 型齒
A+A Tooth Shape

B 型齒
B Tooth Shape

超微粒子超硬材質
Extra Fine Grain Extra Hard Material

全鎢鋼金屬圓鋸片(適用溝槽加工)

SOLID TUNGSTEN METAL CIRCULAR SAWBLADE
(Applicable for slot machining)

外徑(D)/Outside Dia (D)	20	25	35	40	45	50	60	75	85	100	125
孔徑(d)/Hole Dia (d)	6	6	8	8	12.7	12.7	12.7	25.4	25.4	25.4	25.4
厚度(T)/Thickness (T)	Z齒數 / Teeth Number (Z)										
0.30	30	30	40	40	40						
0.40	30	30	40	40	40						
0.50	30	30	40	40	40	54	64				
0.60	30	30	40	40	40	54	64	64	64	72	86
0.70	30	30	40	40	40	54	64	64	64	72	86
0.80	30	30	40	40	40	54	64	64	64	72	86
0.90	30	30	40	40	40	54	64	64	64	72	86
1.00	30	30	40	40	40	54	64	64	64	72	86
1.20	30	30	40	40	40	54	64	64	64	72	86
1.40	30	30	40	40	40	54	64	64	64	72	86
1.60	30	30	40	40	40	54	64	64	64	72	86
1.80	30	30	40	40	40	54	64	64	64	72	86
2.00	30	30	40	40	40	54	64	64	64	72	86
2.50 3.00 3.50 4.00	特殊規格外徑、孔徑、齒數、齒型、厚度可接受訂製。 Custom outside diameter, hole diameter, teeth number, tooth shape, and blade thickness are available upon request.										

全鎢鋼圓鋸片(適用CNC自動車床)

SOLID TUNGSTEN CIRCULAR SAWBLADE
(Applicable for CNC automatic lathe)

外徑(D)/Outside Dia (D)	20	25	35	40	45	50	60	75	85	100	125
孔徑(d)/Hole Dia (d)	6	6	8	8	12.7	12.7	12.7	25.4	25.4	25.4	25.4
厚度(T)/Thickness (T)	Z齒數 / Teeth Number (Z)										
0.30	54	54	76	76	80						
0.40	54	54	76	76	80						
0.50	54	54	76	76	80	100	120				
0.60	54	54	76	76	80	100	120	120	140	160	180
0.70	54	54	76	76	80	100	120	120	140	160	180
0.80	54	54	76	76	80	100	120	120	140	160	180
0.90	54	54	76	76	80	100	120	120	140	160	180
1.00	54	54	76	76	80	100	120	120	140	160	180
1.20	54	54	76	76	80	100	120	120	140	160	180
1.40	54	54	76	76	80	100	120	120	140	160	180
1.60	54	54	76	76	80	100	120	120	140	160	180
1.80	54	54	76	76	80	100	120	120	140	160	180
2.00	54	54	76	76	80	100	120	120	140	160	180
2.50 3.00 3.50 4.00	特殊規格外徑、孔徑、齒數、齒型、厚度可接受訂製。 Custom outside diameter, hole diameter, teeth number, tooth shape, and blade thickness are available upon request.										

備註：孔徑英制、美制規格可接受訂購。 NOTE: Hole diameter in metric or inch size may be specified.

全鎢鋼鋸片溝槽型加工參考指數 / RECOMMENDED SLOT MACHINING DATA FOR SOLID TUNGSTEN SAWBLADE

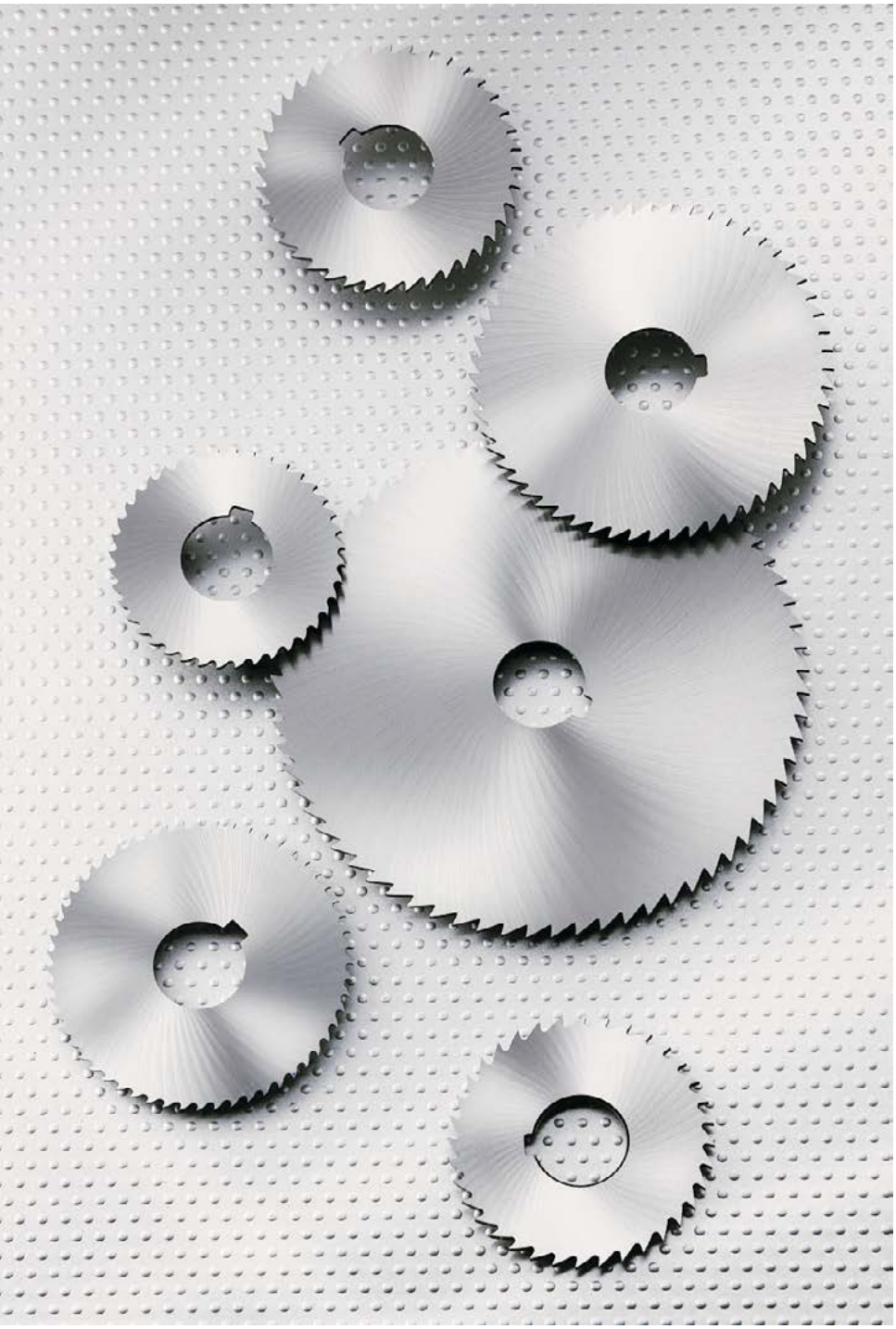
工件材質	碳鋼 / Carbon Steel		特殊鋼 / Special Steel		鋁合金 / Aluminum Alloy		銅合金 / Copper Alloy		鑄鐵 / Cast Iron	
Workpiece Mat'l	HRC30下 / Under HRC30		HRC30 ~ 40		2024AC8A		C2600B.BC		FC15.25	
切削速度 / Cutting Rate	60 m/min		45 m/min		150 m/min		2000 m/min		60 m/min	
外徑(D)/Outside Dia (D)	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min
20	900	450	710	350	2300	1150	3100	1550	900	450
25	760	380	570	285	1910	955	2500	1250	760	380
35	540	360	400	266	1360	906	1800	1200	540	360
40	470	310	350	233	1190	793	1590	1060	470	310
50	380	340	280	252	950	855	1250	1125	380	340
60	310	330	230	245	795	840	1060	1130	310	330
75	250	260	190	202	630	670	840	890	250	260
85	220	230	160	170	560	597	740	780	220	230
100	190	220	140	160	470	540	630	730	190	220
125	150	210	110	150	380	540	500	710	150	210

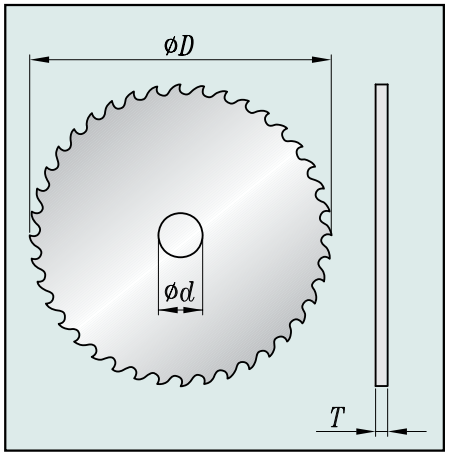
全鎢鋼鋸片CNC自動車床型加工參考指數
RECOMMENDED MACHINING DATA OF CNC AUTOMATIC LATHE FOR SOLID TUNGSTEN SAWBLADE

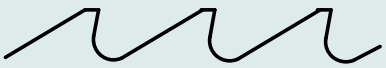
外徑(D)/Outside Dia (D)	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min
20	900	810	710	630	2300	2050	3100	2700	900	810
25	760	680	570	510	1910	1700	2500	2250	760	680
35	540	680	400	500	1360	1700	1800	2250	540	680
40	470	620	350	460	1190	1580	1590	2100	470	620
50	380	630	280	460	950	1550	1250	2050	380	630
60	310	620	230	460	795	1590	1060	2100	310	620
75	250	625	190	475	630	1575	840	2100	250	625
85	220	580	160	420	560	1490	740	1950	220	580
100	190	570	140	420	470	1410	630	1850	190	570
125	150	500	110	360	380	1260	500	1660	150	500

• Specifications and design characteristics are subject to change without prior notice.
由於本公司不斷研究改良，上述規格及設計特性若有變更，恕不另行通知。

HSS 小徑槽鋸片
HSS SMALL DIAMETER SLOTTING CIRCULAR SAWBLADE







A 型齒
A Tooth Shape

A+A 型齒
A+A Tooth Shape

B 型齒
B Tooth Shape

HSS 小徑溝槽圓鋸片
HSS SMALL DIAMETER SLOTTING CIRCULAR SAWBLADE

外徑(D)/Outside Dia (D)	45	50	75	100	125	150
孔徑(d)/Hole Dia (d)	12.7	12.7	25.4	25.4	25.4	25.4
厚度(T)/Thickness (T)	齒數(Z) / Teeth Number (Z)					
0.50	64	64	64	72		
0.70	64	64	64	72	86	
0.80	64	64	64	72	86	100
1.00	64	64	64	72	86	100
1.50			54	54	56	86
2.00			54	54	56	86
2.50 3.00 3.50 4.00	特殊規格外徑、孔徑、齒數、齒型、厚度可接受訂製。 Custom outside diameter, hole diameter, teeth number, tooth shape, and blade thickness are available upon request.					

備註：孔徑英制、美制規格可接受訂購。
NOTE: Hole diameter in metric or inch size may be specified.

HSS 金屬圓鋸片
HSS METAL CIRCULAR SAWBLADE

外徑(D) Outside Dia (D)		厚度(T) Thickness (T)		孔徑(d) Hole Dia (d)	外徑(D) Outside Dia (D)		厚度(T) Thickness (T)		孔徑(d) Hole Dia (d)
250	x	1.0	x	32	325	x	12.0	x	32
250	x	1.2	x	32	325	x	2.5	x	32
250	x	1.5	x	32	350	x	2.0	x	32
250	x	2.0	x	32	350	x	2.5	x	32
275	x	1.2	x	32	370	x	2.0	x	32
275	x	1.6	x	32	370	x	2.5	x	32
275	x	2.0	x	32	400	x	2.5	x	32
300	x	1.6	x	32	400	x	3.0	x	32
300	x	2.0	x	32	450	x	3.0	x	32
300	x	2.2	x	32	500	x	3.0	x	32
300	x	2.5	x	32	600	x	4.0	x	32
315	x	2.0	x	32	700	x	4.0	x	32

HSS 小徑槽鋸片加工參考指數 / RECOMMENDED SLOT MACHINING DATA FOR SMALL DIAMETER HSS SAWBLADE

工件材質 Workpiece Mat'l	鑄造 碳鋼 / Casting Carbon Steel		特殊鋼 / Special Steel 工具鋼 / Tool Steel 不鏽鋼 / Stainless Steel		可鍛鑄鐵 / Forging Cast Iron 可鍛鑄銅 / Forging Cast Copper		銅合金 / Copper Alloy		鋁合金 / Aluminum Alloy	
切削速度 / Cutting Rate	27 ~ 35 m/min		17 ~ 25 m/min		20 ~ 25 m/min		50 ~ 115 m/min		120 ~ 240 m/min	
外徑(D)/Outside Dia.(D)	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min	轉速 / Speed RPM	進給 / Feed mm/min
45	212	270 ~ 400	141	180 ~ 260	141	180 ~ 260	425	540 ~ 720	851	100 ~ 1300
50	191	244 ~ 310	127	162 ~ 180	127	162 ~ 180	382	488 ~ 560	764	977 ~ 110
75	127	162 ~ 185	85	108 ~ 125	85	108 ~ 125	255	326 ~ 460	510	652 ~ 750
100	95	136 ~ 150	63	90 ~ 110	63	90 ~ 110	191	275 ~ 350	382	550 ~ 670
125	76	130 ~ 145	51	87 ~ 105	51	87 ~ 105	153	263 ~ 310	306	526 ~ 650
150	63	126 ~ 135	42	84 ~ 96	42	84 ~ 96	127	254 ~ 290	254	508 ~ 580

• Specifications and design characteristics are subject to change without prior notice.
由於本公司不斷研究改良，上述規格及設計特性若有變更，恕不另行通知。

▶ 側銑刀系列 SIDE MILLING CUTTERS

千鳥刃側銑刀
STAGGERED SIDE MILLING CUTTER

殼型銑刀
SHELL MILLING CUTTER

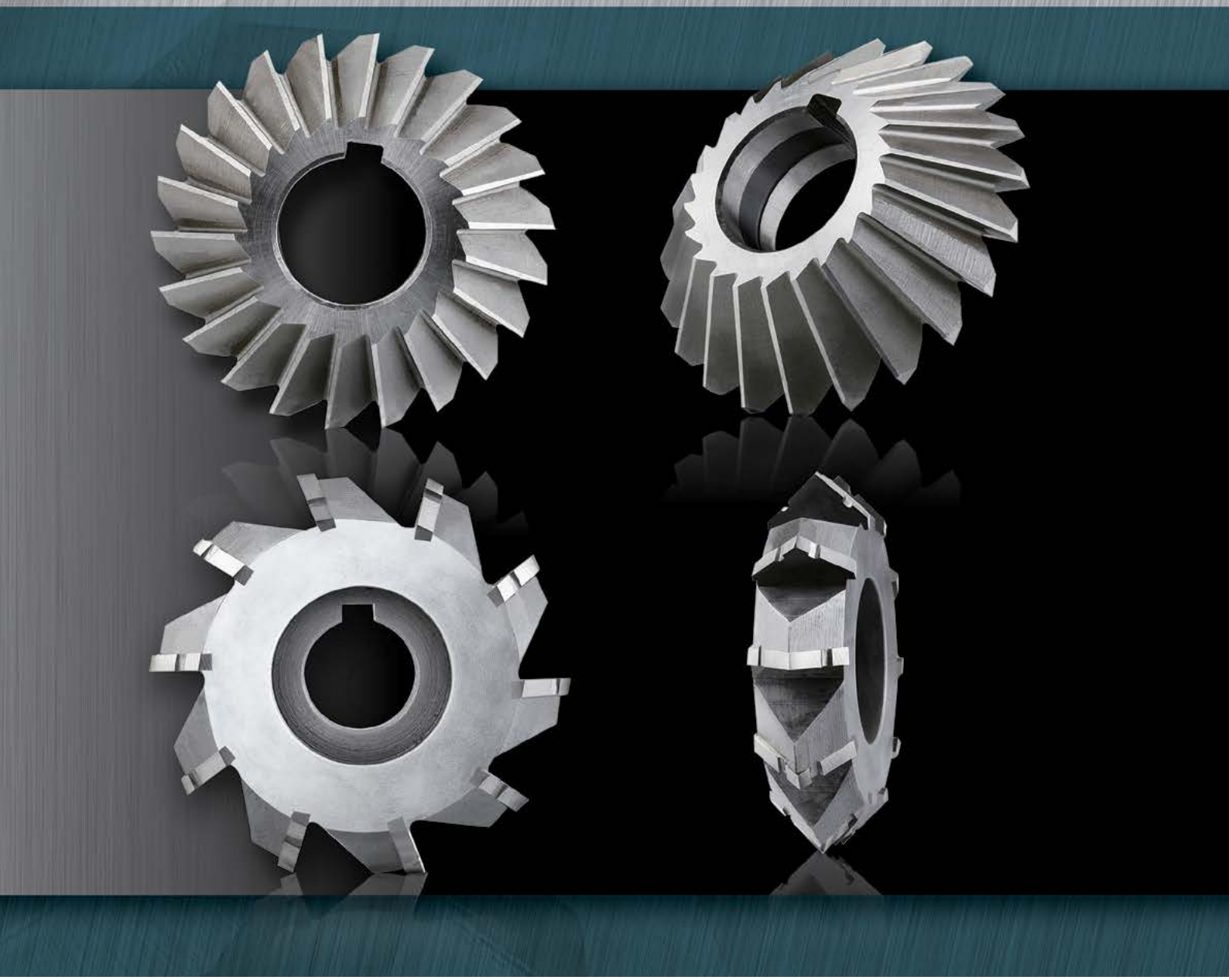
千鳥刃側銑刀
STAGGERED SIDE MILLING CUTTER

外徑 Outside diameter	75	100	125	150	175	200
	3"	4"	5"	6"	7"	8"
齒數 Teeth number	18	20	22	24	26	28
孔徑 Hole diameter			25.4	1"		
厚度 Thickness	4	6	8	10	12	13
	14	15	18	20		
	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"
	5/8"	3/4"				

特殊規格可接受訂製
Special specifications are available.

- 殼型銑刀規格特殊，依客戶需求可接受訂製，無現品庫存。
- The shell milling cutters are special specifications. Therefore, it's out of stock and made by order.

片角與等角銑刀
SINGLE AND DOUBLE MILLING CUTTER



片角與等角銑刀 SINGLE AND DOUBLE MILLING CUTTER							
外徑 Outside diameter	75		100		125		150
	3"		4"		5"		6"
齒數 Teeth number	22		26		28		32
厚度 Thickness	8	10	12	14	16	18	20

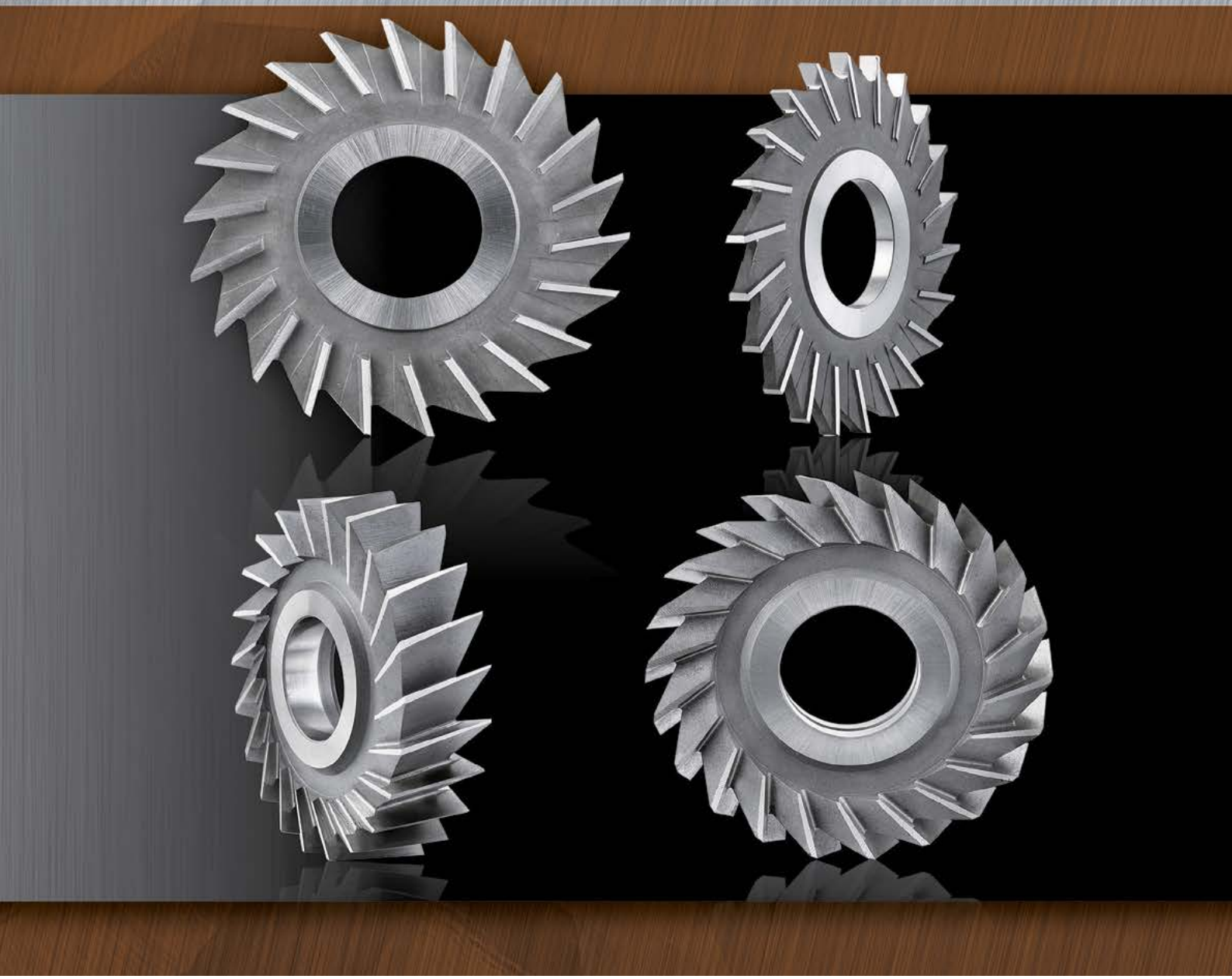
角度分列 Angle Types			
厚度 Thickness	10	12	18
角度 Angle	30°~ 35°	45°~ 90°	45°60°90°

特殊規格角度可接受訂製
Special angle can be specified upon request.

▶ 側銑刀系列 SIDE MILLING CUTTERS

側銑刀與斜刃側銑刀

SIDE MILLING CUTTER AND BEVEL BLADE SIDE MILLING CUTTER



側銑刀與斜刃側銑刀
SIDE MILLING CUTTER AND BEVEL BLADE SIDE MILLING CUTTER

外徑 Outside diameter	50	60	75	100	125	150	175	200
	2"	2½"	3"	4"	5"	6"	7"	8"
齒數 Teeth number	18	20	22	26	28	32	34	36
孔徑 Hole diameter				25.4	1"			
厚度 Thickness	3.0	4.0	5.0	6.0	7.0	8.0	9.0	
	10	11	12	13	14	15	16	17
	18	19	20	22	24	25		
	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"

特殊規格角度可接受訂製
Special specifications are available upon request.

外丸銑刀
CONVE MILLING CUTTER

平面銑刀
FACE MILLING CUTTER

外丸銑刀
CONVE MILLING CUTTER

外徑 Outside diameter	75				
齒數 Teeth number	12				
孔徑 Hole diameter	25.41"				
厚度 Thickness	3	4	5	6	7
R 角 R angle	1.5R	2R	2.5R	3R	3.5R
厚度 Thickness	8	9	10	11	12
R 角 R angle	4R	4.5R	5R	5.5R	6R
厚度 Thickness	13	14	15	16	17
R 角 R angle	6.5R	7R	7.5R	8R	8.5R
厚度 Thickness	18	19	20	21	22
R 角 R angle	9R	9.5R	10R	10.5R	11R

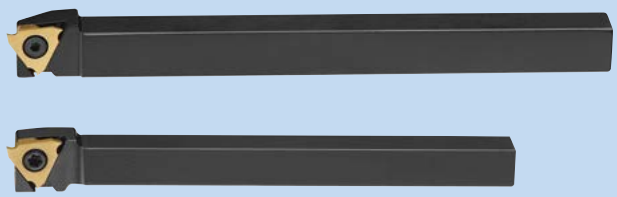
本產品為訂製成型刀具,無現品供應訂製,
本產品需出具圖面作為依據
The series is profiled cutters without stock for immediate delivery.
when ordering, please provide drawing for manufacturing.

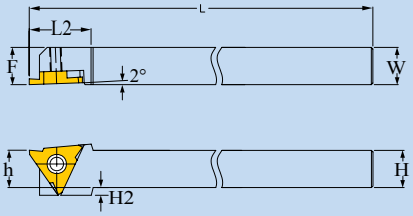
平面銑刀
FACE MILLING CUTTER

外徑 Outside diameter	50	60	75	100
厚度 Thickness	50	40	50	50
	60	50	60	75
		60	75	100
				125
齒數 Teeth number	12	14	14	16
孔徑 Hole diameter	25.4		1"	

- 特殊規格可接受訂製
- 有焊接鎢鋼材質
- Special specifications are available upon request.
- Welded tungsten material is available.

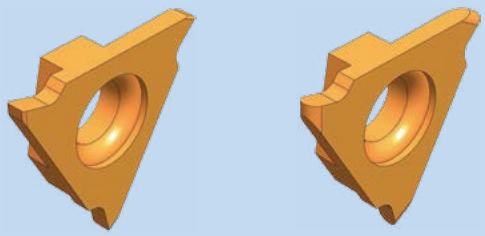
三角立型槽刀片 Holder For 3-Cutting Edges Grooving Insert

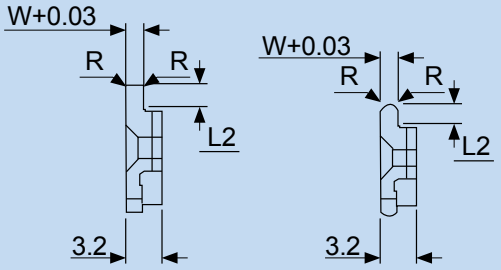




型　號 EDP NO.	H=H1	H2	F	W	L2	L	適 用 刀 片 HOLDER NO.
KTGFR/L 1010K-16F	10	4	10	10	18.5	125	HTG32 R/L
KTGFR/L 1212K-16F	12	2	12	12	18.5	125	
KTGFR/L 1616K-16F	16	—	20	16	18.5	125	
KTGFR/L 2020K-16	20	—	24	20	20	125	
KTGFR/L 252M-16	25	—	28	25	20	150	

三角立型槽刀片 3-Cutting Edges Grooving Insert

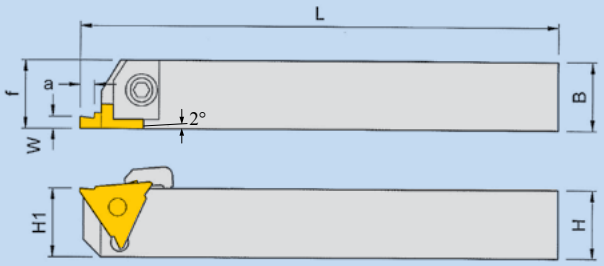




型　號 EDP NO.	尺寸 Dimension (mm)			材質 Material	
	W	L2	R	BM15	BM25
HTG32R/L 033	0.33	0.8	0.05	●	
HTG32R/L 043	0.43			●	
HTG32R/L 050	0.50	1.0		●	
HTG32R/L 060	0.60			●	
HTG32R/L 065	0.65	1.5		●	
HTG32R/L 070	0.70			●	
HTG32R/L 075	0.75			●	
HTG32R/L 080	0.80	2.0		●	
HTG32R/L 080	0.90			●	
HTG32R/L 095	0.95			●	
HTG32R/L 100	1.00	2.5	0.1	●	
HTG32R/L 110	1.10			●	
HTG32R/L 120	1.20			●	
HTG32R/L 125	1.25			●	
HTG32R/L 140	1.40	3.0		●	
HTG32R/L 145	1.45			●	

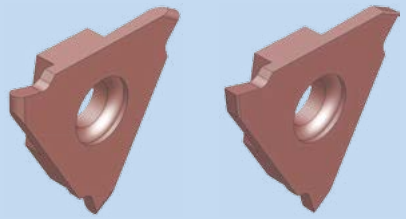
型　號 EDP NO.	尺寸 Dimension (mm)			材質 Material	
	W	L2	R	BM15	BM25
HTG32R/L 150	1.50	3.0	0.1	●	
HTG32R/L 160	1.60			●	
HTG32R/L 175	1.75			●	
HTG32R/L 180	1.80			●	
HTG32R/L 200	2.00			●	
HTG32R/L 220	2.20		0.2	●	
HTG32R/L 230	2.30			●	
HTG32R/L 250	2.50			●	
HTG32R/L 280	2.80			●	
HTG32R/L 300	3.00			●	
HTG32R/L 050R	1.00	2.5	0.50	●	
HTG32R/L 075R	1.50	3.0	0.75	●	
HTG32R/L 100R	2.00		1.00	●	
HTG32R/L 125R	2.50		1.25	●	
HTG32R/L 150R	3.00		1.50	●	

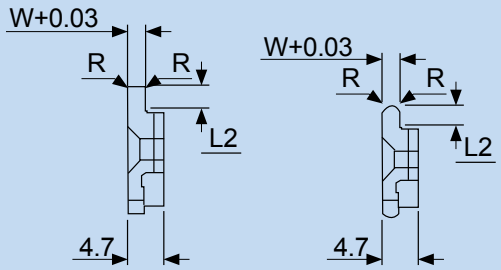
三角立型槽刀片 Holder For 3-Cutting Edges Grooving Insert



型 號 EDP NO.	刀刃 Insert	尺寸 Dimensions (mm)					螺絲 Screw	墊片 Shin	扳手 Wrench	彈簧 Spring
		H=h	B	L1	L2	F				
JGBR/L1616K22-1.5	MTG43R/L	16	16	125	32	25	M6-23	M-03	L-04	MES3
JGBR/L1616K22-2.5		16	16	125	32	25				
JGBR/L1616K22-3.5		16	16	125	32	25				
JGBR/L1616K22-1.5		16	16	125	32	25				
JGBR/L1616K22-2.5		16	16	125	32	25				
JGBR/L1616K22-3.5		16	16	125	32	25				
JGBR/L2020K22-1.5		20	20	125	32	25				
JGBR/L2020K22-2.5		20	20	125	32	25				
JGBR/L2020K22-3.5		20	20	125	32	25				
JGBR/L2525K22-1.5		25	25	150	34	30				
JGBR/L2525K22-2.5		25	25	150	34	30				
JGBR/L2525K22-3.5		25	25	150	34	30				

三角立型槽刀片 3-Cutting Edges Grooving Insert

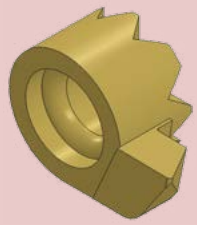


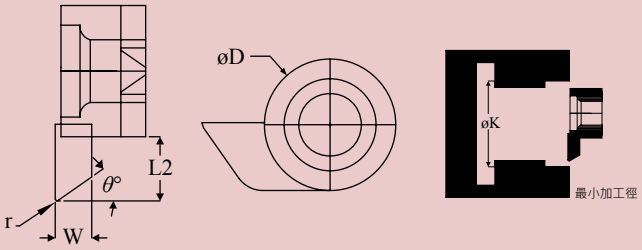


型 號 EDP NO.	尺寸 Dimension (mm)			材質 Material	
	W	L2	R	BM15	BM25
MTG43R/L 100	1.00	2.0	0.1	●	
MTG43R/L 110	1.10			●	
MTG43R/L 125	1.25		0.2	●	
MTG43R/L 145	1.45			●	
MTG43R/L 150	1.50	3.5		●	
MTG43R/L 175	1.75			●	
MTG43R/L 185	1.85			●	
MTG43R/L 200	2.00			●	
MTG43R/L 220	2.20			●	
MTG43R/L 230	2.30			●	
MTG43R/L 250	2.50	4.0	0.3	●	
MTG43R/L 280	2.80			●	

型 號 EDP NO.	尺寸 Dimension (mm)			材質 Material	
	W	L2	R	BM15	BM25
MTG43R/L 300	3.00	5.0	0.3	●	
MTG43R/L 330	3.30			●	
MTG43R/L 350	3.50			●	
MTG43R/L 400	4.00			●	
MTG43R/L 430	4.30		0.4	●	
MTG43R/L 450	4.50			●	
MTG43R/L 050R	1.00	2.0	0.50	●	
MTG43R/L 075R	1.50	3.5	0.75	●	
MTG43R/L 100R	2.00		1.00	●	
MTG43R/L 125R	1.25	4.0	1.25	●	
MTG43R/L 150R	1.50	5.0	1.50	●	
MTG43R/L 175R	1.75		1.75	●	
MTG43R/L 200R	2.00		2.00	●	

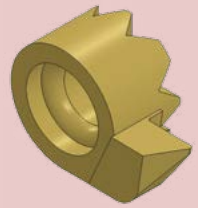
PFA 內徑搪孔刀 Internal Boring Tool

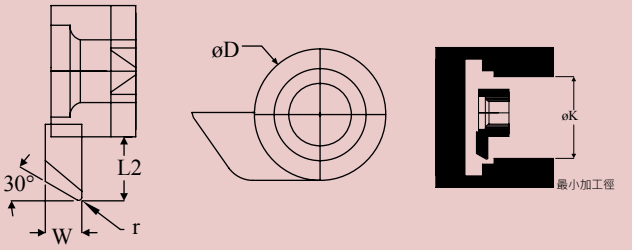




型號 EDP NO.	尺寸 Dimension (mm)						材質 Material		適用套筒 Applicable Sleeve
	W	ØK	θ°	L2	r	ØD	BM15	BM25	
PFA-0820-20005 MY	2.0	8.0	20	1.5	0.05	6			CS816R 2010-08
PFA-0820-2001 MY					0.1				
PFA-0820-2002 MY					0.2				
PFA-0820-30005 MY			30		0.05				
PFA-0820-3001 MY					0.1				
PFA-0820-3002 MY					0.2				
PFA-0820-50005 MY			50		0.05				
PFA-0820-5001 MY					0.1				
PFA-0820-5002 MY					0.2				
PFA-1120-20005 MY	2.0	10.0	20	2.5	30	7			CS816R 3012-11
PFA-1120-2001 MY					30				
PFA-1120-2002 MY					25				
PFA-1120-30005 MY			30		30				
PFA-1120-3001 MY					40				
PFA-1120-3002 MY					40				
PFA-1120-50005 MY			50		40				
PFA-1120-5001 MY					25				
PFA-1120-5002 MY					45				

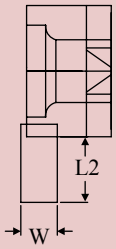
PFB 內徑後掃刀 Internal Back-Turn

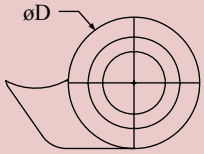


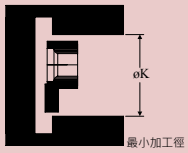


型號 EDP NO.	尺寸 Dimension (mm)					材質 Material		適用套筒 Applicable Sleeve
	W	ØK	L2	r	ØD	BM15	BM25	
PFB-0820-3001	2.0	8.0	1.5	0.1	6			CS816R 2010-08
PFB-0820-3002				0.2				
PFB-1120-3001	2.0	10.0	2.5	0.1	7			CS816R 3012-11
PFB-1120-3002				0.2				
PFB-1430-3001	3.0	14.0	4.0	0.1	9			CS816R 3612-14
PFB-1430-3002				0.2				

PFG 槽刀片 Internal Grooving

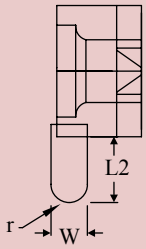


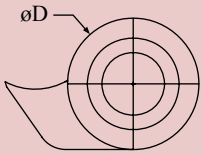


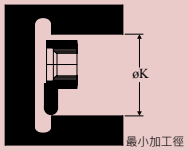


型號 EDP NO.	尺寸 Dimension (mm)					材質 Material		適用套筒 Applicable Sleeve
	W	ØK	L2	r	ØD	BM15	BM25	
PFG-08050	0.50	8.0	1.2	0.05	6			CS816R 2010-08
PFG-08060	0.60		1.5					
PFG-08070	0.70							
PFG-08075	0.75			0.1				
PFG-08080	0.80							
PFG-08085	0.85							
PFG-08095	0.95							
PFG-08100	1.00		1.8					
PFG-08110	1.10							
PFG-08125	1.25			0.2				
PFG-08150	1.50							
PFG-08175	1.75							
PFG-08200	2.00							
PFG-11075	0.75	10.0	2.0	0.1	7			CS816R 3012-11
PFG-11095	0.95							
PFG-11100	1.00							
PFG-11125	1.25		2.8	0.2				
PFG-11150	1.50							
PFG-11200	2.00							
PFG-11250	2.50							
PFG-11300	3.00							
PFG-14075	0.75	14.0	2.0	0.1	9			CS816R 3612-14
PFG-14095	0.95							
PFG-14100	1.00							
PFG-14125	1.25		4.3	0.2				
PFG-14150	1.50							
PFG-14200	2.00							
PFG-14250	2.50							
PFG-14300	3.00							

PFG 圓槽刀片 Internal Radius

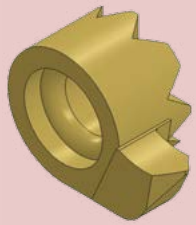


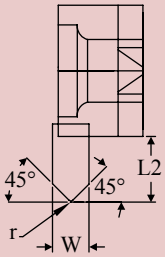


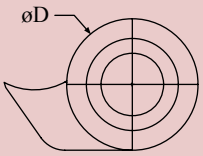


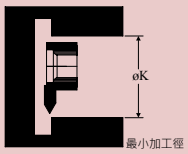
型號 EDP NO.	尺寸 Dimension (mm)					材質 Material		適用套筒 Applicable Sleeve
	W	ØK	L2	r	ØD	BM15	BM25	
PFG-08050 R	1.00	8.0	1.5	0.5	6			CS816R 2010-08
PFG-08075 R	1.50		1.8	0.75				
PFG-08100 R	2.00			1.0				
PFG-11050 R	1.00	10.0	2.0	0.5	7			CS816R 3012-11
PFG-11075 R	1.50		2.8	0.75				
PFG-11100 R	2.00			1.0				
PFG-11125 R	2.50			1.25				
PFG-11150 R	3.00			1.5				
PFG-14050 R	1.00	14.0	2.0	0.5	9			CS816R 3612-14
PFG-14075 R	1.50		4.3	0.75				
PFG-14100 R	2.00			1.0				
PFG-14125 R	2.50			1.25				
PFG-14150 R	3.00			1.5				

PFS 內徑倒角刀 Internal Chamfering



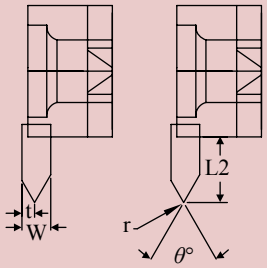


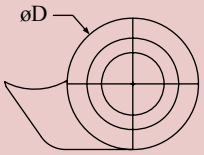


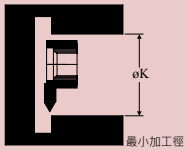


型號 EDP NO.	尺寸 Dimension (mm)					材質 Material		適用套筒 Applicable Sleeve
	W	ØK	L2	r	ØD	BM15	BM25	
PFS-0825-9002	2.5	8.0	1.5	0.2	6			CS816R 2010-08
PFS-1130-9002	3.00	10.0	2.5		7			CS816R 3012-11
PFS-1430-9002		14.0	4.0		9			CS816R 3612-14

PFT 螺紋刀片 Internal Threading

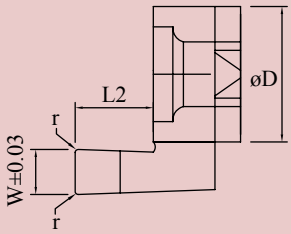


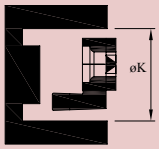




型號 EDP NO.	尺寸 Dimension (mm)							Pich	TPI	BM15	BM25	適用套筒 Applicable Sleeve
	W	ØK	θ°	L2	r	t	ØD					
PFT-0815-60003	1.5	8.0	60	1.5	0.03	0.5	6	P0.5~P1.25	48~24			CS816R 2010-08
PFT-0815-60005					0.05	0.7						
PFT-0815-6001					1.0			P1.0~P1.5	28~16			
PFT-0820-6001	2.0					0.9						
PFT-0820-6002					0.2			P1.5~P3.0	14~8			
PFT-0820-5501			55		0.1				24~12			
PFT-0820-5502					0.2				14~8			
PFT-1115-60003	1.5	10.0	60	2.5	0.03	0.5	7	P0.5~P1.25	48~24			CS816R 3012-11
PFT-1115-60005					0.05	0.7						
PFT-1115-6001					1.0			P1.0~P1.5	28~16			
PFT-1120-6001	2.0					0.9						
PFT-1120-6002					0.2			P1.5~P3.0	14~8			
PFT-1120-5501			55		0.1				24~12			
PFT-11120-5502					0.2				14~8			
PFT-1420-60005	2.00	14.0	60	4.0	0.05	0.7	9	P0.5~P1.25	48~24			CS816R 3612-14
PFT-1420-6001					0.1	0.9						
PFT-1420-6002					0.2			P1.0~P1.5	28~16			
PFT-1430-6002	3.0				0.2	1.3						
PFT-1420-5501	2.0		55		0.1	0.9		P1.5~P3.0	14~8			
PFT-1420-5502					0.2				24~12			
PFT-1430-5502	3.0				0.2	1.3			14~8			

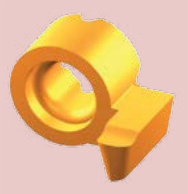
PG 刀片 Internal

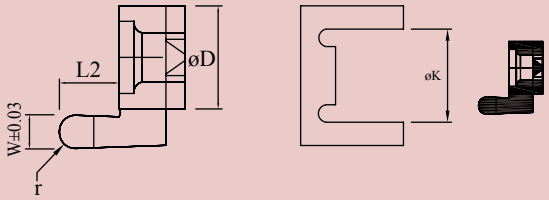




型　號 EDP NO.	尺寸 Dimension (mm)					材質 Material		適　用　刀　架 HOLDER
	W	ØK	L2	r	ØD	BM15	BM25	
PG73. 312-100-02	1.00	12.0	2.0	0.2	9			CS816R 3512-14
PG73. 312-125-02	1.25							
PG73. 312-150-02	1.50		3.0					
PG73. 312-175-02	1.75							
PG73. 312-200-02	2.00							
PG73. 312-250-02	2.50							
PG73. 312-300-02	3.00							
PG73. 513-200-02	2.00	13.0	5.0	0.2	9			CS816R 3512-14
PG73. 513-250-02	2.50							
PG73. 513-300-02	3.00							

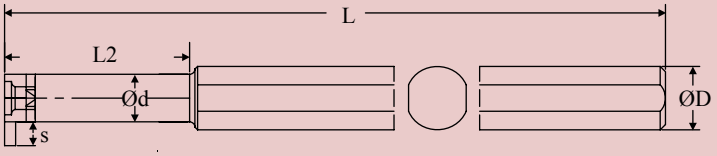
PG 刀片 Internal





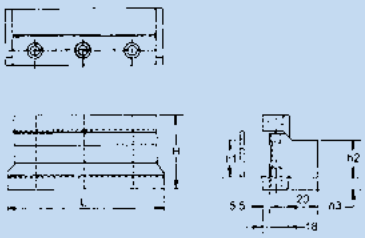
型　號 EDP NO.	尺寸 Dimension (mm)					材質 Material		適　用　刀　架 HOLDER
	W	ØK	L2	r	ØD	BM15	BM25	
PG73. 312-050 R	1.00	12.0	2.0	0.50	9			CS816R 3512-14
PG73. 312-075 R	1.50		3.0	0.75				
PG73. 312-100 R	2.00			1.00				
PG73. 312-125 R	2.50			1.25				
PG73. 312-150 R	3.00			1.50				
PG73. 513-100 R	2.00	13.0	5.0	1.00	9			CS816R 3512-14
PG73. 513-125 R	2.50			1.25				
PG73. 513-150 R	3.00			1.50				

PFG 內徑刀桿 Holder For Internal Inserts



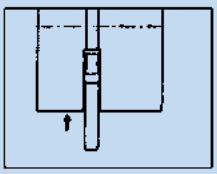
型　　號 EDP NO.	最小加工徑 ØK	Ød	L2	s	L	ØD
CS816R 1510-08	8	6	15	1.8	90	10
CS816R 1612-11	10	7	16	2.8	110	12
CS816R 2212-14	14	9	22	4.3	110	12
CS816R 3016-16	16	11	30	4.6	125	16

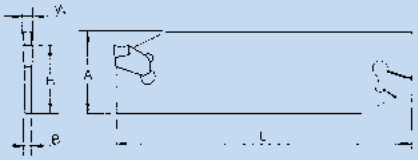
切斷刀座 Cut-Off Tool Holder



型　　號 EDP NO.	h1	h2	h3	H	L	壓塊 Clamp	螺絲 Screw	扳手 Wrench
SBU20-26	20	20	10	45	80	BCS15	BX0625	LH-050
SBU20-32	25	20	13.5	50	100	BCS20		
SBU25-32	25	25	8.5	50	110	BCS25		
SBU25-26	20	25	10	45	80	BCS15		

切斷刀板 Cut-Off Knife Plate





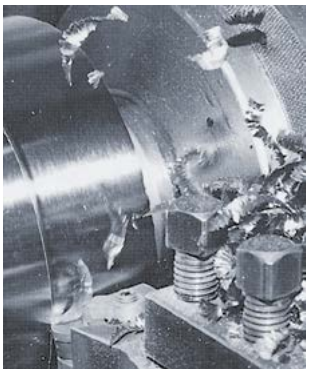
型　　號 EDP NO.	刀刃編號 Insert number	最大直徑 MAX. DIA.	W	B	H	L	A	扳手 Wrench
SGFH26-3	GFN3	75	3	2.4	21	110	25.4	SL-1
SGFH32-3	GFN3	100	3	2.4	25	150	31.3	
SGIH26-2	GTN2	75	3	2.4	21	110	25.4	
SGIH26-3	GTN3	100	3	2.4	25	150	31.3	
SGIH32-3	GTN3	50	3	1.6	21	110	25.4	
KTKB26-3	TKN3	75	3	2.4	21	110	25.4	
KTKB32-3	TKN3	100	3	2.4	25	150	31.3	
SV26-3	N151.2-300.4E	75	3	2.4	21	110	25.4	
SV32-3	N151.2-300.4E	100	3	2.4	25	150	31.3	

GIVING
ALL YOUR CUTTING NEEDS
提供全方位的金鋼石切削工具

金鋼石及氮化硼車刀簡介

INTRODUCTION TO DIAMOND TURNING TOOLS

金鋼石刀具適用材料 - PCD POLYCRYSTALLINE DIAMOND



非鐵金屬材料 (Non-Ferrous)	
▲黃銅青銅合金	▲Brass & Bronze Alloys
▲矽鋁合金	▲Silicon-Aluminum Alloys
▲銅合金	▲Copper Alloys
▲鎂合金	▲Magnesium Alloys
▲鋁合金	▲Aluminum Alloys
▲預燒結或全燒結碳化鎢	▲Presintered or Sintered Tungsten Carbide

非金屬材料 (Non-Metalic)	
▲氧基樹脂	▲Epoxy Resins
▲木材、複合木材	▲Wood , Compound Wood
▲硬質橡膠	▲Hard Rubber
▲玻璃纖維	▲Fibre Glass Composites
▲陶瓷	▲Ceramics
▲碳、石碳酸	▲Carbon-Phenolic
▲塑膠	▲Plastics
▲石墨	▲Graphite

金鋼石及氮化硼刀具車削條件–

CUTTING CONDITIONS OF DIAMOND AND CBN CUTTING TOOLS

氮化硼刀具適用材料 - CBN CUBIC BORON NITRIDE

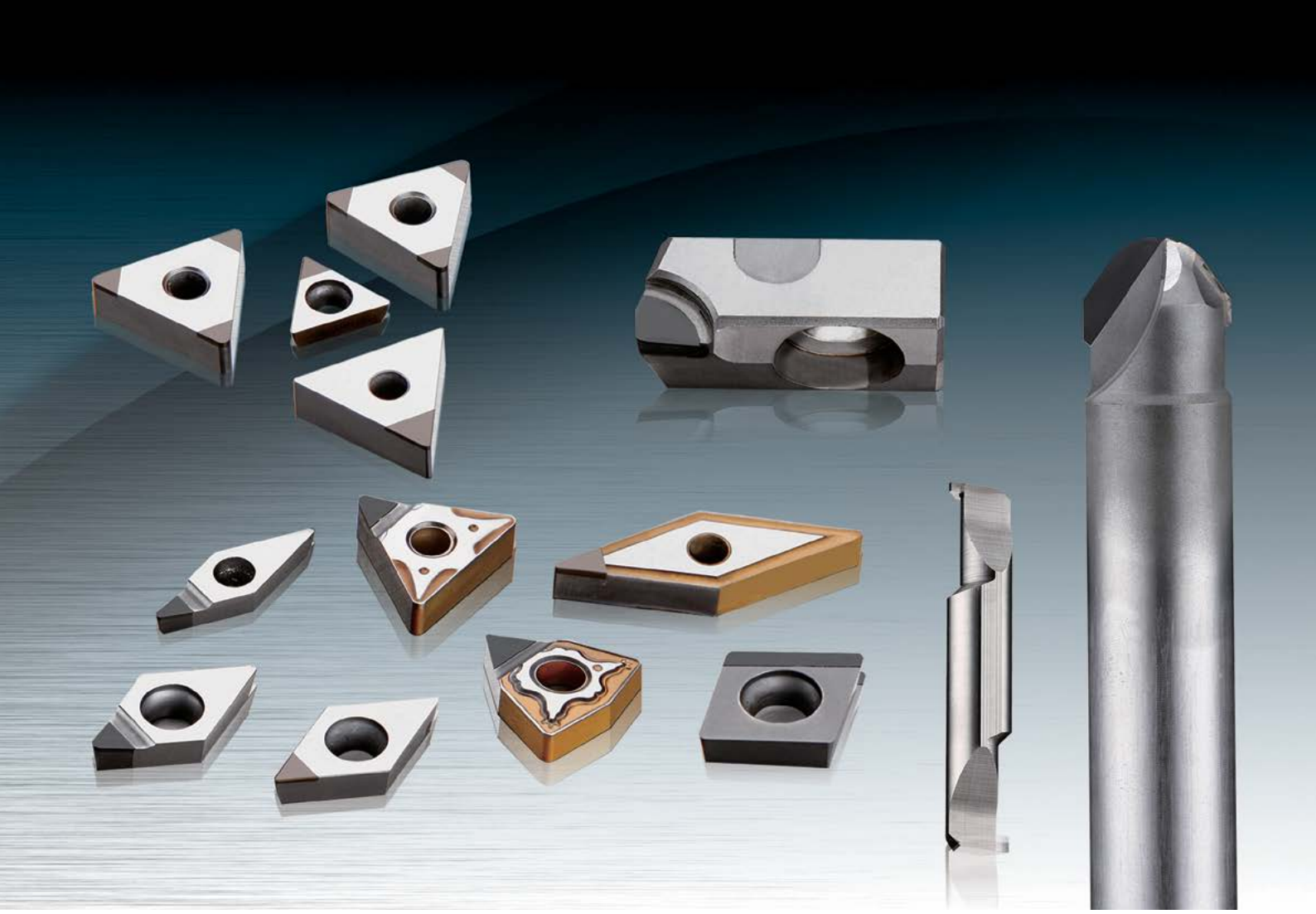
硬化鐵屬材料 (HRC 45以上)

工具鋼 AISI / SAE :
M-2, M-42, T-15, 0-2
(JIS)
(SKH9.-,SKHIO,-)
A-2, D-2, S-5
(SKDI2, SKD11,-)

合金鋼: (AISI / SAE)
1055, 4140, 4340, 8620, 52100
(JIS)
(S55C, SCM44H, SNCM439, SNCM220, SUJ2)
鑄鐵 CAST IRON:
冷激鑄鐵，硬鎳鑄鐵
Cold energized cast iron and hard nickel cast iron.

高溫合金 (HRC 35以上)

鈷基合金 :
Stellite, Colmonoy, Wallex
鎳基合金 :
High cobalt powder metallurgy



金鋼石及氮化硼刀具之優點

FEATURES OF DIAMOND AND CBN CUTTING TOOLS

A. 提高生產力

1. 長時間維持工差，即提高加工之精密度。
2. 以車削取代研磨。
3. 切削速度及工件去除率（Stock Removal）增加，即提高生產力。
4. 較碳化鎢或陶瓷刀具每一切刃更有更高的產量。
5. 降低高投資機器的昂貴停機時間。

A. INCREASED PRODUCTIVITY

1. To maintain proper tolerance for a long time and upgrade machining accuracy.
2. With turning to replace grinding.
3. To increase cutting speed and chip removal rate for increased productivity.
4. Higher productivity than that of tungsten carbide or ceramic cutting tool.
5. To reduce down time on a highly priced machine.

B. 精確度

1. 降低金相傷害。
2. 以切削加工的方法可在硬合金工件上得到好的表面光度。
3. 切刃磨耗低，維持正確工差時間長。
4. 一個切刃維持到底，因為刀刃不受磨損，加工中不須調整或補償刀刃之磨耗量。

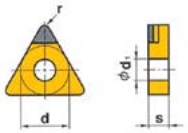
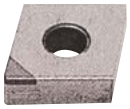
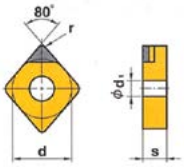
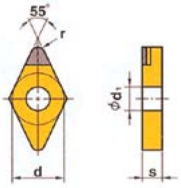
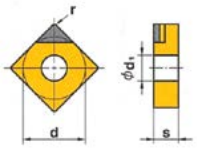
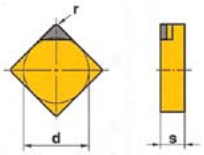
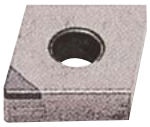
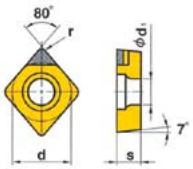
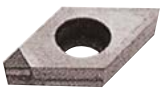
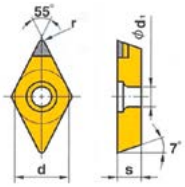
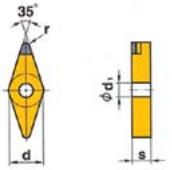
B. ACCURACY

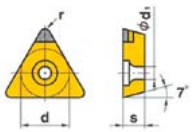
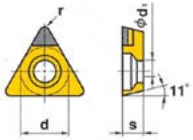
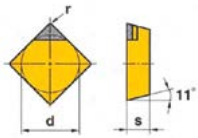
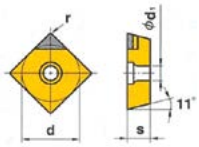
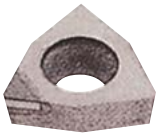
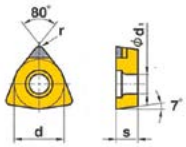
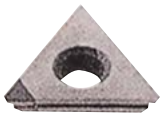
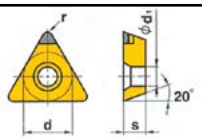
1. To reduce damage of metallurgical structure.
2. Better finish on extra hard alloy steel workpiece.
3. Low wear on cutting edge to maimtain accurate tolerance for a long time.
4. Cutting edge lasts long. No need to adjust or compensate cutting edge wear during machining due to minimum wear.

硬化鐵屬材料 (HRC 45以上)

	金屬材料 METALLIC MATERIALS	非金屬材料 NON-METALLIC MATERIALS	備註 REMARK
進刀速度 Feed Speed	0.02 - 0.1mm / rev	0.2 - 0.5 mm / rev	隨加工面之粗細程度在此範圍內自行選定 Select feed speed in this range according to your desired finish of machining surface.
切削速度 Cutting Speed	80 - 120 m / min CBN	800 -1200 m / min PCD	在機械共振點之速度以外自行選擇 Select cutting speed out of machine's resonant point.
切入深度 Cutting depth	0.02 - 0.6mm	0.2 - 1.5 mm	根據材料物性不同而定 Depends on material property.
切削油劑 Cutting Oil	可用乾式；鋁合金可用輕油類 Dry machining: Use light oil for aluminum alloy	乾式切削均可 Dry machining	視加工條件而定 Depends on machining condition.

旋削用

ISO 符號	外觀	形狀	寸法 (mm)				CBN				PCD
			d	s	r	d1	CN250	CN300	CN500	CN600	PDM010
TNGA 160402			9.525	4.76	0.2	3.81					●
160404			9.525	4.76	0.4	3.81	●	●	●		
160408			9.525	4.76	0.8	3.81	●	●	●	●	
220404			12.70	4.76	0.4	5.16			●	●	
220408			12.70	4.76	0.8	5.16	●	●	●		
220412			12.70	4.76	1.2	5.16	●	●	●	●	
CNMA 120404			12.70	4.76	0.4	5.16	●	●	●	●	●
120408			12.70	4.76	0.8	5.16	●	●	●	●	●
120412			12.70	4.76	1.2	5.16		●	●	●	
DNGA 150404			12.70	4.76	0.4	5.16	●	●			●
150408			12.70	4.76	0.8	5.16	●	●			●
150412			12.70	4.76	1.2	5.16		●			
SNGA 120404			12.70	4.76	0.4	5.16					
120408			12.70	4.76	0.8	5.16	●	●	●	●	●
120412			12.70	4.76	1.2	5.16		●	●	●	
SNGN 090304			9.525	3.18	0.4	-					
090308			9.525	3.18	0.8	-					
120404			12.70	4.76	0.4	-					
120408			12.70	4.76	0.8	-	●	●	●		●
120412			12.70	4.76	1.2	-		●	●		
CCMW 060202			6.35	2.38	0.2	2.8					●
060204			6.35	2.38	0.4	2.8					●
09T302			9.525	3.97	0.2	4.4					●
09T304			9.525	3.97	0.4	4.4	●	●			●
09T308			9.525	3.97	0.8	4.4	●	●			
120404			12.70	4.76	0.4	5.5					
130408			12.70	4.76	0.8	5.5	●	●			
120412			12.70	4.76	1.2	5.5					
CDMW 070202			6.35	2.38	0.2	2.8					●
070204			6.35	2.38	0.4	2.8					●
11T302			9.525	3.97	0.2	4.4					●
11T304			9.525	3.97	0.4	4.4	●	●			●
11T308			9.525	3.97	0.8	4.4		●			●
VNGA 160404			9.525	4.76	0.4		●	●			●
160408			9.525	4.76	0.8	3.8	●	●			●

ISO 符號	外觀	形狀	寸法 (mm)				CBN				PCD
			d	s	r	d1	CN250	CN300	CN500	CN600	PDM010
TCMW 110202			6.35	2.38	0.2	2.8					●
110204			6.35	2.38	0.4	2.8					●
TPGX 080202			4.76	2.38	0.2	2.5			●	●	●
080204			4.75	2.38	0.4	2.5	●	●	●	●	●
080208			4.76	2.38	0.8	2.5					●
090202			5.56	2.38	0.2	3.0			●	●	●
090204			5.56	2.38	0.4	3.0	●	●	●	●	●
090208			5.56	2.38	0.8	3.0					●
110302			6.35	3.18	0.2	3.5					●
110304			6.35	3.18	0.4	3.5	●	●	●	●	●
110308			6.35	3.18	0.8	3.5	●	●	●	●	●
160304			9.525	3.18	0.4	4.8	●	●	●		●
160308			9.525	3.18	0.8	4.8	●	●	●		●
160404			9.525	4.76	0.4	4.8		●			
160408			9.525	4.76	0.8	4.8		●			
SPGN 090302			9.525	3.18	0.2	-					●
090304			9.525	3.18	0.4	-	●	●	●		●
090308			9.525	3.18	0.8	-	●	●	●		●
090312			9.525	3.18	1.2	-		●			
120304			12.70	3.18	0.4	-			●	●	●
120308			12.70	3.18	0.8	-	●	●	●	●	●
120312			12.70	3.18	1.2	-		●			●
120408			12.70	4.76	0.4	-					
120412			12.70	4.76	0.8	-					
SPGX 090304			9.525	3.18	0.4	4.8					●
090308			9.525	3.18	0.8	4.8					●
WCMW L30202			4.76	2.38	0.2	2.3					●
L30204			4.76	2.38	0.4	2.3					
040202			6.35	2.38	0.2	2.8					●
040204			6.35	2.38	0.4	2.8					
06T304			9.525	3.97	0.4	4.4					●
06T308			9.525	3.97	0.8	4.4					
TEGX 160302			9.525	3.18	0.2	4.3					●
160304			9.525	3.18	0.4	4.3					●

說明:

1. CN 100 - 低硬度滾輪切割
2. CN 250 - 熱處理鍋 連續 / 斷續切削
3. CN 300 - 熱處理鍋 斷續切削
4. CNZ 10 - 熱處理鍋 高速連續切削
5. CN 500 - 鑄鐵 高精度切削
6. CN 600 - 高硬度滾輪切削 耐熱合金切削 一般燒結品切削
7. PDM010 - 耐磨耗性高的非鐵系材料及非金屬材料
8. PDM002 - 精密加工及低矽含量之鋁合金

1. CN 100 - Low hardness roller cutting
2. CN 250 - Heat treatment pot, continuous / intermittent cutting
3. CN 300 - Heat treatment pot, intermittent cutting
4. CNZ 10 - Heat treatment pot, High speed continuous cutting
5. CN 500 - Cast iron, High accuracy cutting
6. CN 600 - High hardness roller cutting. Heat - resistant alloy cutting. General simtered part cutting.
7. PDM010 - High wear - resistance non-iron materials and non-wetallic materials.
8. PDM002 - Precision machining and alumimum alloy with low silicone coutent.

SC-61系列 SC-61 SERIES

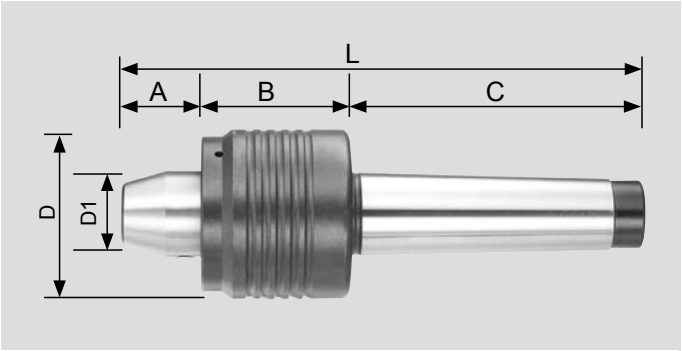
替換型高速中負荷迴轉頂針 Interchangeable High Speed Medium Duty Live Center

用途：

本頂針適合300 m/m長以內一般車削加工，本頂針軸承，徑向力和軸向力分開設計，採用雙列滾珠軸承、滾珠止推軸承，和NK型滾針軸承結構製成。

Application:

The series of live center is suitable for turning workpiece length within 300mm. The beorings in the live center provide separated ratial and axial resistant force. The bearings consist of double-row ball bearing, thrust ball bearing and NK type needle bearing.



61-35 61-15 61-10 61-08 61-06 61沖子 Punch

精準度：0.008m/m內
Accuracy: within 0.008m/m

尺寸表 DIMENSIONS

型式/外表尺寸 Model / Size	MT	A	B	C	D	D1	L	軸承最高轉數 Max. Bearing Speed	軸承徑向力 Bearing Radial Force	軸承軸向力 Bearing Axial Force
SC-61-M-3	3	30	55	90.5	64	32.4	175.5	4500.rpm	1300kg	2250kg
SC-61-M-3-A	3	30	72	90.5	64	32.4	187.5	4500.rpm	1300kg	2250kg
SC-61-M-4	4	30	55	108	64	32.4	193	4500.rpm	1300kg	2250kg
SC-61-M-4A	4	30	72	108	64	32.4	205	4500.rpm	1300kg	2250kg
SC-61-M-5	5	30	55	135	64	32.4	220	4500.rpm	1300kg	2250kg
SC-61-M-5A	5	30	72	135	64	32.4	232	4500.rpm	1300kg	2250kg

單位/Unit : mm

SC-62系列 SC-62 SERIES

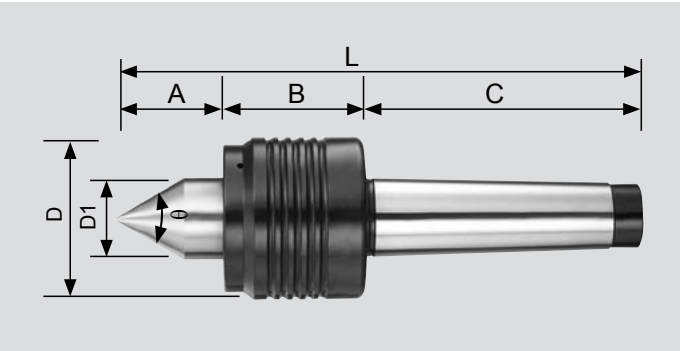
固定型重負荷迴轉頂針 Fixed Heavy Duty Live Center

用途：

本頂針適合400 m/m長以內一般車削加工。

Application:

The series of live center is suitable for turning workpiece length within 400mm.



精準度：0.008m/m內
Accuracy: within 0.008m/m

尺寸表 DIMENSIONS

型式/外表尺寸 Model / Size	MT	A	B	C	D	D1	L	θ	軸承最高轉數 Max. Bearing Speed	軸承徑向力 Bearing Radial Force	軸承軸向力 Bearing Axial Force
SC-62-H-4	4	45	56	108	68	32.4	209	60˚	4000.rpm	1420kg	2760kg
SC-62-H-4-A	4	45	73	108	68	32.4	221	60˚	4000.rpm	1420kg	2760kg
SC-62-H-5	5	45	56	135	68	32.4	236	60˚	4000.rpm	1420kg	2760kg
SC-62-H-5A	5	45	73	135	68	32.4	248	60˚	4000.rpm	1420kg	2760kg

單位/Unit : mm

SC-63系列 SC-63 SERIES

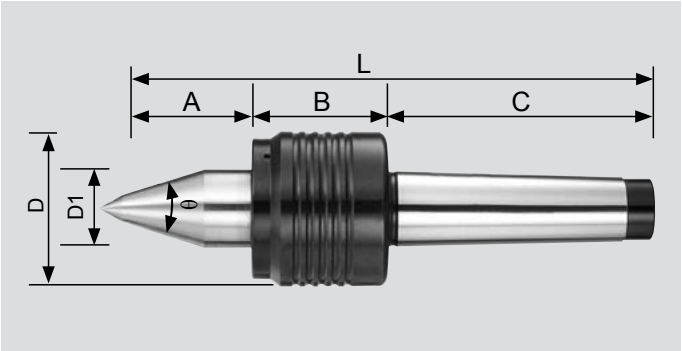
固定細長型高速中負荷迴轉頂針 Fixed Long Type High Speed Medium Duty Live Center

用途：

本頂針適合300 m/m長以內一般軸心車削加工，本頂針軸承，徑向力和軸向力分開設計，採用雙列滾珠軸承、滾珠止推軸承，和NK型滾針軸承結構製成。

Application:

The series of live center is suitable for turning workpiece length within 300mm. The beorings in the live center provide separated ratial and axial resistant force. The bearings consist of double-row ball bearing, thrust ball bearing and NK type needle bearing.



精準度：0.008m/m內
Accuracy: within 0.008m/m

尺寸表 DIMENSIONS

型式/外表尺寸 Model / Size	MT	A	B	C	D	D1	L	θ	軸承最高轉數 Max. Bearing Speed	軸承徑向力 Bearing Radial Force	軸承軸向力 Bearing Axial Force
SC-63-M-4	4	60	55	108	64	32.4	223	60˚	4500.rpm	1300kg	2250kg
SC-63-M-4-A	4	60	72	108	64	32.4	240	60˚	4500.rpm	1300kg	2250kg
SC-63-M-5	5	60	56	135	68	32.4	251	60˚	4500.rpm	1300kg	2250kg
SC-63-M-5A	5	60	72	135	68	32.4	268	60˚	4500.rpm	1300kg	2250kg

單位/Unit : mm

SC-65系列 SC-65 SERIES

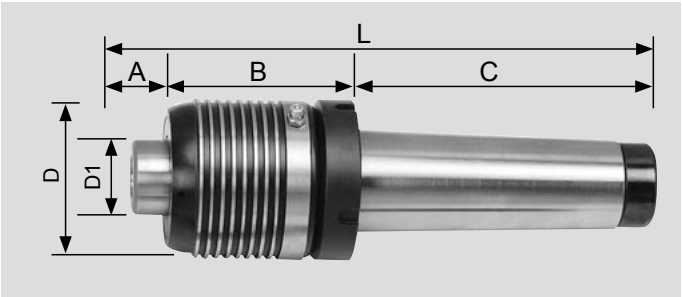
替換型重負荷迴轉頂針 Interchangable Heavy Duty Live Center

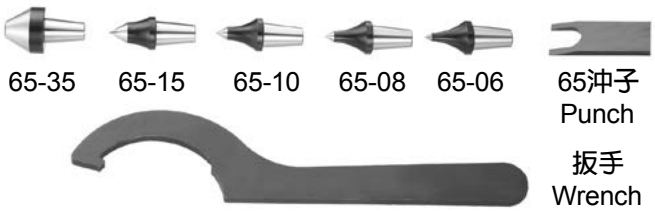
用途：

本頂針適合400 m/m長以內一般車削加工。本頂針軸承，徑向力和軸向力分開設計，採用雙列滾珠軸承、滾珠止推軸承，和NK型滾針軸承結構製成。

Application:

The series of live center is suitable for turning workpiece length within 400mm. The beorings in the live center provide separated ratial and axial resistant force. The bearings consist of double-row ball bearing, thrust ball bearing and NK type needle bearing.





精準度：0.008m/m內
Accuracy: within 0.008m/m

尺寸表 DIMENSIONS

型式/外表尺寸 Model / Size	MT	A	B	C	D	D1	L	軸承最高轉數 Max. Bearing Speed	軸承徑向力 Bearing Radial Force	軸承軸向力 Bearing Axial Force
SC-65-H-4	4	12	56	108	63	32.4	176	4000.rpm	1420kg	2760kg
SC-65-H-4A	4	12	73	108	68	32.4	188	4000.rpm	1420kg	2760kg
SC-65-H-5	5	12	56	135	68	32.4	203	4000.rpm	1420kg	2760kg
SC-65-H-5A	5	12	73	135	68	32.4	215	4000.rpm	1420kg	2760kg

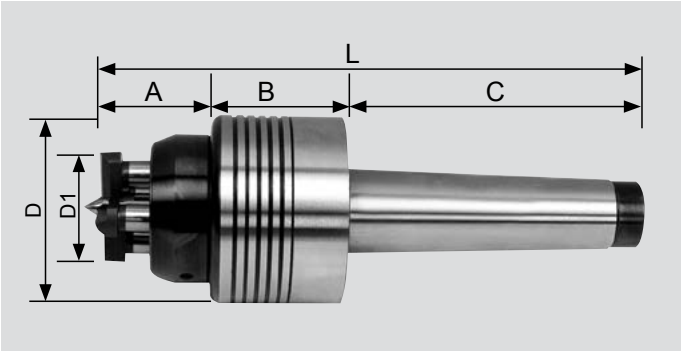
單位/Unit : mm

SC-66系列 SC-66 SERIES

端面自動調整插式傳動頂針 Automatic End Adjustment Insert Type Transmitted Center

用途：

免車削工具端面，每支傳動齒自動調整帶動平均力，精度穩定性佳，可正、逆轉車削使用適用於CNC車床、自動車削送料專用機、一般車床、其他機種使用，傳動齒有多種規格選擇使用。



Application:

No need to turn tool end face. Each trunsmission-tooth can be adjusted automatically for uniform force and superior accuracy and stability. Suitable for clockwise and counter-clockwise turning. Applicable machines include CNC lathe, special purpose automatic turning and feeding lathe, general lathe and other machines. The transmission teeth provide various specifications to select.

注意使用：

本端面自動調整插式傳動頂針，靠尾座足夠推力，才可傳動車削使用。

Notice For Use:

The automatic end adjustment insert type transmitted center requires sufficient thrust force from tailstock for transmission.

尺寸表 DIMENSIONS

型式/外表尺寸 Model / Size	心軸尺寸 Arbor Size	標準附件 Standard Accessory	鉗入工件直徑 Insert Workpiece Dia
SC-66-MT4-A	MT4	SC-66-A	Ø 33mm
SC-66-MT4-B	MT4	SC-66-B	Ø 39mm
SC-66-MT4-C	MT4	SC-66-C	Ø 45mm
SC-66-Ø40A	Ø40	SC-66-A	Ø 33mm
SC-66-Ø40B	Ø40	SC-66-B	Ø 39mm
SC-66-Ø40C	Ø40	SC-66-C	Ø 45mm

型式/外表尺寸 Model / Size	中心針 Center	傳動齒 Transmission Teeth	固定鍵 Fixed Key
SC-66-A	SC-09-09	SC-10-10	SC-66-013
SC-66-B	SC-09-09	SC-10-13	SC-66-013
SC-66-C	SC-09-09	SC-10-17	SC-66-013

單位/Unit : mm

SC-80系列 SC-80 SERIES

傘型重重切削迴轉頂針 Cone Type Heavy Duty Live Center

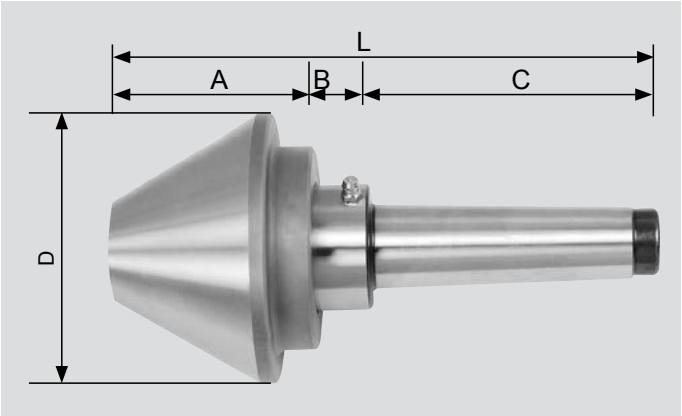
用途：

適合大孔徑重切削。

本頂針，頭部使用合金鋼材，經熱處理，內、外研磨製成。

本頂針採用世界名牌SKF潤滑油，LEGP2，請勿使用油壓三爪用潤滑油。

精準度：0.005 m/m內



Application:

The series of center is suitable for big hole and beavy duty machining.

The center head is manufactured from alloy steel, heat treated and precision ground.Thelive center cues world-famous SKF LEGP2 lubrication oil. Do not use lubrication oil for hydraulic 3-jaw chuck.

Accuracy:within 0.005mm.

尺寸表 DIMENSIONS

型式/外表尺寸 Model / Size	MT	A	B	C	D	L
SC-80-4-3	4	66	13	108	73	187
SC-80-4-4	4	75	13	108	98	196
SC-80-4-5	4	85	13	108	128	206
SC-80-4-6	4	95	13	108	148	216
SC-80-4-8	4	95	13	108	198	216
SC-80-4-10	4	95	13	108	248	216
SC-80-5-3	5	66	13	135	73	214
SC-80-5-4	5	75	13	135	98	223
SC-80-5-5	5	85	13	135	128	233
SC-80-5-6	5	95	13	135	148	243
SC-80-5-8	5	95	13	135	198	243
SC-80-5-10	5	95	13	135	248	243

單位/Unit : mm