



誠輝切削工具

CHENG HUI Cutting Tools for Hole Machining

專業製造各種鉸刀

Professional Manufacturer of Various **Reamers**



**Unique Quality
at Global Standards**



誠輝機械工具廠
CHENG HUI Machinery Tools Factory

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About Cheng Hui

Cheng Hui Machinery Tools Factory is a leading Taiwanese professional manufacturer specializing in reamer design and production with over 50 years of expertise. Committed to innovation and high-quality tooling, Cheng Hui has earned a solid reputation and is widely trusted across industries including mold & die, automotive, precision parts manufacturing, and aerospace.

We specialize in a comprehensive range of products, including Adjustable Reamers, Carbide Reamers, HSS Machine/Chucking Reamers, Hand Reamers, and Taper Pin Reamers.

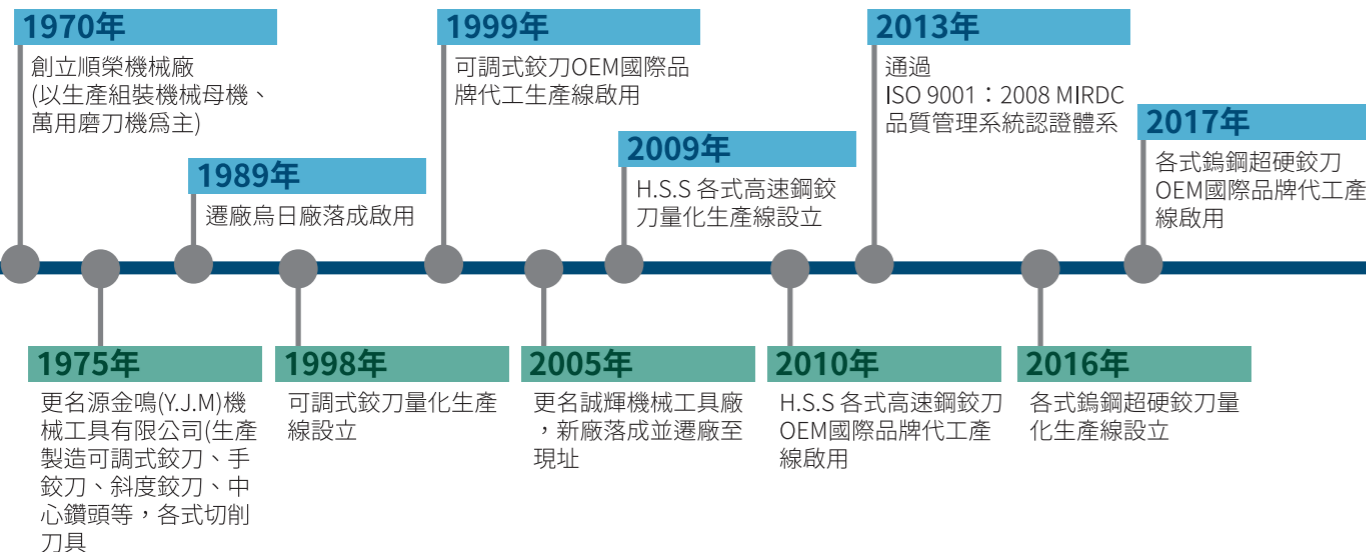
Guided by our core philosophy of 「Quality First, Customer Satisfaction,」 we have established elite teams in both operations and manufacturing to ensure sustainable growth. Our mission is to provide superior product quality and exceptional service, helping our clients maximize operational efficiency and achieve their targets.

Driven by a spirit of excellence, Cheng Hui focuses not only on supplying advanced reaming tools to boost productivity but also on providing efficient support and maintaining extensive inventory. To meet unique challenges, we offer OEM services and a wide spectrum of custom tools tailored to individual requirements.

We are actively seeking partnerships with professional distributors worldwide. We believe this collaboration will create new opportunities and bring the same premium service quality we provide in Taiwan to the global market.

沿革 Background

誠輝機械工具廠是一家在台已成立超過50年的各式鉸刀專業製造商。創立於西元1970年，原名為順榮機械廠，以組裝機械母機、萬用磨刀機為主。西元1975年更名為源金鳴機械工具有限公司並開始生產製造可調式鉸刀(Adjustable Reamer)、各式鎢鋼機械鉸刀(Carbide reamer)、各式高速鋼鉸刀(HSS Reamer)、各式斜度鉸刀(Taper Pin Reamer)、中心鑽頭(Center Drill)···，經營內、外銷，銷售區域遍佈全台及世界各國，為目前台灣唯一可調式鉸刀及各種鉸刀專業製造廠商，誠輝秉持著以持續創新，先進和高品質的鉸孔刀具，在模具、航太產業、車用零件、各類金屬及非金屬加工等製造業界獲得了良好的聲譽及廣泛的信任。

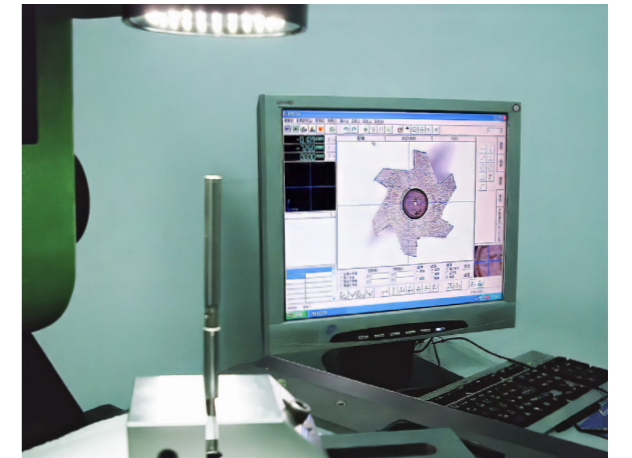
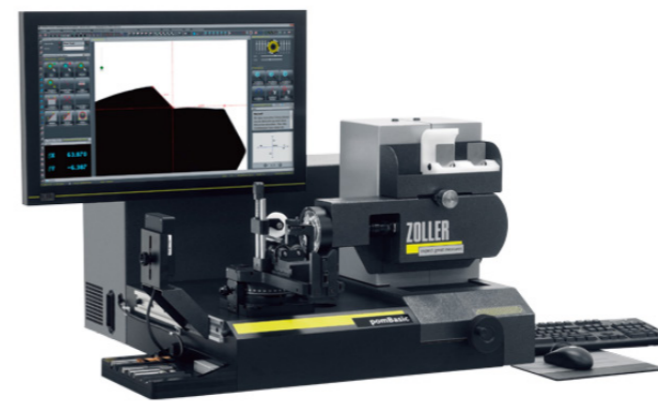


經營理念

Corporate Philosophy

誠輝擁有優秀的經營製造團隊，追求媲美享譽國際的高精度鉸刀品質，致力於提供卓越、先進的鉸削刀具以確保客戶生產力，一直以來秉持著「品質第一，客戶滿意」的經營理念，追求企業永續經營及成長。

而且注重高效的服務和充足的庫存，為了滿足多元客戶的特殊需求，我們還提供客製化和OEM代工來滿足每位客戶的要求，以提供給客戶最好的產品品質及服務，共同創造最好的工作效率，達到成功的目標。



OEM / ODM

本廠擁有多多年與國際刀具專業製造廠OEM/ODM代工經驗，相信以本廠生產環境與製刀設備一定可以滿足客戶們的要求。

With extensive experience in OEM/ODM collaboration with leading international cutting tool manufacturers, we are confident that our advanced production facilities and state-of-the-art equipment will meet and exceed your requirements.



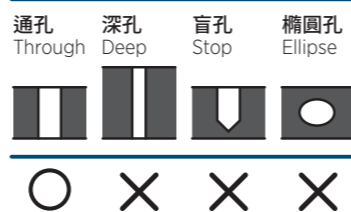
可調式鉸刀 Adjustable Reamers



產品特點 / Features of Adjustable Reamers

- 於可調整範圍內使用同一支鉸刀，可免去購買多種規格的鉸刀費用，為最經濟與最有效率的鉸刀。
- Within the adjustable range, one reamer can be used for multiple sizes, eliminating the need to purchase different specifications making it the most economical and efficient reaming solution.

被加工孔狀態 Prepared Hole



規格 / Adjustable Reamers specification tables

規格 Size	調整範圍 mm / (Inch) Range of Adjustment	全長 (mm) Overall Length	刃長 (mm) Blade Length	柄部 Shank (mm)		刃數 No. of Blades	重量 (g) Weight
				四方尺寸 Square	柄徑 Shank Dia.		
9A	5.95 - 6.35 / (15/64 - 1/4)	91	32	2.5	3.3	4	12
8A	6.35 - 7.15 / (1/4 - 9/32)	83	35	2.8	3.6		12
7A	7.15 - 7.95 / (9/32 - 5/16)	91	35	3.2	4.0		16
6A	7.95 - 8.70 / (5/16 - 11/32)	107	38	4.0	5.0		26
5A	8.70 - 9.50 / (11/32 - 3/8)	112	38	4.0	5.0	6	28
4A	9.50 - 10.25 / (3/8 - 13/32)	121	38	4.0	5.4		36
3A	10.25 - 11.00 / (13/32 - 7/16+)	127	38	4.5	6.0		44
2A	11.00 - 12.00 / (7/16 - 15/32)	134	42	5.5	6.9		58
A	12.00 - 13.50 / (15/32 - 17/32)	141	42	5.5	7.3		70
B	13.50 - 15.0 / (17/32 - 19/32)	146	45	6.5	8.2		88
C	15.00 - 16.75 / (19/32 - 21/32)	166	53	7.0	9.0		124
D	16.75 - 18.25 / (21/32 - 23/32)	172	56	8.0	10.5		170
E	18.25 - 19.75 / (23/32 - 25/32)	178	64	9.0	11.8		224
F	19.75 - 21.50 / (25/32 - 27/32)	188	67	10.0	13.3		292
G	21.50 - 23.75 / (27/32 - 15/16)	204	76	12.0	14.8		384
H	23.75 - 27.00 / (15/16 - 1 1/16)	230	83	13.0	16.4		518
I	27.00 - 30.25 / (1 1/16 - 1 3/16)	254	86	15.0	19.0		746
J	30.25 - 34.25 / (1 3/16 - 1 11/32)	280	98	15.0	19.0		884
K	34.25 - 38.00 / (1 11/32 - 1 1/2)	305	109	17.0	22.0		1302
L	38.00 - 46.00 / (1 1/2 - 1 13/16)	356	113	21.0	27.0		2044
M	46.00 - 56.00 / (1 13/16 - 2 7/32)	407	128	26.0	34.0	3480	
N	56.00 - 70.00 / (2 7/32 - 2 3/4)	457	124	32.0	42.0	6060	
O	70.00 - 85.00 / (2 3/4 - 3 11/32)	509	135	38.0	51.0	9762	

若產品尺寸規格有異動不另行通知 / Specifications are subject to change without prior notice.

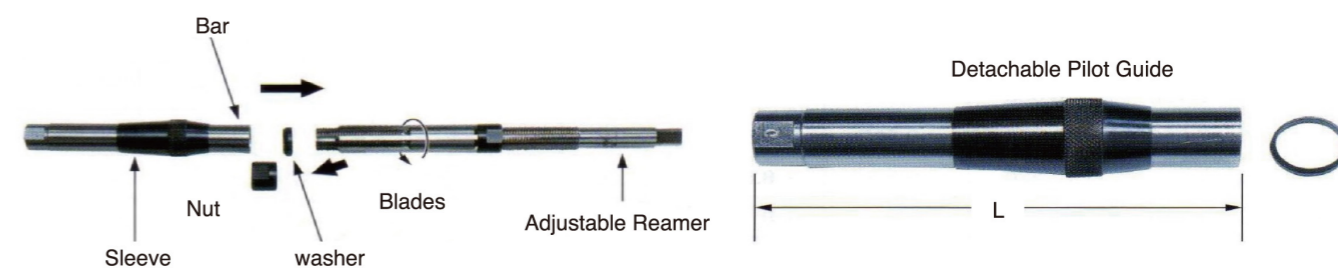
注意事項

- 使用鉸刀加工時，進、退刀皆必須順時針旋轉，請注意逆時針旋轉必導致刀刃損壞。
- 調整刀刃外徑時，務必使用量測工具協助，切勿使用目測或任何不正確方式使用。
- 本產品僅適用於通孔，不適用於盲孔加工。
- 控緊兩端螺母力道為 1:9 / (上方):(下方)，力道不必過大以免螺母斷裂。
- 調整刀刃大小時，請先確認刀刃底部與溝槽裡是否清潔，以獲得其外徑準確度。
- 鉸孔加工時，使用合適切削油，可幫助提高加工孔的精準度。(加工鑄鐵材料除外，請改以乾式切削加工)
- 鉸孔預留量為0.05mm 至 0.15mm 為其較適合的預留量，以達到加工孔的精準度。
- 當刀刃磨損時，請更換全新刀刃組，切勿將其退出後繼續使用，這將會影響加工孔的精準度。
- 夾持於機台使用時，請降低旋轉速度，適量添加切削油，並確認機台與刀具偏擺問題。

Instructions

- Maintain clockwise rotation during both feeding and withdrawal of the reamer. Note: Counter-clockwise rotation will cause severe damage to the cutting edges.
- Diameter Adjustment: Please use precision measuring tools to adjust the diameter.
- Application: This product is designed for through-hole applications only.
- Tightening Torque: Apply a tightening force ratio of 1:9 (upper : lower) to the nuts at both ends. Do not overtighten, as excessive force may cause the nuts to crack or fail.
- Maintenance: When moving or replacing blades, thoroughly clean the bottom of the blade slots to maintain accuracy.
- Lubrication: For optimal results, use cutting oil on all workpieces except cast iron.
- Allowance: A smaller finishing allowance results in a superior surface finish; however, the standard removal amount is 0.05mm to 0.15mm.
- Blade Replacement: If even a single blade is damaged, replace the entire set. Using unbalanced blades will compromise the reamer's stability and accuracy.
- Machine Use: When using the tool on a machine, reduce the spindle speed and apply ample cutting oil. Additionally, ensure that both the machine spindle and the tool are properly aligned to minimize runout.

導桿型可調式鉸刀 Adjustable Pilot Reamers



這是一款帶有導桿裝置的可調式鉸刀，其鉸孔功能為尋求兩端孔徑同心時而使用。常用於輪機、機床、模具與汽/機車零件修護。

This adjustable reamer, equipped with a pilot guide, is designed for applications requiring precise concentric alignment of both ends of a hole.

It is widely used in the repair and maintenance of engines, machine tools, molds, and automotive or motorcycle parts.

操作 Operation

調整方式簡單、準確
Enables easy and precise adjustment for optimal sizing.

功能 Function

可調範圍大、具有多種固定鉸刀的功能。
很經濟實惠

With its wide adjustment range, a single tool can perform the functions of several fixed-size reamers, making it a highly cost-effective solution.

其他 In addition

用於加工尺寸、可調範圍、精度方面擁有與可調式鉸刀同樣出色的表現。

This reamer matches the adjustable reamer in terms of quality, offering the same size variety, adjustment range, and high precision.

- 鉸孔加工時必須遵守順時針旋轉

- Maintain clockwise rotation during both feeding and withdrawal of the reamer.

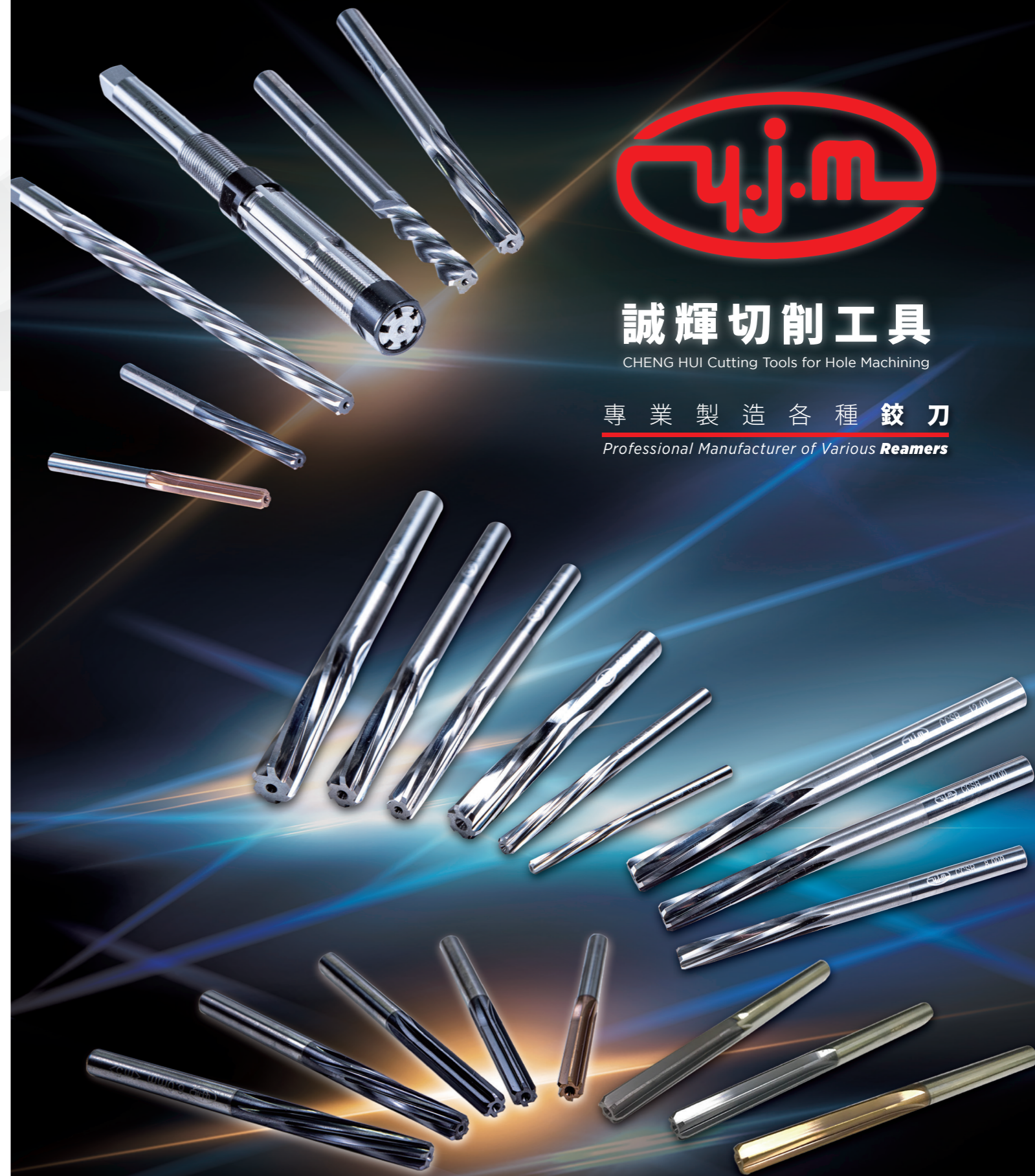
DPG No.	全長 L (mm) Overall Length
A	101
B	
C	
D	
E	127
F	
G	
H	
I	
J	152
K	
L	165
M	180
N	

木盒組 Adjustable reamers sets (Wooden Case)



木盒組規格 / Wooden case tables

規格 Item No.	尺寸 Size / 調整範圍 Expansion Range mm / Inch		包裝重量 Packing weight (Kgs)
6A-F 11PCS	7.95-21.50	5/16"- 27/32"	1.73
6A-J 15PCS	7.95-34.25	5/16"- 1 · 11/32"	5.056
6A-L 17PCS	7.95-46.00	5/16"- 1 · 13/16"	8.402
2A-E 6PCS	11.00-19.75	7/16"- 25/32"	1.352
A-F 6PCS	12.00-21.50	15/32"-27/32"	1.582
A-H 8PCS	12.00-27.00	15/32"- 1 · 1/16"	2.52
A-K 11PCS	12.00-38.00	15/32"- 1 · 1/2"	6.1
4A-K 14PCS	9.50-38.00	3/8"- 1 · 1/2"	6.834
4A-M 16PCS	9.50-56.00	3/8"- 2 · 7/32"	12.358



誠輝切削工具

CHENG HUI Cutting Tools for Hole Machining

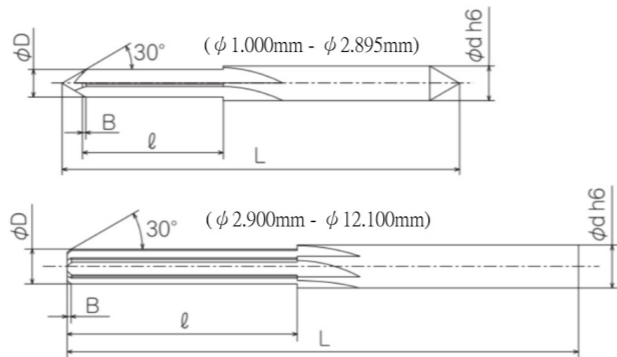
專業製造各種鉸刀

Professional Manufacturer of Various Reamers

鎢鋼超硬鉸刀系列 Carbide Reamers Series

鎢鋼超硬直柄機械鉸刀 - 直刃型 Solid Carbide Short Reamers

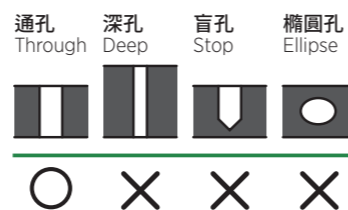
CRM



產品特點 / Features of CRM Reamers

- 為最普遍推薦的超硬鉸刀。
- 與傳統高速鋼鉸刀(HSS-Reamer)產品比較，精確度維持較久並且耐用性更提升5至10倍。
- 鉸孔精準度比高速鋼鉸刀(HSS-Reamer)好，並且可提高進刀速度與鉸孔量。
- 適用於鑄鐵至鋼鐵類之工作物件加工。
- Most generally recommended reamer among other carbide reamers.
- Product durability is enhanced by 5 to 10 times greater than that of conventional HSS Reamers with lasting precision.
- Precise reaming achieved than that of conventional HSS Reamers as well as allowing faster speeds and feeds.
- All around type corresponding to the work that is wide from cast iron to steel.

被加工孔狀態 Prepared Hole



規格 / Reamers specification tables 刃徑公差 (+0.005 / 0) (m/m)

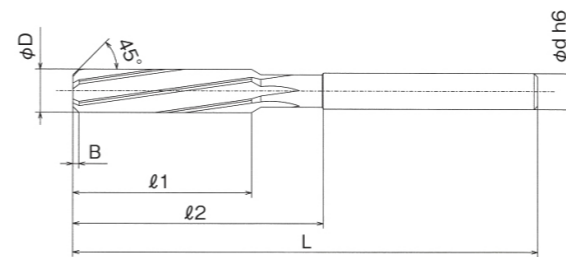
刃徑 Diameter	刃長 Flute Length	全長 Overall Length	柄徑(h6) Shank Diameter	咬入長 Chamfer of length	刃數 Number of Flutes	
1.000 ~ 1.005	12	50	2.5	0.2	4	
1.010 ~ 1.305	15			0.3		
1.310 ~ 1.505	16			0.4		
1.510 ~ 2.005	18					
2.010 ~ 2.505	20	60	3.0	0.5		
2.510 ~ 2.905						
2.910 ~ 3.005	27	70	4.5	0.8		
3.010 ~ 3.505						
3.510 ~ 4.005						
4.010 ~ 4.505	30	80	5.5	1.0		
4.510 ~ 5.005						
5.010 ~ 5.505	35	90	6.0	1.0		
5.600 ~ 6.005						
6.010 ~ 7.005						
7.010 ~ 8.005	40	90	7.0	1.0		
8.010 ~ 9.005						
9.010 ~ 10.005	45	90	8.0	1.0		
10.010 ~ 11.005						
11.010 ~ 12.100			12.0			

▪ 本產品經由中心孔再研磨刀刃外徑，保持刀具同心與高真圓度 / Precision grinding via centers maintains the tool's concentricity and exceptional circular accuracy.
 ▪ 接受客製化訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
 ▪ 若產品尺寸規格有異動不會另行通知 / Specifications are subject to change without prior notice.

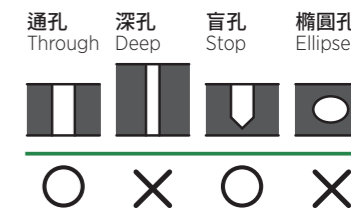
鎢鋼超硬鉸刀系列 Carbide Reamers Series

鎢鋼超硬直柄螺旋刃機械鉸刀 - 短刃A型 / (自動車床用) Carbide Chucking Reamers (A Type) / for Automatic lathe

CA



被加工孔狀態 Prepared Hole



規格 / Reamers specification tables

刃徑公差 (+0.005 / 0) (m/m)

刃徑 Diameter	刃長ℓ1 Flute Length	有效長ℓ2 Effective Length	全長 L Overall Length	φd柄徑 Shank Diameter	倒角長B Chamfer Length	刃數 Number of Flutes
CA 1.000 ~ 1.100	12	-	40	3.0	0.2	4
CA 1.105 ~ 1.600	16	-				
CA 1.605 ~ 2.100		-				
CA 2.105 ~ 2.600		-				
CA 2.605 ~ 2.895		-	60	3.0	0.3	
CA 2.900 ~ 3.100						
CA 3.105 ~ 3.605 (1/8", 9/64")		30	60	3.0	0.4	
CA 3.610 ~ 4.100 (5/32")						
CA 4.105 ~ 5.100 (11/64", 3/16")			65	4.0	0.5	
CA 5.105 ~ 5.600 (13/64", 7/32")						
CA 5.605 ~ 6.100 (15/64")			65	5.0	0.5	
CA 6.105 ~ 6.605 (1/4")						
CA 6.610 ~ 7.100 (17/64")			70	6.0	0.5	
CA 7.105 ~ 8.100 (9/32", 19/64", 5/16")						
CA 8.105 ~ 8.600 (21/64")			70	8.0	0.5	
CA 8.605 ~ 9.100 (11/32")						
CA 9.105 ~ 10.100 (23/64", 3/8", 25/64")			80	10.0	0.5	
CA 10.105 ~ 10.600 (13/32")						
CA 10.605 ~ 11.100 (27/64")			80	10.0	0.5	
CA 11.105 ~ 12.100 (7/16", 29/64", 15/32")						

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鎢鋼超硬鉸刀系列 Carbide Reamers Series

鎢鋼超硬直柄螺旋刃機械鉸刀 - 標準型

Carbide Chucking Reamers with Straight shank - Standard Type

CCSR / (m5)
CCSRM



被加工孔狀態 Prepared Hole



規格 / Reamers specification tables

刃徑公差 (+0.005 / 0)

(m/m)

刃徑 ϕD Diameter	刃長 l Flute Length	全長 L Overall Length	柄長 l2 Shank Length	倒角長 B Chamfer Length	ϕd 柄徑 Shank Diameter	刃數 Number of Flutes
2.900 ~ 3.105	15	61	30	0.5	3.0	4
3.110 ~ 3.605					3.5	
3.610 ~ 4.105					4.0	
4.110 ~ 4.605	19	75	32	0.8	5.0	6
4.610 ~ 5.105	21	80				
5.110 ~ 5.605	23	86	40	1.0	6.0	
5.610 ~ 6.105	26	93				
6.110 ~ 6.605	31	109	45	1.0	8.0	
6.610 ~ 7.105						
7.110 ~ 7.605						
7.610 ~ 8.105	33	117	50	1.0	10.0	
8.110 ~ 8.605	36	125				
8.610 ~ 9.105	38	133	55	1.0	12.0	
9.110 ~ 9.605						
9.610 ~ 10.105						
10.110 ~ 10.605	41	142	60	1.0	12.0	
10.610 ~ 11.105						
11.110 ~ 11.605						
11.610 ~ 12.100	44	151				

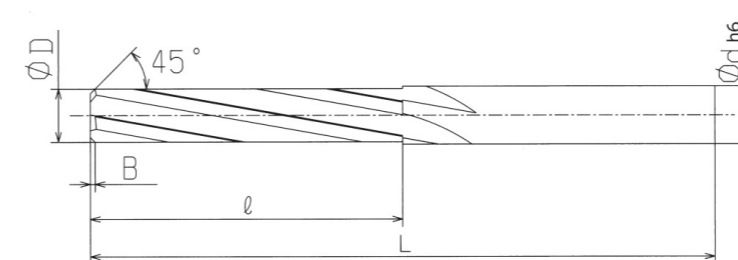
- 本產品經由中心孔再研磨刀刃外徑，保持刀具同心與高真圓度 / Precision grinding via centers maintains the tool's concentricity and exceptional circular accuracy.
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鎢鋼超硬鉸刀系列 Carbide Reamers Series

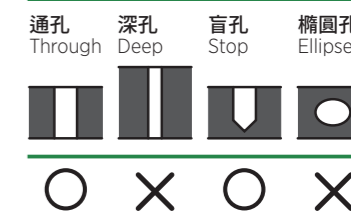
鎢鋼超硬直柄螺旋刃機械鉸刀 / 高硬度 / 難切削材用

Carbide Chucking Reamers / for Hardened steel / for Difficult-to-cut Materials

CF



被加工孔狀態 Prepared Hole



規格 / Reamers specification tables

刃徑公差 (+0.005 / 0)

(m/m)

刃徑 ϕD Diameter	刃長 l Flute Length	全長 L Overall Length	ϕd 柄徑 Shank Diameter	咬入長 Chamfer of length	刃數 Number of Flutes
1.00	15	50	2.5	0.2	4
1.01 ~ 1.50					
1.51 ~ 1.60					
1.61 ~ 1.80	25	60	3.0	0.3	
1.81 ~ 2.00				0.4	
2.01 ~ 2.50	30	70	4.0	0.5	
2.51 ~ 2.90					
2.91 ~ 3.00					
3.01 ~ 3.50	40	80	6.0	0.8	
3.51 ~ 4.00					
4.01 ~ 4.50					
4.51 ~ 5.00	50	100	8.0	1.0	
5.01 ~ 5.50					
5.51 ~ 6.00					
6.01 ~ 6.50	60	115	10.0	1.0	
6.51 ~ 7.00					
7.01 ~ 7.50					
7.51 ~ 8.00	65	130	12.0	1.0	
8.01 ~ 8.50					
8.51 ~ 9.00					
9.01 ~ 9.50	65	130	12.0	1.0	
9.51 ~ 10.00					
10.01 ~ 10.50					
10.51 ~ 11.00	65	130	12.0	1.0	
11.01 ~ 11.50					
11.51 ~ 11.99					
12.00 ~ 12.10					

- 本產品經由中心孔再研磨刀刃外徑，保持刀具同心與高真圓度 / Precision grinding via centers maintains the tool's concentricity and exceptional circular accuracy.
- 接受客製訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
- 若產品尺寸規格有異動不會另行通知 / Specifications are subject to change without prior notice.

高速鋼鉸刀系列 HSS Speed Steel Reamers Series

手鉸刀 Hand Reamers

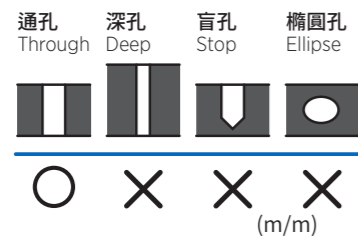
HR / (m5)
HRM



HRSP / (m5)



被加工孔狀態 Prepared Hole



規格 / Reamers specification tables

刃徑 ϕD Diameter	刃長 l Flute Length	全長 L Overall Length	柄長 l2 Shank Length	倒角長 B Chamfer Length
1/8"	40	72	23	8
3/16"	45	90	35	9
1/4"	50	100	38	10
5/16"	60	115	42	12
3/8"	70	130	45	13
7/16"	75	140	50	15
1/2"	80	160	62	16
9/16"	90	170	62	18
5/8"	95	185	70	19
11/16"	105	200	75	21
3/4"	105	210	85	21
13/16"	120	230	88	22
7/8"	130	250	95	22
15/16"	130	255	100	22
1"	140	270	102	23

規格 / Reamers specification tables

刃徑 ϕD Diameter	刃長 l Flute Length	全長 L Overall Length	倒角長 B Chamfer Length	柄長 l2 Shank Length	刃數 Number of Flutes		
2.900 ~ 2.955	40	72	8	23	6		
3.000 ~ 3.105		75		26			
3.110 ~ 3.605		80		30			
3.610 ~ 4.005		45		85		9	35
4.010 ~ 4.105	90		10	38			
4.110 ~ 4.605	95						
4.610 ~ 5.005	50	100	11	42			
5.010 ~ 5.105		105				12	45
5.110 ~ 5.605		110					
5.610 ~ 5.995	55	115	13	50			
6.000 ~ 6.605		120				14	54
6.610 ~ 6.995		125					
7.000 ~ 7.105	60	130	15	58			
7.110 ~ 7.605		135			16	62	
7.610 ~ 7.905		140					
7.910 ~ 7.995	65	145	17	66			
8.000 ~ 8.105		150			18	70	
8.110 ~ 8.605		155					
8.610 ~ 8.905	70	160	19	75			
8.910 ~ 8.995		165			20	85	
9.000 ~ 9.605		170					
9.610 ~ 9.905	75	175	21	88			
9.910 ~ 9.995		185			22	90	
10.000 ~ 10.105		190					
10.110 ~ 10.605	80	195	22	95			
10.610 ~ 10.905		200			23	102	
10.910 ~ 11.105		210					
11.110 ~ 11.605	85	215	23	102			
11.610 ~ 12.105		220			23	102	
12.110 ~ 12.605		230					
12.610 ~ 13.105	90	235	23	102			
13.110 ~ 14.105		240			23	102	
14.110 ~ 14.605		250					
14.610 ~ 15.105	95	255	23	102			
15.110 ~ 16.105		260			23	102	
16.110 ~ 17.105		270					
17.110 ~ 18.105	100	275	23	102			
18.110 ~ 19.105		280			23	102	
19.110 ~ 20.105		285					
20.110 ~ 21.105	105	290	23	102			
21.110 ~ 22.105		295			23	102	
22.110 ~ 23.105		300					
23.110 ~ 24.105	110	305	23	102			
24.110 ~ 25.105		310			23	102	
25.110 ~ 26.105		315					

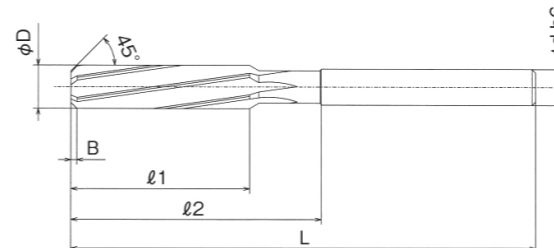
接受客製化訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
若產品尺寸規格有異動不會另行通知。
Specifications are subject to change without prior notice.

高速鋼鉸刀系列 HSS Speed Steel Reamers Series

直柄螺旋刃機械鉸刀 - 短刃A型 / (自動車床用)

Spiral Chucking Reamers (Short Reamer) / for Automatic lathe

HA



被加工孔狀態 Prepared Hole



規格 / Reamers specification tables

刃徑 Diameter	刃長 l1 Flute Length	有效長 l2 Effective Length	全長 L Overall Length	ϕd 柄徑 Shank Diameter	倒角長 B Chamfer Length	刃數 Number of Flutes		
HA 1.000 ~ 1.100	12	-	40	3.0	0.2	4		
HA 1.105 ~ 1.600	16	-						
HA 1.605 ~ 2.100	20	-	50		0.3		6	
HA 2.105 ~ 2.600		-	60					0.4
HA 2.605 ~ 2.895		-			65			
HA 2.900 ~ 3.100		30	60					
HA 3.105 ~ 3.605 (1/8", 9/64")	35	65	70		6.0	8		
HA 3.610 ~ 4.100 (5/32")								*3.55
HA 4.105 ~ 5.100 (11/64", 3/16")							4.0	5.0
HA 5.105 ~ 5.600 (13/64", 7/32")	5.0	6.0						
HA 5.605 ~ 6.100 (15/64")			25		70		8.0	10
HA 6.105 ~ 6.605 (1/4")	6.0	7.0						
HA 6.610 ~ 7.100 (17/64")				8.0				
HA 7.105 ~ 8.100 (9/32", 19/64", 5/16")	30	45	80		10			
HA 8.105 ~ 8.600 (21/64")				8.0			9.0	
HA 8.605 ~ 9.100 (11/32")								
HA 9.105 ~ 10.100 (23/64", 3/8", 25/64")	10.0	11.0	12.0					
HA 10.105 ~ 10.600 (13/32")				11.0			12.0	
HA 10.605 ~ 11.100 (27/64")						12.0		
HA 11.105 ~ 12.100 (7/16", 29/64", 15/32")	13.0	14.0	15.0					
				14.0		15.0		
							15.0	

*For DIN 8089

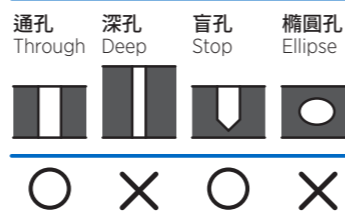
接受客製化訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
若產品尺寸規格有異動不會另行通知。 / Specifications are subject to change without prior notice.

高速鋼鉸刀系列 HSS Speed Steel Reamers Series

直柄螺旋刃機械鉸刀 - 標準型
Spiral Chucking Reamers with Straight Shank

HCSR / (m5)
HCSRm

被加工孔狀態 Prepared Hole



規格 / Reamers specification tables HSS-Co 刃徑公差 (+0.005 / 0) (m/m)

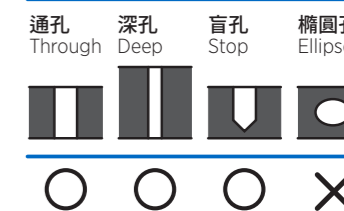
刃徑 Diameter	刃長l1 Flute Length	全長L Overall Length	柄長l2 Shank Length	倒角長B Chamfer Length	φd柄徑 Shank Diameter	刃數 Number of Flutes
HCSR 2.900 ~ 3.105	15	61	30	0.5	3.0	4
HCSR 3.110 ~ 3.605					3.5	
HCSR 3.610 ~ 4.105	19	75	32		4.0	
HCSR 4.110 ~ 4.605	21	80	35		4.0	
HCSR 4.610 ~ 5.105	23	86	40	0.8	5.0	6
HCSR 5.110 ~ 5.605	26	93			6.0	
HCSR 5.610 ~ 6.105			6.0			
HCSR 6.110 ~ 6.605			6.0			
HCSR 6.610 ~ 7.105	31	109	45	1.0	8.0	
HCSR 7.110 ~ 7.605					8.0	
HCSR 7.610 ~ 8.105	33	117	50		8.0	
HCSR 8.110 ~ 8.605	36	125	55		10.0	
HCSR 8.610 ~ 9.105				10.0		
HCSR 9.110 ~ 9.605	38	133	60	1.0	12.0	
HCSR 9.610 ~ 10.105					12.0	
HCSR 10.110 ~ 10.605	41	142	10.0			
HCSR 10.610 ~ 11.105	44	151	60		12.0	
HCSR 11.110 ~ 11.605				12.0		
HCSR 11.610 ~ 12.100	44	151	60	12.0		

高速鋼鉸刀系列 HSS Speed Steel Reamers Series

直柄螺旋刃機械鉸刀 - 深孔加工型
Long type Chucking Reamers with Straight Shank

HLSR / (m5)
HLSRM

被加工孔狀態 Prepared Hole



規格 / Reamers specification tables HSS-Co 刃徑公差 (+0.005 / 0) (m/m)

外徑 Diameter	全長 Overall Length	刃長 Flute Length	柄徑(h6) Shank Diameter	刃數 Number of Flutes
HLSR 3.51 ~ 3.60	110	30	3.0	6
HLSR 3.61 ~ 4.10	110	30	3.5	
HLSR 4.11 ~ 4.50	120	30	3.5	
HLSR 4.51 ~ 4.99	120	30	4.0	
HLSR 5.00 ~ 5.50	120	30	4.0	
HLSR 5.51 ~ 5.99	130	30	5.0	
HLSR 6.00 ~ 6.10	130	30	5.0	
HLSR 6.11 ~ 6.59	130	35	5.0	
HLSR 6.60 ~ 7.10	140	35	6.0	
HLSR 7.11 ~ 7.59	140	35	6.0	
HLSR 7.60 ~ 7.99	150	40	6.0	
HLSR 8.00 ~ 8.59	150	40	6.0	
HLSR 8.60 ~ 8.99	160	40	8.0	
HLSR 9.00 ~ 9.99	160	40	8.0	
HLSR 10.00 ~ 10.60	160	40	8.0	
HLSR 10.61 ~ 10.99	170	45	8.0	
HLSR 11.00 ~ 11.60	170	45	8.0	
HLSR 11.61 ~ 12.10	170	45	10.0	
HLSR 12.90 ~ 12.99	180	40	10.0	
HLSR 13.00 ~ 13.10	180	40	10.0	
HLSR 13.90 ~ 13.99	190	50	10.0	
HLSR 14.00 ~ 14.10	190	50	10.0	
HLSR 14.90 ~ 14.99	200	50	12.0	
HLSR 15.00 ~ 15.10	200	50	12.0	
HLSR 15.90 ~ 15.99	200	50	12.0	
HLSR 16.00 ~ 16.10	200	50	12.0	
HLSR 16.90 ~ 16.99	220	55	12.0	
HLSR 17.00 ~ 17.10	220	55	12.0	
HLSR 17.90 ~ 17.99	220	55	12.0	
HLSR 18.00 ~ 18.10	220	55	12.0	
HLSR 18.90 ~ 18.99	220	55	12.0	
HLSR 19.00 ~ 19.10	220	55	12.0	
HLSR 19.90 ~ 19.99	230	60	16.0	
HLSR 20.00 ~ 20.10	230	60	16.0	
HLSR 1/8	90	20	3.0	
HLSR 5/32	110	30	3.5	
HLSR 3/16	120	30	4.0	
HLSR 1/4	130	35	5.0	
HLSR 5/16	150	40	6.0	
HLSR 3/8	160	40	8.0	
HLSR 7/16	170	45	8.0	
HLSR 1/2	180	45	10.0	
HLSR 5/8	200	50	12.0	
HLSR 3/4	220	55	12.0	

接受客製化訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
若產品尺寸規格有異動不會另行通知 / Specifications are subject to change without prior notice.

高速鋼鉸刀系列 HSS Speed Steel Reamers Series

推拔刃鉸刀
Taper Pin Reamers
(1/48)



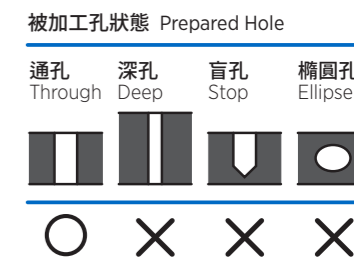
規格 / Reamers specification tables

產品編號 Code No.	小端直徑 Diameter of Small End	大端直徑 Diameter of Large End	刃長 l (mm) Flute Length	全長 L (mm) Overall Length	柄徑 d (mm) Shank Diameter
#4/0	2.23	2.90	32	58	4
#3/0	2.56	3.29	35	62	
#2/0	2.89	3.68	38	70	
#0	3.22	4.10	42	70	
#1	3.70	4.64	45	75	5
#2	4.11	5.19	52	82	
#3	4.64	5.85	58	90	
#4	5.28	6.63	65	105	
#5	6.09	7.72	78	115	
#6	7.08	9.00	92	130	
#7	8.40	10.80	115	155	
#8	10.11	12.92	135	175	
#9	12.24	15.47	155	205	13
#10	14.75	18.50	180	230	16
#11	17.93	22.31	210	285	19
#12	21.38	26.69	255	340	23

▪ 接受客製化訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
▪ 若產品尺寸規格有異動不會另行通知 / Specifications are subject to change without prior notice.

高速鋼鉸刀系列 HSS Speed Steel Reamers Series

推拔刃鉸刀
Taper Pin Reamers
(1/50)



規格 / Reamers specification tables

規格 Size	小端直徑 Diameter of Small End	大端直徑 Diameter of Large End	刃長 l (mm) Flute Length	全長 L (mm) Overall Length	刃數 Nos. of Blades	柄徑 d (mm) Shank Diameter
3.0	2.90	4.16	63	95	6	4
● 4.0	3.90	5.42	76	107	6	5 6
5.0	4.90	6.56	83	115	6	6
6.0	5.90	8.00	105	140	6	8
7.0	6.90	9.24	117	155	6	10
8.0	7.90	10.80	145	185	6	12
9.0	8.90	12.00	155	195	6	14
10.0	9.90	13.40	175	220	8	16
11.0	10.80	14.30	175	220	8	18
12.0	11.80	15.60	190	235	8	20
13.0	12.80	17.00	210	255	8	22
14.0	13.80	18.00	210	260	8	
15.0	14.80	19.20	220	270	8	
16.0	15.80	20.40	230	280	8	
17.0	16.80	21.50	235	290	8	
18.0	17.80	22.60	240	300	8	
19.0	18.80	23.80	250	310	8	
20.0	19.80	24.80	250	330	8	

▪ 4.0mm另有柄徑6.00mm規格品 / 4.0mm Also have Shank Dia. 6.00mm standard.

▪ 接受客製化訂做 / Custom sizes are available upon request for both straight and spiral flute designs.
▪ 若產品尺寸規格有異動不會另行通知 / Specifications are subject to change without prior notice.

關於鉸刀加工 About the reamer processing

鉸刀是對於事先以鑽頭或沖床開孔後加以擴孔，完成精度優良之孔穴細加工用之工具，在鉸孔加工時，必需事先確認下列幾點：

A reamer is a tool used for precision finishing of holes that have been pre-drilled or punched, in order to achieve high accuracy hole dimensions and surface quality.

Before performing the reaming process, the following factors must be confirmed:

- ① 被要求之最後孔徑(公差)與面粗度
 - ▶ Required final hole diameter (tolerance) and surface roughness.
- ② 被削材種及其硬度
 - ▶ Work material and its hardness.
- ③ 要加工之孔形狀與深度
 - ▶ Shape and depth of the hole.
- ④ 加工所需使用之機械設備、保持工具、切削液及加工限制等
 - ▶ Machine tool, tool holding devices, cutting fluid, and processing limitations.

考慮上述各項後再選定適合加工之鉸刀工具以及決定其切削條件為要。但是，使用鉸刀而亟欲獲得最重要之上述①之加工精度時，由於②③④作業時，導致環境所影響而常有精度變動之情況發生。

After considering the above factors, an appropriate reamer and cutting conditions should be selected. However, when aiming to achieve the most critical factor—final hole accuracy ①, variations may still occur due to the influence of items ②③, and ④ during operation.

The general characteristics and hole accuracy of reamers are described as follows. Please use this information to select the most suitable reamer and cutting conditions according to your working environment.

鎢鋼超硬鉸刀 | 推薦切削條件

Recommended Cutting Condition for Carbide Reamers

被削材 Work Material	一般構造用鋼 Structural Steels SS400	炭素鋼 Carbon Steels S45C,S50C	鑄鐵·合金鋼 Cast Iron,Alloy Steels FC,FCD,SCM,SKD	調質鋼 Hardened Steels		不鏽鋼 Stainless Steels SUS304	鋁合金 Aluminum Alloys A2024,A7075
				(30~40HRC)	(~50HRC)		
切削速度 Cutting Speed	8~20 m/min	9~15m/min	8~15m/min	5~12m/min	5~10m/min	5~10m/min	15~22m/min
刃徑 Dia. (mm)	預留量 Removal Amount (mm/Dia)	進給量 Feed (mm/rev)	進給量 Feed (mm/rev)	進給量 Feed (mm/rev)	進給量 Feed (mm/rev)	進給量 Feed (mm/rev)	進給量 Feed (mm/rev)
2	0.1~0.2	0.05~0.1	0.05~0.1	0.05~0.1	0.02~0.05	0.02~0.05	0.1~0.3
4	0.1~0.2	0.05~0.1	0.08~0.15	0.05~0.1	0.05~0.1	0.05~0.1	0.1~0.3
6	0.2~0.3	0.08~0.15	0.1~0.2	0.08~0.15	0.08~0.15	0.05~0.1	0.1~0.3
8	0.2~0.3	0.1~0.2	0.1~0.3	0.1~0.2	0.08~0.15	0.08~0.15	0.2~0.4
10	0.2~0.3	0.1~0.3	0.1~0.3	0.1~0.3	0.1~0.2	0.1~0.2	0.2~0.4
12	0.2~0.3	0.15~0.35	0.2~0.4	0.1~0.3	0.1~0.25	0.1~0.3	0.3~0.5
14	0.2~0.3	0.15~0.35	0.2~0.4	0.1~0.3	0.1~0.25	0.1~0.3	0.3~0.5
16	0.3~0.5	0.2~0.4	0.3~0.5	0.2~0.4	0.15~0.35	0.15~0.35	0.3~0.5
18	0.3~0.5	0.2~0.4	0.3~0.5	0.2~0.4	0.1~0.35	0.1~0.3	0.3~0.5
20	0.3~0.5	0.3~0.5	0.3~0.5	0.3~0.5	0.2~0.4	0.1~0.35	0.3~0.6

註：鉸孔加工依使用機械及作業條件不同而其最佳切削條件亦隨之變動，因此加工時應做適當的調整。
Since optimal cutting conditions vary significantly based on the specific machine tool and operating environment, it is essential to adjust the reaming parameters accordingly for best results.

HSS 高速鋼鉸刀 | 推薦切削條件

Recommended Cutting Conditions for HSS Reamers

被削材 Work Material	鑄鐵 Cast Iron FCD60	炭素鋼 Carbon Steels S45C,S50C	合金鋼 Alloy Steels SCM,SKD	不鏽鋼 Stainless Steels SUS304	銅合金 Copper Alloy C2600B,BC	鋁合金 Aluminum Alloy A2024,A7075
刃徑 Dia. (mm)	削除量 Removal Amount (mm/Dia)	進給量 Feed	進給量 Feed	進給量 Feed	進給量 Feed	進給量 Feed
2.0~4.0	0.1~0.2	0.1~0.2	0.1~0.2	0.1~0.2	0.1~0.2	0.1~0.2
~20.0	0.1~0.2	0.2~0.4	0.1~0.3	0.1~0.3	0.2~0.3	0.2~0.3

註：鉸孔加工依使用機械及作業條件不同而其最佳切削條件亦隨之變動，因此加工時應做適當的調整。
Since optimal cutting conditions vary significantly based on the specific machine tool and operating environment, it is essential to adjust the reaming parameters accordingly for best results.

鉸刀之刀刃形狀特徵 Feature by blade shape of the reamer

鉸刀細加工時會使面粗度變好的原因在於切削後外周刃有磨光作用的關係。以刃型顯示其特長與效果之不同。

During the reaming process, the peripheral cutting edges produce a burnishing effect, resulting in improved surface finish. The following outlines the differences in performance and characteristics based on blade geometry.

直刃 Straight flute

- ▶ 最普遍被使用。
This is the most standard and widely used type.
- ▶ 再研磨較容易。
It offers ease of re-sharpening and is more economical than spiral-fluted alternatives.

螺旋刃 Spiral flute

- ▶ 比直刃有較大之磨光效果，將有效提升加工面粗度。
Compared to straight flutes, a stronger burnishing effect generally improves surface finish.
- ▶ 然而，過度磨光可能導致工具磨損或積屑，這可能會影響表面粗糙度。
However, excessive burnishing may cause tool wear or built-up edge, which can negatively affect surface roughness.
- ▶ 如有鍵槽類之缺溝孔更為有效。
It is particularly effective for holes with interruptions such as keyways or grooves.
- ▶ 有左螺旋與右螺旋。
Available in both left-hand and right-hand helix types (right-hand cutting).

左螺旋 Left helix

- ▶ 比直刃型其磨光效果較大，可提升加工面粗度。
Compared to straight-fluted reamers, the surface finish is improved due to the burnishing effect.
- ▶ 切削性稍差，孔徑之擴大消除量小。
Although the cutting efficiency is slightly lower, it is highly effective for soft materials.
- ▶ 下孔有彎曲時，較會順其曲線。
If the pre-drilled hole is misaligned or curved, the reamer tends to follow the existing path.

右螺旋 Right helix

- ▶ 孔徑擴大消除量較大。
It is highly effective for machining harder materials due to its excellent cutting penetration.
- ▶ 有助於排除切屑方向之作用，適於盲孔之加工。
The chip evacuation design makes it ideal for blind hole applications.
- ▶ 下孔有彎曲時，比左刃有矯正作用。
It provides a superior rectifying effect compared to left-hand helix reamers when encountering slightly curved pre-drilled holes.

表-1. (由JIS摘錄) (unit: μm)

尺寸區分 Classification of dimension		孔公差 Dimensional tolerance for holes		鉸刀公差 Reamer tolerance
以上 Above	以下 Below	H7	H8	m5
—	3	+0.010 0	+0.014 0	+0.006 +0.002
3	6	+0.012 0	+0.018 0	+0.009 +0.004
6	10	+0.015 0	+0.022 0	+0.012 +0.006
10	18	+0.018 0	+0.027 0	+0.015 +0.017
18	30	+0.021 0	+0.033 0	+0.017 +0.008
30	50	+0.025 0	+0.039 0	+0.020 +0.009
50	80	+0.030 0	+0.046 0	+0.024 +0.011
80	120	+0.035 0	+0.054 0	+0.028 +0.013

表-2. (由JIS摘錄) (unit: μm)

被削材 Work materials	孔之傾向 Tendency of holes	超硬鉸刀 Carbide Reamers			高速鋼鉸刀 High speed steels Reamers		
		切削速度 Cutting Speed (m/min)	預留消除量 Stock amount (mm)	面粗度之期待值 Expected value of Surface roughness	切削速度 Cutting Speed (m/min)	預留消除量 Stock amount (mm)	面粗度之期待值 Expected value of Surface roughness
一般構造用鋼 SS Structural steels	大 Widen	8~20	0.2~0.3	12.5S	5~12	0.2~0.3	12.5S
炭素鋼 SC Carbon steels	大 Widen	10~20	0.2~0.3	6.3S	3~10	0.2~0.3	12.5S
合金鋼 SCM,SUJ Alloy steels	大 Widen	7~15	0.2~0.3	6.3S	3~6	0.2~0.3	12.5S
工具鋼 SK,SKD Tool steels	大 Widen	5~15	0.2~0.3	6.3S	3~4	0.2~0.3	6.3S
調質鋼 Hardened steels	~28HRC	大 Widen	0.15~0.25	6.3S	—	—	—
	~40HRC	小 Narrow	0.1~0.2	6.3S	—	—	—
鑄鐵 FC,FCD Cast iron	大 Widen	7~15	0.2~0.3	6.3S	4~8	0.2~0.3	6.3S
不鏽鋼 SUS Stainless steels	小 Narrow	5~15	0.2~0.3	6.3S	3~4	0.2~0.3	6.3S
鋁 A,AC Aluminum	小 Narrow	15~30	0.2~0.3	3.2S	10~20	0.2~0.3	6.3S
銅合金 Copper Alloys	大 Widen	10~25	0.2~0.3	6.3S	8~15	0.2~0.3	6.3S

