



Reamers

全系列鉸刀

NEW Series

**High Hardness • Difficult To
Cut Material • Coolant Hole**

高硬度•難削材用•內冷孔



SOLID CARBIDE



7-Leaders Corp. specializes in production and marketing of tungsten carbide cutting tools such as End mills, Drills, Reamers, and etc.

Established in 1990 by Mr. Jack Lee, the company manufactures high quality products and provides best services along with the trade mark "7leaders®" all over the world. 7Leaders manufactures solid carbide cutting tools for Mold& Die, Machine Tools, Automotive, Aerospace, 3C, Watches, Optical and Medical solutions.

We keep integrating marketing in all kinds of cutting tools and providing the best quality products to our customers. We aim to become a leading brand name in the cutting tools industry.



七駿科技股份有限公司為董事長李啟樂先生於1990年創立，主要從事銑刀、鑽頭、鉸刀等各種不同碳化鎢鋼切削刀具的生產與銷售。以“7leaders®”行銷全球，提供高品質產品與優越服務。

所研製的刀具，主要應用於模具、機械配件、汽機車、航太、3C、鐘錶眼鏡、運動器材、醫療業。營運範圍遍及兩岸三地以及歐洲、亞洲、中美洲、巴西等國家。

未來七駿將整合各式樣系列的碳化鎢鋼切削刀具銷售業務，致力滿足客戶對刀具的所有需求，成為超越全球的領導品牌。

Reamers Series 超微粒鎢鋼全系列鉸刀

Machine Reamers



R208TX 超微粒鎢鋼塗層NC機械鉸刀(高硬度用)

NC Machine Reamers (High Hardness)

右螺旋右切刃設計，等分割刃設計，易修磨。

排屑方向往上。

適用切削於62HRC以下各種鋼鐵、不鏽鋼及鑄鐵、銅...等材料鉸孔應用。

搭配AlTiSiN奈米多層膜塗層，具有極佳的耐磨耗性，適合高硬度鉸加工用。

刃徑精度公差：H7 (m5)

0/+0.004mm



R212TX 超微粒鎢鋼塗層NC機械鉸刀(高硬度•難削材用•內冷孔)

NC Machine Reamers (High Hardness • Difficult To Cut Material • Coolant Hole)

左螺旋右切刃設計，不等分割刃設計。

排屑方向往下。

適用切削於62HRC以下各種鋼鐵、不鏽鋼、高溫合金及鑄鐵、銅...等材料鉸孔應用。

具有內冷孔，刃部冷卻極高鉸孔壽命。

搭配AlTiSiN奈米多層膜塗層，具有極佳的耐磨耗性，適合高硬度鉸加工用。

刃徑精度公差：H7 (m5)

0/+0.004mm



R319 超微粒鎢鋼NC精密機械鉸刀 每0.01mm-尺寸

High Precision NC Machine Reamers In Steps of 0.01mm

左螺旋右切刃設計，不等分割刃設計。

排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。

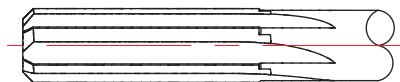
刃徑精度公差：0/+0.004mm

鉸刀刀刃螺旋角之特徵

Feature of Reamers Helix

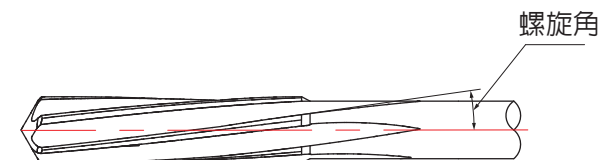
■ 直刃右切刃

直刃再研磨較為容易，比螺旋刃經濟。
一般普遍使用，均適合通孔及盲孔之加工。



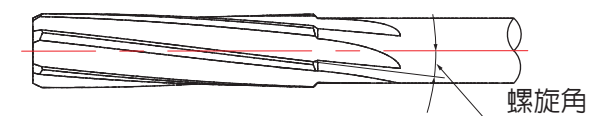
■ 左螺旋右切刃

比直刃鉸刀鉸光效果大，可提高表面粗糙度。
切削力較差，孔徑預留量較小。
排屑的方向會向前，較不影響已鉸過孔壁。
不適合盲孔之加工。



■ 右螺旋右切刃

比左螺旋鉸刀鉸光效果稍差。
切削力較好，孔徑預留量可較大。
排屑的方向會向後，會影響已鉸過孔壁。
均適合通孔及盲孔之加工。



鉸刀直徑公差

Reamers Tolerance



















對於孔徑公差要求，一般公差帶 H7, H8 為優先選項。

鉸刀直徑公差依 DIN 1420 H7 的公差域生產(請參考表一)，因此通常鉸孔應相對的公差範圍內，可以正常地使用鉸刀。但是，必須考慮到鉸孔的尺寸取決於鉸刀直徑公差以及其他因素，例如切削刃上的角度、鉸刀的倒角、工件夾緊、鉸刀安裝偏擺因素、機床狀態、潤滑以及被加工的材料特性。

表一、孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分 (mm)		鉸刀刃徑製造公差 (mm)		鉸刀直徑公差 (mm)		孔的公差 (mm)	
以上	以下	下限	上限	m5 (JIS)	H7 (DIN 1420)	H7	H8
-	3	+0.004	+0.006	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014
3	6	+0.005	+0.009	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018
6	10	+0.007	+0.011	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022
10	18	+0.009	+0.013	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027
18	30	+0.011	+0.015	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033
30	50	+0.013	+0.019	+0.009/+0.020	+0.012/+0.021	0/+0.025	0/+0.039

銼刀 Reamers

Page	3	6	9	10	11	15
Apperance						
Code No	R208TX	R212TX	R300	R301	R307	R308
Carbide	VHM Carbide	VHM Carbide	VHM Carbide	VHM Carbide	VHM Carbide	VHM Carbide
Coating	AlTiSiN	AlTiSiN	Uncoated Bright	Uncoated Bright	Uncoated Bright	Uncoated Bright
Helix Angle	 R 8°	 L 12°	 0°	 L 7°	 0°	 L 7°
No.of Flutes		 Z	 Z	 Z	 Z	 Z

鋼鐵、鑄鐵、不鏽鋼、鋁、銅用
**Steel, Cast Iron, Stainless,
 Aluminium, Copper**

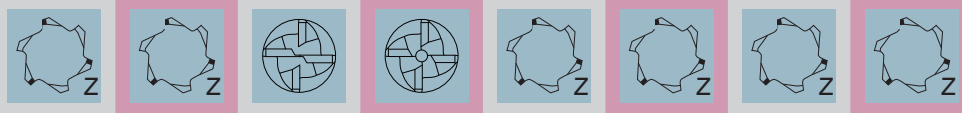
19 21 23 27 29 30 33 37



R318 R319 R328 R329 R302 R303 R391 R392

VHM Carbide VHM Carbide VHM Carbide VHM Carbide VHM Carbide HM Carbide Tipped MG Carbide MG Carbide

Uncoated Bright Uncoated Bright Uncoated Bright Uncoated Bright Uncoated Bright Uncoated Bright Uncoated Bright Uncoated Bright



R208TX 超微粒鎢鋼塗層NC機械鉸刀(高硬度用)

NC Machine Reamers (High Hardness)

Designed with right helix and right cutting flutes with equal flute design, which is easy for regrinding.

Upward chip evacuation.

Application for reaming different steels below 62HRC, stainless steel, cast iron, copper...and etc.

Nano multilayer coating AITiSiN with superior wear resistance is suitable for high hardness materials reaming.

Accuracy tolerance: H7 (m5)
0/+0.004mm

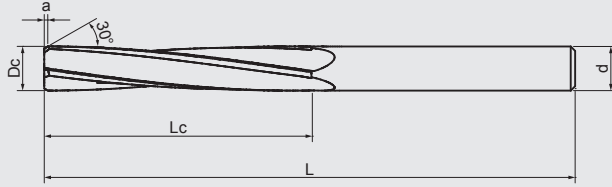
右螺旋右切刃設計，等分割刃設計，易修磨。

排屑方向往上。

適用切削於62HRC以下各種鋼鐵、不銹鋼及鑄鐵、銅...等材料鉸孔應用。

搭配AITiSiN奈米多層膜塗層，具有極佳的耐磨耗性，適合高硬度鉸孔加工用。

刃徑精度公差：H7 (m5)
0/+0.004mm



VHM Carbide **AITiSiN** 8° 不等 Through Hole Blind Hole

孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)	鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)				
	以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3		+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6		+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10		+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18		+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30		+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015



- P**
- H**
- M**
- K**

Standard Length

Code No. R208TX-Dc

Dc mm	Tolerance mm	Lc mm	L mm	a mm	d h5	Z teeth	R208TX AITiSiN
2.97	0/+0.004	40	80	0.4	4	4	●
2.98	0/+0.004	40	80	0.4	4	4	●
2.99	0/+0.004	40	80	0.4	4	4	●
3	H7	40	80	0.4	4	4	●
3.01	0/+0.004	40	80	0.4	4	4	●
3.02	0/+0.004	40	80	0.4	4	4	●
3.03	0/+0.004	40	80	0.4	4	4	●
3.1	H7	40	80	0.4	4	4	●
3.2	H7	40	80	0.4	4	4	●
3.3	H7	40	80	0.4	4	4	●
3.4	H7	40	80	0.4	4	4	●
3.5	H7	40	80	0.4	4	4	●
3.6	H7	40	80	0.5	4	4	●
3.7	H7	40	80	0.5	4	4	●
3.8	H7	40	80	0.5	4	4	●
3.9	H7	40	80	0.5	4	4	●
3.97	0/+0.004	40	80	0.5	4	4	●
3.98	0/+0.004	40	80	0.5	4	4	●
3.99	0/+0.004	40	80	0.5	4	4	●
4	H7	40	80	0.5	4	4	●
4.01	0/+0.004	40	80	0.5	4	4	●
4.02	0/+0.004	40	80	0.5	4	4	●
4.03	0/+0.004	40	80	0.5	4	4	●
4.1	H7	40	80	0.5	6	4	●
4.2	H7	40	80	0.5	6	4	●
4.3	H7	40	80	0.5	6	4	●
4.4	H7	40	80	0.5	6	4	●
4.5	H7	40	80	0.5	6	4	●
4.6	H7	40	80	0.6	6	4	●
4.7	H7	40	80	0.6	6	4	●
4.8	H7	40	80	0.6	6	4	●
4.9	H7	40	80	0.6	6	4	●
4.97	0/+0.004	40	80	0.6	6	4	●
4.98	0/+0.004	40	80	0.6	6	4	●

鋼鐵用高效率立銑刀
鋼鐵、不銹鋼、難削材
多用透立銑刀
鋁用立銑刀
通用、精加工立銑刀
圓頭、R角立銑刀
鑽頭
鉸刀
技術資料

Dc mm	Tolerance mm	Lc mm	L mm	a mm	d h5	Z teeth	R208TX AlTiSiN		
4.99	0/+0.004	40	80	0.6	6	4	●		
5	H7	40	80	0.6	6	4	●		
5.01	0/+0.004	40	80	0.6	6	4	●		
5.02	0/+0.004	40	80	0.6	6	4	●		
5.03	0/+0.004	40	80	0.6	6	4	●		
5.1	H7	50	100	0.6	6	4	●		
5.2	H7	50	100	0.6	6	4	●		
5.3	H7	50	100	0.6	6	4	●		
5.4	H7	50	100	0.6	6	4	●		
5.5	H7	50	100	0.6	6	4	●		
5.6	H7	50	100	0.6	6	4	●		
5.7	H7	50	100	0.6	6	4	●		
5.8	H7	50	100	0.6	6	4	●		
5.9	H7	50	100	0.6	6	4	●		
5.97	0/+0.004	50	100	0.6	6	4	●		
5.98	0/+0.004	50	100	0.6	6	4	●		
5.99	0/+0.004	50	100	0.6	6	4	●		
6	H7	50	100	0.6	6	4	●		
6.01	0/+0.004	50	100	0.6	6	4	●		
6.02	0/+0.004	50	100	0.6	6	4	●		
6.03	0/+0.004	50	100	0.6	6	4	●		
6.1	H7	50	100	0.8	8	4	●		
6.2	H7	50	100	0.8	8	4	●		
6.3	H7	50	100	0.8	8	4	●		
6.4	H7	50	100	0.8	8	4	●		
6.5	H7	50	100	0.8	8	4	●		
6.6	H7	50	100	0.8	8	4	●		
6.7	H7	50	100	0.8	8	4	●		
6.8	H7	50	100	0.8	8	4	●		
6.9	H7	50	100	0.8	8	4	●		
7	H7	50	100	0.8	8	4	●		
7.1	H7	50	100	0.8	8	4	●		
7.2	H7	50	100	0.8	8	4	●		
7.3	H7	50	100	0.8	8	4	●		
7.4	H7	50	100	0.8	8	4	●		
7.5	H7	50	100	0.8	8	4	●		
7.6	H7	50	100	0.8	8	4	●		
7.7	H7	50	100	0.8	8	4	●		
7.8	H7	50	100	0.8	8	4	●		
7.9	H7	50	100	0.8	8	4	●		
7.97	0/+0.004	50	100	0.8	8	4	●		
7.98	0/+0.004	50	100	0.8	8	4	●		
7.99	0/+0.004	50	100	0.8	8	4	●		
8	H7	50	100	0.8	8	4	●		
8.01	0/+0.004	50	100	0.8	8	4	●		
8.02	0/+0.004	50	100	0.8	8	4	●		
8.03	0/+0.004	50	100	0.8	8	4	●		
8.1	H7	60	120	1	10	4	●		
8.2	H7	60	120	1	10	4	●		
8.3	H7	60	120	1	10	4	●		
8.4	H7	60	120	1	10	4	●		
8.5	H7	60	120	1	10	4	●		
8.6	H7	60	120	1	10	4	●		
8.7	H7	60	120	1	10	4	●		
8.8	H7	60	120	1	10	4	●		
8.9	H7	60	120	1	10	4	●		
9	H7	60	120	1	10	4	●		
9.1	H7	60	120	1	10	4	●		
9.2	H7	60	120	1	10	4	●		
9.3	H7	60	120	1	10	4	●		
9.4	H7	60	120	1	10	4	●		
9.5	H7	60	120	1	10	4	●		
9.6	H7	60	120	1	10	4	●		
9.7	H7	60	120	1	10	4	●		

NC Machine Reamers (High Hardness)

Dc mm	Tolerance mm	Lc mm	L mm	a mm	d h5	Z teeth	R208TX AlTiSiN		
9.8	H7	60	120	1	10	4	●		
9.9	H7	60	120	1	10	4	●		
9.97	0/+0.004	60	120	1	10	4	●		
9.98	0/+0.004	60	120	1	10	4	●		
9.99	0/+0.004	60	120	1	10	4	●		
10	H7	60	120	1	10	4	●		
10.01	0/+0.004	60	120	1	10	4	●		
10.02	0/+0.004	60	120	1	10	4	●		
10.03	0/+0.004	60	120	1	10	4	●		
10.1	H7	70	140	1.2	12	4	●		
10.2	H7	70	140	1.2	12	4	●		
10.3	H7	70	140	1.2	12	4	●		
10.4	H7	70	140	1.2	12	4	●		
10.5	H7	70	140	1.2	12	4	●		
10.6	H7	70	140	1.2	12	4	●		
10.7	H7	70	140	1.2	12	4	●		
10.8	H7	70	140	1.2	12	4	●		
10.9	H7	70	140	1.2	12	4	●		
11	H7	70	140	1.2	12	4	●		
11.1	H7	70	140	1.2	12	4	●		
11.2	H7	70	140	1.2	12	4	●		
11.3	H7	70	140	1.2	12	4	●		
11.4	H7	70	140	1.2	12	4	●		
11.5	H7	70	140	1.2	12	4	●		
11.6	H7	70	140	1.2	12	4	●		
11.7	H7	70	140	1.2	12	4	●		
11.8	H7	70	140	1.2	12	4	●		
11.9	H7	70	140	1.2	12	4	●		
11.97	0/+0.004	70	140	1.2	12	4	●		
11.98	0/+0.004	70	140	1.2	12	4	●		
11.99	0/+0.004	70	140	1.2	12	4	●		
12	H7	70	140	1.2	12	4	●		
12.01	0/+0.004	70	140	1.2	12	4	●		
12.02	0/+0.004	70	140	1.2	12	4	●		
12.03	0/+0.004	70	140	1.2	12	4	●		

切削條件參考表請參照P31頁

銅鐵用高效率立銑刀

銅鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

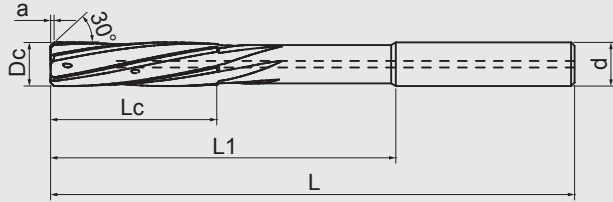
R212TX 超微粒鎢鋼塗層NC機械鉋刀(高硬度·難削材用·內冷孔)

NC Machine Reamers (High Hardness · Difficult To Cut Material · Coolant Hole)



Designed with left helix and right cutting flutes with unequal flute design.
Downward chip evacuation.
Application for reaming different steels below 62HRC, stainless steel, High temp alloys, cast iron, copper...and etc.
Extremely high reaming life with coolant holes for blade cooling.
Nano multilayer coating AlTiSiN with superior wear resistance is suitable for high hardness materials reaming.
Accuracy tolerance: H7 (m5)
0/+0.004mm

左螺旋右切刃設計，不等分割刃設計。
排屑方向往下。
適用切削於62HRC以下各種鋼鐵、不鏽鋼、高溫合金及鑄鐵、銅...等材料鉋孔應用。
具有內冷孔，刃部冷卻極高鉋孔壽命。
搭配AlTiSiN奈米多層膜塗層，具有極佳的耐磨耗性，適合高硬度鉋孔加工用。
刃徑精度公差：H7 (m5)
0/+0.004mm



VHM Carbide
AlTiSiN
L 12°
不等 Z
Steel Hardened Steel Cast Iron Stainless Steel
Through Hole
Blind Hole



- P
- H
- M
- K

孔徑配合尺寸容許範圍與鉋刀直徑公差範圍規範

尺寸區分(mm)		鉋刀直徑公差(mm)		孔的公差(mm)		研磨鉋刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015

Standard Length

Code No. R212TX-Dc

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	d h5	Z teeth	R212TX AlTiSiN		
2.97	0/+0.004	20	42	80	0.4	4	4	●		
2.98	0/+0.004	20	42	80	0.4	4	4	●		
2.99	0/+0.004	20	42	80	0.4	4	4	●		
3	H7	20	42	80	0.4	4	4	●		
3.01	0/+0.004	20	42	80	0.4	4	4	●		
3.02	0/+0.004	20	42	80	0.4	4	4	●		
3.03	0/+0.004	20	42	80	0.4	4	4	●		
3.1	H7	20	42	80	0.4	4	4	○		
3.2	H7	20	42	80	0.4	4	4	○		
3.3	H7	20	42	80	0.4	4	4	○		
3.4	H7	20	42	80	0.4	4	4	○		
3.5	H7	20	42	80	0.4	4	4	●		
3.6	H7	20	42	80	0.5	4	4	○		
3.7	H7	20	42	80	0.5	4	4	○		
3.8	H7	20	42	80	0.5	4	4	○		
3.9	H7	20	42	80	0.5	4	4	○		
3.97	0/+0.004	20	42	80	0.5	4	4	●		
3.98	0/+0.004	20	42	80	0.5	4	4	●		
3.99	0/+0.004	20	42	80	0.5	4	4	●		
4	H7	20	42	80	0.5	4	4	●		
4.01	0/+0.004	20	42	80	0.5	4	4	●		
4.02	0/+0.004	20	42	80	0.5	4	4	●		
4.03	0/+0.004	20	42	80	0.5	4	4	●		
4.1	H7	20	42	80	0.5	6	4	○		
4.2	H7	20	42	80	0.5	6	4	○		
4.3	H7	20	42	80	0.5	6	4	○		
4.4	H7	20	42	80	0.5	6	4	○		
4.5	H7	20	42	80	0.5	6	4	●		
4.6	H7	20	42	80	0.6	6	4	○		
4.7	H7	20	42	80	0.6	6	4	○		
4.8	H7	20	42	80	0.6	6	4	○		
4.9	H7	20	42	80	0.6	6	4	○		
4.97	0/+0.004	20	42	80	0.6	6	4	●		
4.98	0/+0.004	20	42	80	0.6	6	4	●		

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉋刀

技術資料

NC Machine Reamers (High Hardness · Difficult To Cut Material · Coolant Hole)

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	d h5	Z teeth	R212TX AlTiSiN		
4.99	0/+0.004	20	42	80	0.6	6	4	●		
5	H7	20	42	80	0.6	6	4	●		
5.01	0/+0.004	20	42	80	0.6	6	4	●		
5.02	0/+0.004	20	42	80	0.6	6	4	●		
5.03	0/+0.004	20	42	80	0.6	6	4	●		
5.1	H7	25	52	100	0.6	6	6	○		
5.2	H7	25	52	100	0.6	6	6	○		
5.3	H7	25	52	100	0.6	6	6	○		
5.4	H7	25	52	100	0.6	6	6	○		
5.5	H7	25	52	100	0.6	6	6	●		
5.6	H7	25	52	100	0.6	6	6	○		
5.7	H7	25	52	100	0.6	6	6	○		
5.8	H7	25	52	100	0.6	6	6	○		
5.9	H7	25	52	100	0.6	6	6	○		
5.97	0/+0.004	25	52	100	0.6	6	6	●		
5.98	0/+0.004	25	52	100	0.6	6	6	●		
5.99	0/+0.004	25	52	100	0.6	6	6	●		
6	H7	25	52	100	0.6	6	6	●		
6.01	0/+0.004	25	52	100	0.6	6	6	●		
6.02	0/+0.004	25	52	100	0.6	6	6	●		
6.03	0/+0.004	25	52	100	0.6	6	6	●		
6.1	H7	25	52	100	0.8	8	6	○		
6.2	H7	25	52	100	0.8	8	6	○		
6.3	H7	25	52	100	0.8	8	6	○		
6.4	H7	25	52	100	0.8	8	6	○		
6.5	H7	25	52	100	0.8	8	6	●		
6.6	H7	25	52	100	0.8	8	6	○		
6.7	H7	25	52	100	0.8	8	6	○		
6.8	H7	25	52	100	0.8	8	6	○		
6.9	H7	25	52	100	0.8	8	6	○		
7	H7	25	52	100	0.8	8	6	●		
7.1	H7	25	52	100	0.8	8	6	○		
7.2	H7	25	52	100	0.8	8	6	○		
7.3	H7	25	52	100	0.8	8	6	○		
7.4	H7	25	52	100	0.8	8	6	○		
7.5	H7	25	52	100	0.8	8	6	●		
7.6	H7	25	52	100	0.8	8	6	○		
7.7	H7	25	52	100	0.8	8	6	○		
7.8	H7	25	52	100	0.8	8	6	○		
7.9	H7	25	52	100	0.8	8	6	○		
7.97	0/+0.004	25	52	100	0.8	8	6	●		
7.98	0/+0.004	25	52	100	0.8	8	6	●		
7.99	0/+0.004	25	52	100	0.8	8	6	●		
8	H7	25	52	100	0.8	8	6	●		
8.01	0/+0.004	25	52	100	0.8	8	6	●		
8.02	0/+0.004	25	52	100	0.8	8	6	●		
8.03	0/+0.004	25	52	100	0.8	8	6	●		
8.1	H7	30	62	120	1	10	6	○		
8.2	H7	30	62	120	1	10	6	○		
8.3	H7	30	62	120	1	10	6	○		
8.4	H7	30	62	120	1	10	6	○		
8.5	H7	30	62	120	1	10	6	●		
8.6	H7	30	62	120	1	10	6	○		
8.7	H7	30	62	120	1	10	6	○		
8.8	H7	30	62	120	1	10	6	○		
8.9	H7	30	62	120	1	10	6	○		
9	H7	30	62	120	1	10	6	●		
9.1	H7	30	62	120	1	10	6	○		
9.2	H7	30	62	120	1	10	6	○		
9.3	H7	30	62	120	1	10	6	○		
9.4	H7	30	62	120	1	10	6	○		
9.5	H7	30	62	120	1	10	6	●		
9.6	H7	30	62	120	1	10	6	○		
9.7	H7	30	62	120	1	10	6	○		

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	d h5	Z teeth	R212TX AlTiSiN		
9.8	H7	30	62	120	1	10	6	○		
9.9	H7	30	62	120	1	10	6	○		
9.97	0/+0.004	30	62	120	1	10	6	●		
9.98	0/+0.004	30	62	120	1	10	6	●		
9.99	0/+0.004	30	62	120	1	10	6	●		
10	H7	30	62	120	1	10	6	●		
10.01	0/+0.004	30	62	120	1	10	6	●		
10.02	0/+0.004	30	62	120	1	10	6	●		
10.03	0/+0.004	30	62	120	1	10	6	●		
10.1	H7	35	72	140	1.2	12	6	○		
10.2	H7	35	72	140	1.2	12	6	○		
10.3	H7	35	72	140	1.2	12	6	○		
10.4	H7	35	72	140	1.2	12	6	○		
10.5	H7	35	72	140	1.2	12	6	○		
10.6	H7	35	72	140	1.2	12	6	○		
10.7	H7	35	72	140	1.2	12	6	○		
10.8	H7	35	72	140	1.2	12	6	○		
10.9	H7	35	72	140	1.2	12	6	○		
11	H7	35	72	140	1.2	12	6	●		
11.1	H7	35	72	140	1.2	12	6	○		
11.2	H7	35	72	140	1.2	12	6	○		
11.3	H7	35	72	140	1.2	12	6	○		
11.4	H7	35	72	140	1.2	12	6	○		
11.5	H7	35	72	140	1.2	12	6	○		
11.6	H7	35	72	140	1.2	12	6	○		
11.7	H7	35	72	140	1.2	12	6	○		
11.8	H7	35	72	140	1.2	12	6	○		
11.9	H7	35	72	140	1.2	12	6	○		
11.97	0/+0.004	35	72	140	1.2	12	6	●		
11.98	0/+0.004	35	72	140	1.2	12	6	●		
11.99	0/+0.004	35	72	140	1.2	12	6	●		
12	H7	35	72	140	1.2	12	6	●		
12.01	0/+0.004	35	72	140	1.2	12	6	●		
12.02	0/+0.004	35	72	140	1.2	12	6	●		
12.03	0/+0.004	35	72	140	1.2	12	6	●		

○ 非庫存品 單一尺寸10支以上可訂購
 切削條件參考表請參照P31頁

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

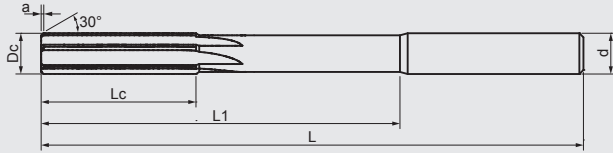
鑽頭

鉸刀

技術資料

Machine Reamers

Designed with straight cutting flutes. 直刃右切刃設計。
 Applicable to blind hole reaming. 可適用盲孔鉸孔加工。
 Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc. 適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。
 Accuracy tolerance: H7 (m5) 刃徑精度公差：H7 (m5)



VHM Carbide **Uncoated Bright** **0°** **Z** **Steel Cast Iron Stainless Steel AL, Copper** **Through Hole** **Blind Hole**



孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015

- P
- H
- M
- K
- N

Standard Length **Code No. R300-Dc**

Dc H7	Lc mm	L1 mm	L mm	d mm	a mm	Z teeth	R300 Bright
1	6	15	34	1	0.2	4	•
1.5	8	18	40	1.5	0.2	4	•
2	11	24	49	2	0.3	4	•
2.5	14	29	57	2.5	0.3	4	•
3	15	36	61	3	0.4	4	•
3.5	18	41	70	3.5	0.4	4	•
4	19	44	75	4	0.5	4	•
4.5	21	48	80	4.5	0.5	4	•
5	23	53	86	5	0.6	6	•
5.5	26	58	93	5.5	0.6	6	•
6	26	58	93	6	0.6	6	•
6.5	28	64	101	6.5	0.8	6	•
7	31	70	109	7	0.8	6	•
7.5	31	70	109	7.5	0.8	6	•
8	33	76	117	8	1.0	6	•
8.5	33	76	117	8.5	1.0	6	•
9	36	82	125	9	1.0	6	•
9.5	36	82	125	9.5	1.0	6	•
10	38	88	133	10	1.0	6	•
11	41	97	142	11	1.2	6	•
12	44	106	151	12	1.2	6	•

切削條件參考表請參照P31頁

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Designed with left helix and right cutting flutes with unequal flute design.

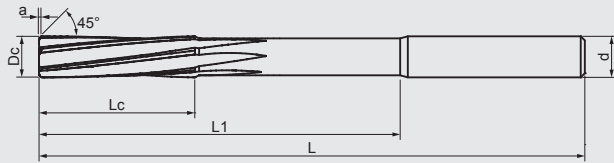
Downward chip evacuation.

Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.

Accuracy tolerance: H7 (m5)

左螺旋右切刃設計，不等分割刃設計。排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。刃徑精度公差：H7 (m5)



VHM Carbide
Uncoated Bright
7°
不等 Z
Steel Cast Iron Stainless Steel AL, Copper
Through Hole
Blind Hole



- P
- H
- M
- K
- N

孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015

Standard Length

Code No. R301-Dc

Dc H7	Lc mm	L1 mm	L mm	d mm	a mm	Z teeth	R301 Bright
1	6	15	34	1	0.1	4	•
1.5	8	18	40	1.5	0.15	4	•
2	11	24	49	2	0.2	4	•
2.5	14	29	57	2.5	0.25	4	•
3	15	36	61	3	0.3	4	•
3.5	18	41	70	3.5	0.3	4	•
4	19	44	75	4	0.4	4	•
4.5	21	48	80	4.5	0.4	4	•
5	23	53	86	5	0.5	6	•
5.5	26	58	93	5.5	0.5	6	•
6	26	58	93	6	0.5	6	•
6.5	28	64	101	6.5	0.6	6	•
7	31	70	109	7	0.6	6	•
7.5	31	70	109	7.5	0.6	6	•
8	33	76	117	8	0.6	6	•
8.5	33	76	117	8.5	0.8	6	•
9	36	82	125	9	0.8	6	•
9.5	36	82	125	9.5	0.8	6	•
10	38	88	133	10	0.8	6	•
11	41	97	142	11	1.0	6	•
12	44	106	151	12	1.0	6	•
14	47	111	160	14	1.0	6	•
16	52	121	170	16	1.0	6	•

切削條件參考表請參照P31頁

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

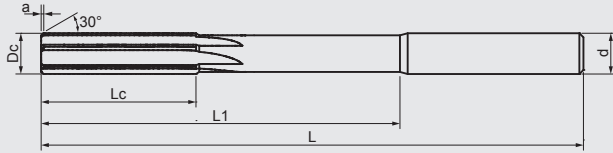
鑽頭

鉸刀

技術資料

NC Machine Reamers

Designed with straight flute and right cutting flute. 直刃右切刃設計。
Applicable to blind hole reaming. 可適用盲孔鉸孔加工。
Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc. 適用切削於48HRC以下各種鋼鐵，不銹鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。
Accuracy tolerance: H7 (m5) 刃徑精度公差：H7 (m5)
0/+0.004mm 0/+0.004mm



VHM Carbide **Uncoated Bright** **Steel Cast Iron Stainless Steel AL, Copper** **Through Hole** **Blind Hole**



孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015

- P**
- H**
- M**
- K**
- N**

Standard Length (Dc=d)

Code No. R307-Dc

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R307 Bright		
0.98	0/+0.004	6	15	34	0.2	4	•		
0.99	0/+0.004	6	15	34	0.2	4	•		
1	H7	6	15	34	0.2	4	•		
1.01	0/+0.004	6	15	34	0.2	4	•		
1.02	0/+0.004	6	15	34	0.2	4	•		
1.03	0/+0.004	6	15	34	0.2	4	•		
1.1	H7	7	16	36	0.2	4	•		
1.2	H7	7	16	36	0.2	4	•		
1.3	H7	7	16	36	0.2	4	•		
1.4	H7	8	18	40	0.2	4	•		
1.48	0/+0.004	8	18	40	0.2	4	•		
1.49	0/+0.004	8	18	40	0.2	4	•		
1.5	H7	8	18	40	0.2	4	•		
1.51	0/+0.004	8	18	40	0.2	4	•		
1.52	0/+0.004	8	18	40	0.2	4	•		
1.53	0/+0.004	8	18	40	0.2	4	•		
1.6	H7	9	20	43	0.3	4	•		
1.7	H7	9	20	43	0.3	4	•		
1.8	H7	10	22	46	0.3	4	•		
1.9	H7	10	22	46	0.3	4	•		
1.98	0/+0.004	11	24	49	0.3	4	•		
1.99	0/+0.004	11	24	49	0.3	4	•		
2	H7	11	24	49	0.3	4	•		
2.01	0/+0.004	11	24	49	0.3	4	•		
2.02	0/+0.004	11	24	49	0.3	4	•		
2.03	0/+0.004	11	24	49	0.3	4	•		
2.1	H7	11	24	49	0.3	4	•		
2.2	H7	12	25	53	0.3	4	•		
2.3	H7	12	25	53	0.3	4	•		
2.4	H7	14	29	57	0.3	4	•		
2.48	0/+0.004	14	29	57	0.3	4	•		
2.49	0/+0.004	14	29	57	0.3	4	•		
2.5	H7	14	29	57	0.3	4	•		
2.51	0/+0.004	14	29	57	0.3	4	•		
2.52	0/+0.004	14	29	57	0.3	4	•		
2.53	0/+0.004	14	29	57	0.3	4	•		

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R307 Bright		
2.6	H7	14	29	57	0.3	4	●		
2.7	H7	15	33	61	0.3	4	●		
2.8	H7	15	33	61	0.3	4	●		
2.9	H7	15	36	61	0.3	4	●		
2.95	0/+0.004	15	36	61	0.4	4	●		
2.96	0/+0.004	15	36	61	0.4	4	●		
2.97	0/+0.004	15	36	61	0.4	4	●		
2.98	0/+0.004	15	36	61	0.4	4	●		
2.99	0/+0.004	15	36	61	0.4	4	●		
3	H7	15	36	61	0.4	4	●		
3.01	0/+0.004	15	36	61	0.4	4	●		
3.02	0/+0.004	15	36	61	0.4	4	●		
3.03	0/+0.004	15	36	61	0.4	4	●		
3.04	0/+0.004	15	36	61	0.4	4	●		
3.05	0/+0.004	15	36	61	0.4	4	●		
3.1	H7	16	36	65	0.4	4	●		
3.2	H7	16	36	65	0.4	4	●		
3.3	H7	16	36	65	0.4	4	●		
3.4	H7	18	41	70	0.4	4	●		
3.5	H7	18	41	70	0.4	4	●		
3.6	H7	18	41	70	0.5	4	●		
3.7	H7	18	41	70	0.5	4	●		
3.8	H7	19	44	75	0.5	4	●		
3.9	H7	19	44	75	0.5	4	●		
3.95	0/+0.004	19	44	75	0.5	4	●		
3.96	0/+0.004	19	44	75	0.5	4	●		
3.97	0/+0.004	19	44	75	0.5	4	●		
3.98	0/+0.004	19	44	75	0.5	4	●		
3.99	0/+0.004	19	44	75	0.5	4	●		
4	H7	19	44	75	0.5	4	●		
4.01	0/+0.004	19	44	75	0.5	4	●		
4.02	0/+0.004	19	44	75	0.5	4	●		
4.03	0/+0.004	19	44	75	0.5	4	●		
4.04	0/+0.004	19	44	75	0.5	4	●		
4.05	0/+0.004	19	44	75	0.5	4	●		
4.1	H7	19	44	75	0.5	4	●		
4.2	H7	19	44	75	0.5	4	●		
4.3	H7	21	48	80	0.5	4	●		
4.4	H7	21	48	80	0.5	4	●		
4.5	H7	21	48	80	0.5	4	●		
4.6	H7	21	48	80	0.6	6	●		
4.7	H7	21	48	80	0.6	6	●		
4.8	H7	23	53	86	0.6	6	●		
4.9	H7	23	53	86	0.6	6	●		
4.95	0/+0.004	23	53	86	0.6	6	●		
4.96	0/+0.004	23	53	86	0.6	6	●		
4.97	0/+0.004	23	53	86	0.6	6	●		
4.98	0/+0.004	23	53	86	0.6	6	●		
4.99	0/+0.004	23	53	86	0.6	6	●		
5	H7	23	53	86	0.6	6	●		
5.01	0/+0.004	23	53	86	0.6	6	●		
5.02	0/+0.004	23	53	86	0.6	6	●		
5.03	0/+0.004	23	53	86	0.6	6	●		
5.04	0/+0.004	23	53	86	0.6	6	●		
5.05	0/+0.004	23	53	86	0.6	6	●		
5.1	H7	23	53	86	0.6	6	●		
5.2	H7	23	53	86	0.6	6	●		
5.3	H7	23	53	86	0.6	6	●		
5.4	H7	26	58	93	0.6	6	●		
5.5	H7	26	58	93	0.6	6	●		
5.6	H7	26	58	93	0.6	6	●		
5.7	H7	26	58	93	0.6	6	●		
5.8	H7	26	58	93	0.6	6	●		
5.9	H7	26	58	93	0.6	6	●		

鋼鐵用高效率立銑刀

鋼、不銹鋼、難削材
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鑽頭

鉸刀

技術資料

NC Machine Reamers

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R307 Bright		
5.95	0/+0.004	26	58	93	0.6	6	●		
5.96	0/+0.004	26	58	93	0.6	6	●		
5.97	0/+0.004	26	58	93	0.6	6	●		
5.98	0/+0.004	26	58	93	0.6	6	●		
5.99	0/+0.004	26	58	93	0.6	6	●		
6	H7	26	58	93	0.6	6	●		
6.01	0/+0.004	26	58	93	0.6	6	●		
6.02	0/+0.004	26	58	93	0.6	6	●		
6.03	0/+0.004	26	58	93	0.6	6	●		
6.04	0/+0.004	26	58	93	0.6	6	●		
6.05	0/+0.004	26	58	93	0.6	6	●		
6.1	H7	28	64	101	0.8	6	●		
6.2	H7	28	64	101	0.8	6	●		
6.3	H7	28	64	101	0.8	6	●		
6.4	H7	28	64	101	0.8	6	●		
6.5	H7	28	64	101	0.8	6	●		
6.6	H7	28	64	101	0.8	6	●		
6.7	H7	28	64	101	0.8	6	●		
6.8	H7	31	70	109	0.8	6	●		
6.9	H7	31	70	109	0.8	6	●		
6.95	0/+0.004	31	70	109	0.8	6	●		
6.96	0/+0.004	31	70	109	0.8	6	●		
6.97	0/+0.004	31	70	109	0.8	6	●		
6.98	0/+0.004	31	70	109	0.8	6	●		
6.99	0/+0.004	31	70	109	0.8	6	●		
7	H7	31	70	109	0.8	6	●		
7.01	0/+0.004	31	70	109	0.8	6	●		
7.02	0/+0.004	31	70	109	0.8	6	●		
7.03	0/+0.004	31	70	109	0.8	6	●		
7.04	0/+0.004	31	70	109	0.8	6	●		
7.05	0/+0.004	31	70	109	0.8	6	●		
7.1	H7	31	70	109	0.8	6	●		
7.2	H7	31	70	109	0.8	6	●		
7.3	H7	31	70	109	0.8	6	●		
7.4	H7	31	70	109	0.8	6	●		
7.5	H7	31	70	109	0.8	6	●		
7.6	H7	33	76	117	0.8	6	●		
7.7	H7	33	76	117	0.8	6	●		
7.8	H7	33	76	117	0.8	6	●		
7.9	H7	33	76	117	0.8	6	●		
7.95	0/+0.004	33	76	117	0.8	6	●		
7.96	0/+0.004	33	76	117	0.8	6	●		
7.97	0/+0.004	33	76	117	0.8	6	●		
7.98	0/+0.004	33	76	117	0.8	6	●		
7.99	0/+0.004	33	76	117	0.8	6	●		
8	H7	33	76	117	0.8	6	●		
8.01	0/+0.004	33	76	117	0.8	6	●		
8.02	0/+0.004	33	76	117	0.8	6	●		
8.03	0/+0.004	33	76	117	0.8	6	●		
8.04	0/+0.004	33	76	117	0.8	6	●		
8.05	0/+0.004	33	76	117	0.8	6	●		
8.1	H7	33	76	117	1.0	6	●		
8.2	H7	33	76	117	1.0	6	●		
8.3	H7	33	76	117	1.0	6	●		
8.4	H7	33	76	117	1.0	6	●		
8.5	H7	33	76	117	1.0	6	●		
8.6	H7	36	82	125	1.0	6	●		
8.7	H7	36	82	125	1.0	6	●		
8.8	H7	36	82	125	1.0	6	●		
8.9	H7	36	82	125	1.0	6	●		
8.95	0/+0.004	36	82	125	1.0	6	●		
8.96	0/+0.004	36	82	125	1.0	6	●		
8.97	0/+0.004	36	82	125	1.0	6	●		
8.98	0/+0.004	36	82	125	1.0	6	●		

銅鐵用高效率立銑刀

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鑽頭

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技術資料

NC Machine Reamers

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R307 Bright		
8.99	0/+0.004	36	82	125	1.0	6	●		
9	H7	36	82	125	1.0	6	●		
9.01	0/+0.004	36	82	125	1.0	6	●		
9.02	0/+0.004	36	82	125	1.0	6	●		
9.03	0/+0.004	36	82	125	1.0	6	●		
9.04	0/+0.004	36	82	125	1.0	6	●		
9.05	0/+0.004	36	82	125	1.0	6	●		
9.1	H7	36	82	125	1.0	6	●		
9.2	H7	36	82	125	1.0	6	●		
9.3	H7	36	82	125	1.0	6	●		
9.4	H7	36	82	125	1.0	6	●		
9.5	H7	36	82	125	1.0	6	●		
9.6	H7	38	88	133	1.0	6	●		
9.7	H7	38	88	133	1.0	6	●		
9.8	H7	38	88	133	1.0	6	●		
9.9	H7	38	88	133	1.0	6	●		
9.95	0/+0.004	38	88	133	1.0	6	●		
9.96	0/+0.004	38	88	133	1.0	6	●		
9.97	0/+0.004	38	88	133	1.0	6	●		
9.98	0/+0.004	38	88	133	1.0	6	●		
9.99	0/+0.004	38	88	133	1.0	6	●		
10	H7	38	88	133	1.0	6	●		
10.01	0/+0.004	38	88	133	1.0	6	●		
10.02	0/+0.004	38	88	133	1.0	6	●		
10.03	0/+0.004	38	88	133	1.0	6	●		
10.04	0/+0.004	38	88	133	1.0	6	●		
10.05	0/+0.004	38	88	133	1.0	6	●		
10.1	H7	38	88	133	1.2	6	●		
10.2	H7	38	88	133	1.2	6	●		
10.3	H7	38	88	133	1.2	6	●		
10.4	H7	38	88	133	1.2	6	●		
10.5	H7	38	88	133	1.2	6	●		
10.6	H7	38	88	133	1.2	6	●		
10.7	H7	41	97	142	1.2	6	●		
10.8	H7	41	97	142	1.2	6	●		
10.9	H7	41	97	142	1.2	6	●		
11	H7	41	97	142	1.2	6	●		
11.1	H7	41	97	142	1.2	6	●		
11.2	H7	41	97	142	1.2	6	●		
11.3	H7	41	97	142	1.2	6	●		
11.4	H7	41	97	142	1.2	6	●		
11.5	H7	41	97	142	1.2	6	●		
11.6	H7	41	97	142	1.2	6	●		
11.7	H7	41	97	142	1.2	6	●		
11.8	H7	41	97	142	1.2	6	●		
11.9	H7	44	106	151	1.2	6	●		
11.95	0/+0.004	44	106	151	1.2	6	●		
11.96	0/+0.004	44	106	151	1.2	6	●		
11.97	0/+0.004	44	106	151	1.2	6	●		
11.98	0/+0.004	44	106	151	1.2	6	●		
11.99	0/+0.004	44	106	151	1.2	6	●		
12	H7	44	106	151	1.2	6	●		
12.01	0/+0.004	44	106	151	1.2	6	●		
12.02	0/+0.004	44	106	151	1.2	6	●		
12.03	0/+0.004	44	106	151	1.2	6	●		
12.04	0/+0.004	44	106	151	1.2	6	●		
12.05	0/+0.004	44	106	151	1.2	6	●		

切削條件參考表請參照P31頁

鋼鐵用高效率立銑刀

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技術資料

NC Machine Reamers

Designed with left helix and right cutting flutes with unequal flute design.

Downward chip evacuation.

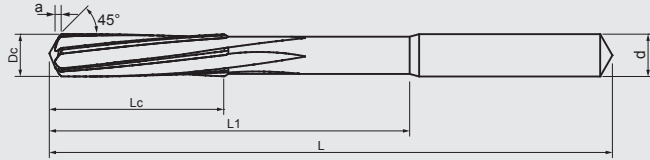
Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.

Accuracy tolerance: H7 (m5)
0/+0.004mm

左螺旋右切刃設計，不等分割刃設計。排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。

刃徑精度公差：H7 (m5)
0/+0.004mm



VHM Carbide **Uncoated Bright** **Steel Cast Iron Stainless Steel AL, Copper** **Through Hole** **Blind Hole**



- P**
- H**
- M**
- K**
- N**

孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015

Standard Length (Dc=d)

Code No. R308-Dc

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R308 Bright		
0.98	0/+0.004	6	15	34	0.1	4	●		
0.99	0/+0.004	6	15	34	0.1	4	●		
1	H7	6	15	34	0.1	4	●		
1.01	0/+0.004	6	15	34	0.1	4	●		
1.02	0/+0.004	6	15	34	0.1	4	●		
1.03	0/+0.004	6	15	34	0.1	4	●		
1.1	H7	7	16	36	0.1	4	●		
1.2	H7	7	16	36	0.1	4	●		
1.3	H7	7	16	36	0.15	4	●		
1.4	H7	8	18	40	0.15	4	●		
1.48	0/+0.004	8	18	40	0.15	4	●		
1.49	0/+0.004	8	18	40	0.15	4	●		
1.5	H7	8	18	40	0.15	4	●		
1.51	0/+0.004	8	18	40	0.15	4	●		
1.52	0/+0.004	8	18	40	0.15	4	●		
1.53	0/+0.004	8	18	40	0.15	4	●		
1.6	H7	9	20	43	0.2	4	●		
1.7	H7	9	20	43	0.2	4	●		
1.8	H7	10	22	46	0.2	4	●		
1.9	H7	10	22	46	0.2	4	●		
1.98	0/+0.004	11	24	49	0.2	4	●		
1.99	0/+0.004	11	24	49	0.2	4	●		
2	H7	11	24	49	0.2	4	●		
2.01	0/+0.004	11	24	49	0.2	4	●		
2.02	0/+0.004	11	24	49	0.2	4	●		
2.03	0/+0.004	11	24	49	0.2	4	●		
2.1	H7	11	24	49	0.25	4	●		
2.2	H7	12	25	53	0.25	4	●		
2.3	H7	12	25	53	0.25	4	●		
2.4	H7	14	29	57	0.25	4	●		
2.48	0/+0.004	14	29	57	0.25	4	●		
2.49	0/+0.004	14	29	57	0.25	4	●		
2.5	H7	14	29	57	0.25	4	●		
2.51	0/+0.004	14	29	57	0.25	4	●		
2.52	0/+0.004	14	29	57	0.25	4	●		
2.53	0/+0.004	14	29	57	0.25	4	●		

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
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通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R308 Bright		
2.6	H7	14	29	57	0.25	4	●		
2.7	H7	15	33	61	0.25	4	●		
2.8	H7	15	33	61	0.25	4	●		
2.9	H7	15	36	61	0.25	4	●		
2.95	0/+0.004	15	36	61	0.3	4	●		
2.96	0/+0.004	15	36	61	0.3	4	●		
2.97	0/+0.004	15	36	61	0.3	4	●		
2.98	0/+0.004	15	36	61	0.3	4	●		
2.99	0/+0.004	15	36	61	0.3	4	●		
3	H7	15	36	61	0.3	4	●		
3.01	0/+0.004	15	36	61	0.3	4	●		
3.02	0/+0.004	15	36	61	0.3	4	●		
3.03	0/+0.004	15	36	61	0.3	4	●		
3.04	0/+0.004	15	36	61	0.3	4	●		
3.05	0/+0.004	15	36	61	0.3	4	●		
3.1	H7	16	36	65	0.3	4	●		
3.2	H7	16	36	65	0.3	4	●		
3.3	H7	16	36	65	0.3	4	●		
3.4	H7	18	41	70	0.3	4	●		
3.5	H7	18	41	70	0.3	4	●		
3.6	H7	18	41	70	0.4	4	●		
3.7	H7	18	41	70	0.4	4	●		
3.8	H7	19	44	75	0.4	4	●		
3.9	H7	19	44	75	0.4	4	●		
3.95	0/+0.004	19	44	75	0.4	4	●		
3.96	0/+0.004	19	44	75	0.4	4	●		
3.97	0/+0.004	19	44	75	0.4	4	●		
3.98	0/+0.004	19	44	75	0.4	4	●		
3.99	0/+0.004	19	44	75	0.4	4	●		
4	H7	19	44	75	0.4	4	●		
4.01	0/+0.004	19	44	75	0.4	4	●		
4.02	0/+0.004	19	44	75	0.4	4	●		
4.03	0/+0.004	19	44	75	0.4	4	●		
4.04	0/+0.004	19	44	75	0.4	4	●		
4.05	0/+0.004	19	44	75	0.4	4	●		
4.1	H7	19	44	75	0.4	4	●		
4.2	H7	19	44	75	0.4	4	●		
4.3	H7	21	48	80	0.4	4	●		
4.4	H7	21	48	80	0.4	4	●		
4.5	H7	21	48	80	0.4	4	●		
4.6	H7	21	48	80	0.5	6	●		
4.7	H7	21	48	80	0.5	6	●		
4.8	H7	23	53	86	0.5	6	●		
4.9	H7	23	53	86	0.5	6	●		
4.95	0/+0.004	23	53	86	0.5	6	●		
4.96	0/+0.004	23	53	86	0.5	6	●		
4.97	0/+0.004	23	53	86	0.5	6	●		
4.98	0/+0.004	23	53	86	0.5	6	●		
4.99	0/+0.004	23	53	86	0.5	6	●		
5	H7	23	53	86	0.5	6	●		
5.01	0/+0.004	23	53	86	0.5	6	●		
5.02	0/+0.004	23	53	86	0.5	6	●		
5.03	0/+0.004	23	53	86	0.5	6	●		
5.04	0/+0.004	23	53	86	0.5	6	●		
5.05	0/+0.004	23	53	86	0.5	6	●		
5.1	H7	23	53	86	0.5	6	●		
5.2	H7	23	53	86	0.5	6	●		
5.3	H7	23	53	86	0.5	6	●		
5.4	H7	26	58	93	0.5	6	●		
5.5	H7	26	58	93	0.5	6	●		
5.6	H7	26	58	93	0.5	6	●		
5.7	H7	26	58	93	0.5	6	●		
5.8	H7	26	58	93	0.5	6	●		
5.9	H7	26	58	93	0.5	6	●		

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

NC Machine Reamers

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R308 Bright		
5.95	0/+0.004	26	58	93	0.5	6	●		
5.96	0/+0.004	26	58	93	0.5	6	●		
5.97	0/+0.004	26	58	93	0.5	6	●		
5.98	0/+0.004	26	58	93	0.5	6	●		
5.99	0/+0.004	26	58	93	0.5	6	●		
6	H7	26	58	93	0.5	6	●		
6.01	0/+0.004	26	58	93	0.5	6	●		
6.02	0/+0.004	26	58	93	0.5	6	●		
6.03	0/+0.004	26	58	93	0.5	6	●		
6.04	0/+0.004	26	58	93	0.5	6	●		
6.05	0/+0.004	26	58	93	0.5	6	●		
6.1	H7	28	64	101	0.6	6	●		
6.2	H7	28	64	101	0.6	6	●		
6.3	H7	28	64	101	0.6	6	●		
6.4	H7	28	64	101	0.6	6	●		
6.5	H7	28	64	101	0.6	6	●		
6.6	H7	28	64	101	0.6	6	●		
6.7	H7	28	64	101	0.6	6	●		
6.8	H7	31	70	109	0.6	6	●		
6.9	H7	31	70	109	0.6	6	●		
6.95	0/+0.004	31	70	109	0.6	6	●		
6.96	0/+0.004	31	70	109	0.6	6	●		
6.97	0/+0.004	31	70	109	0.6	6	●		
6.98	0/+0.004	31	70	109	0.6	6	●		
6.99	0/+0.004	31	70	109	0.6	6	●		
7	H7	31	70	109	0.6	6	●		
7.01	0/+0.004	31	70	109	0.6	6	●		
7.02	0/+0.004	31	70	109	0.6	6	●		
7.03	0/+0.004	31	70	109	0.6	6	●		
7.04	0/+0.004	31	70	109	0.6	6	●		
7.05	0/+0.004	31	70	109	0.6	6	●		
7.1	H7	31	70	109	0.6	6	●		
7.2	H7	31	70	109	0.6	6	●		
7.3	H7	31	70	109	0.6	6	●		
7.4	H7	31	70	109	0.6	6	●		
7.5	H7	31	70	109	0.6	6	●		
7.6	H7	33	76	117	0.6	6	●		
7.7	H7	33	76	117	0.6	6	●		
7.8	H7	33	76	117	0.6	6	●		
7.9	H7	33	76	117	0.6	6	●		
7.95	0/+0.004	33	76	117	0.6	6	●		
7.96	0/+0.004	33	76	117	0.6	6	●		
7.97	0/+0.004	33	76	117	0.6	6	●		
7.98	0/+0.004	33	76	117	0.6	6	●		
7.99	0/+0.004	33	76	117	0.6	6	●		
8	H7	33	76	117	0.6	6	●		
8.01	0/+0.004	33	76	117	0.6	6	●		
8.02	0/+0.004	33	76	117	0.6	6	●		
8.03	0/+0.004	33	76	117	0.6	6	●		
8.04	0/+0.004	33	76	117	0.6	6	●		
8.05	0/+0.004	33	76	117	0.6	6	●		
8.1	H7	33	76	117	0.8	6	●		
8.2	H7	33	76	117	0.8	6	●		
8.3	H7	33	76	117	0.8	6	●		
8.4	H7	33	76	117	0.8	6	●		
8.5	H7	33	76	117	0.8	6	●		
8.6	H7	36	82	125	0.8	6	●		
8.7	H7	36	82	125	0.8	6	●		
8.8	H7	36	82	125	0.8	6	●		
8.9	H7	36	82	125	0.8	6	●		
8.95	0/+0.004	36	82	125	0.8	6	●		
8.96	0/+0.004	36	82	125	0.8	6	●		
8.97	0/+0.004	36	82	125	0.8	6	●		
8.98	0/+0.004	36	82	125	0.8	6	●		

銅鐵用高效率立銑刀

銅鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	a mm	Z teeth	R308 Bright		
8.99	0/+0.004	36	82	125	0.8	6	●		
9	H7	36	82	125	0.8	6	●		
9.01	0/+0.004	36	82	125	0.8	6	●		
9.02	0/+0.004	36	82	125	0.8	6	●		
9.03	0/+0.004	36	82	125	0.8	6	●		
9.04	0/+0.004	36	82	125	0.8	6	●		
9.05	0/+0.004	36	82	125	0.8	6	●		
9.1	H7	36	82	125	0.8	6	●		
9.2	H7	36	82	125	0.8	6	●		
9.3	H7	36	82	125	0.8	6	●		
9.4	H7	36	82	125	0.8	6	●		
9.5	H7	36	82	125	0.8	6	●		
9.6	H7	38	88	133	0.8	6	●		
9.7	H7	38	88	133	0.8	6	●		
9.8	H7	38	88	133	0.8	6	●		
9.9	H7	38	88	133	0.8	6	●		
9.95	0/+0.004	38	88	133	0.8	6	●		
9.96	0/+0.004	38	88	133	0.8	6	●		
9.97	0/+0.004	38	88	133	0.8	6	●		
9.98	0/+0.004	38	88	133	0.8	6	●		
9.99	0/+0.004	38	88	133	0.8	6	●		
10	H7	38	88	133	0.8	6	●		
10.01	0/+0.004	38	88	133	0.8	6	●		
10.02	0/+0.004	38	88	133	0.8	6	●		
10.03	0/+0.004	38	88	133	0.8	6	●		
10.04	0/+0.004	38	88	133	0.8	6	●		
10.05	0/+0.004	38	88	133	0.8	6	●		
10.1	H7	38	88	133	1.0	6	●		
10.2	H7	38	88	133	1.0	6	●		
10.3	H7	38	88	133	1.0	6	●		
10.4	H7	38	88	133	1.0	6	●		
10.5	H7	38	88	133	1.0	6	●		
10.6	H7	38	88	133	1.0	6	●		
10.7	H7	41	97	142	1.0	6	●		
10.8	H7	41	97	142	1.0	6	●		
10.9	H7	41	97	142	1.0	6	●		
11	H7	41	97	142	1.0	6	●		
11.1	H7	41	97	142	1.0	6	●		
11.2	H7	41	97	142	1.0	6	●		
11.3	H7	41	97	142	1.0	6	●		
11.4	H7	41	97	142	1.0	6	●		
11.5	H7	41	97	142	1.0	6	●		
11.6	H7	41	97	142	1.0	6	●		
11.7	H7	41	97	142	1.0	6	●		
11.8	H7	41	97	142	1.0	6	●		
11.9	H7	44	106	151	1.0	6	●		
11.95	0/+0.004	44	106	151	1.0	6	●		
11.96	0/+0.004	44	106	151	1.0	6	●		
11.97	0/+0.004	44	106	151	1.0	6	●		
11.98	0/+0.004	44	106	151	1.0	6	●		
11.99	0/+0.004	44	106	151	1.0	6	●		
12	H7	44	106	151	1.0	6	●		
12.01	0/+0.004	44	106	151	1.0	6	●		
12.02	0/+0.004	44	106	151	1.0	6	●		
12.03	0/+0.004	44	106	151	1.0	6	●		
12.04	0/+0.004	44	106	151	1.0	6	●		
12.05	0/+0.004	44	106	151	1.0	6	●		

切削條件參考表請參照P31頁

鋼鐵用高效率立銑刀

鋼、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Designed with left helix and right cutting flutes with unequal flute design.

Downward chip evacuation.

Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.

Accuracy tolerance: 0/+0.004mm.

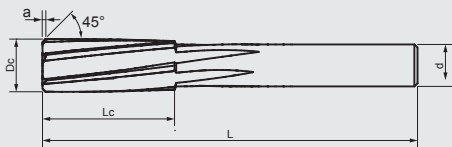
左螺旋右切刃設計，不等分割刃設計。

排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、

鋁合金、銅...等材料鉸孔應用。

刃徑精度公差: 0/+0.004mm。



Accuracy tolerance: 0/+0.004mm.

刃徑精度公差: 0/+0.004mm。



Stub Length

Code No. R318-Dc

Dc +0.004 -0	Lc mm	L mm	d mm	a mm	Z teeth	R318 Bright		
1.98~1.99	18	50	1.5	0.2	4	●		
2.00	18	50	1.5	0.2	4	●		
2.01~2.03	18	50	1.5	0.2	4	●		
2.04~2.12	18	50	1.5	0.25	4	●		
2.13~2.19	18	50	2	0.25	4	●		
2.20	18	50	2	0.25	4	●		
2.21~2.36	18	50	2	0.25	4	●		
2.37~2.49	18	50	2	0.25	4	●		
2.50	18	50	2	0.25	4	●		
2.51~2.65	18	50	2	0.25	4	●		
2.66~2.79	20	56	2.5	0.25	6	●		
2.80	20	56	2.5	0.25	6	●		
2.81~2.90	20	56	2.5	0.25	6	●		
2.91~2.99	20	56	2.5	0.3	6	●		
3.00	20	56	2.5	0.3	6	●		
3.01~3.03	20	56	2.5	0.3	6	●		
3.04~3.19	20	56	2.5	0.3	6	●		
3.20	20	56	3	0.3	6	●		
3.21~3.35	20	56	3	0.3	6	●		
3.36~3.49	20	56	3	0.3	6	●		
3.50	20	56	3	0.3	6	●		
3.51~3.60	20	56	3	0.4	6	●		
3.61~3.75	20	56	3	0.4	6	●		
3.76~3.90	20	56	3.5	0.4	6	●		
3.91~3.99	20	56	3.5	0.4	6	●		
4.00	20	56	3.5	0.4	6	●		
4.01~4.09	20	56	3.5	0.4	6	●		
4.10~4.25	20	56	3.5	0.4	6	●		
4.26~4.49	22	63	4	0.4	6	●		
4.50	22	63	4	0.4	6	●		
4.51~4.60	22	63	4	0.5	6	●		
4.61~4.75	22	63	4	0.5	6	●		
4.76~4.90	22	63	4	0.5	6	●		
4.91~4.99	22	63	4	0.5	6	●		
5.00	22	63	4	0.5	6	●		
5.01~5.10	22	63	4	0.5	6	●		

Dc +0.004 -0	Lc mm	L mm	d mm	a mm	Z teeth	R318 Bright		
5.11~5.30	22	63	4	0.5	6	●		
5.31~5.40	22	63	5	0.5	6	●		
5.41~5.49	22	63	5	0.5	6	●		
5.50	22	63	5	0.5	6	●		
5.51~5.60	22	63	5	0.5	6	●		
5.61~5.80	22	63	5	0.5	6	●		
5.81~5.90	22	63	5	0.5	6	●		
5.91~5.99	22	63	5	0.5	6	●		
6.00	22	63	5	0.5	6	●		
6.01~6.03	22	63	5	0.5	6	●		
6.04~6.30	22	63	5	0.6	6	●		
6.31~6.49	22	63	5	0.6	6	●		
6.50	22	63	5	0.6	6	●		
6.51~6.70	22	63	5	0.6	6	●		
6.71~6.80	25	71	6	0.6	6	●		
6.81~6.99	25	71	6	0.6	6	●		
7.00	25	71	6	0.6	6	●		
7.01~7.10	25	71	6	0.6	6	●		
7.11~7.30	25	71	6	0.6	6	●		
7.31~7.49	25	71	6	0.6	6	●		
7.50	25	71	6	0.6	6	●		
7.51~7.60	25	71	6	0.6	6	●		
7.61~7.80	25	71	6	0.6	6	●		
7.81~7.90	25	71	6	0.6	6	●		
7.91~7.99	25	71	6	0.6	6	●		
8.00	25	71	6	0.6	6	●		
8.01~8.09	25	71	6	0.6	6	●		
8.10~8.30	25	71	6	0.8	6	●		
8.31~8.49	25	71	6	0.8	6	●		
8.50	25	71	6	0.8	6	●		
8.51~8.60	25	71	8	0.8	6	●		
8.61~8.80	25	71	8	0.8	6	●		
8.81~8.99	25	71	8	0.8	6	●		
9.00	25	71	8	0.8	6	●		
9.01~9.10	25	71	8	0.8	6	●		
9.11~9.30	25	71	8	0.8	6	●		
9.31~9.49	25	71	8	0.8	6	●		
9.50	25	71	8	0.8	6	●		
9.51~9.69	25	71	8	0.8	6	●		
9.70~9.85	25	71	8	0.8	6	●		
9.86~9.90	25	71	8	0.8	6	●		
9.91~9.99	25	71	8	0.8	6	●		
10.00	25	71	8	0.8	6	●		
10.01~10.05	25	71	8	0.8	6	●		
10.06~10.20	25	71	8	1.0	6	●		
10.21~10.49	25	71	8	1.0	6	●		
10.50	25	71	8	1.0	6	●		
10.51~10.60	25	71	8	1.0	6	●		
10.61~10.79	28	80	10	1.0	6	●		
10.80~10.99	28	80	10	1.0	6	●		
11.00	28	80	10	1.0	6	●		
11.01~11.06	28	80	10	1.0	6	●		
11.07~11.39	28	80	10	1.0	6	●		
11.40~11.49	28	80	10	1.0	6	●		
11.50	28	80	10	1.0	6	●		
11.51~11.80	28	80	10	1.0	6	●		
11.81~11.90	28	80	10	1.0	6	●		
11.91~11.99	28	80	10	1.0	6	●		
12.00	28	80	10	1.0	6	●		
12.01~12.05	28	80	10	1.0	6	●		

切削條件參考表請參照P32頁

鋼鐵用高效率立銑刀

多用途立銑刀
鋼、不銹鋼、難削材

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

R319 超微粒鎢鋼NC精密機械鉸刀 每0.01mm-尺寸

High Precision NC Machine Reamers In Steps of 0.01mm

Designed with left helix and right cutting flutes with unequal flute design.

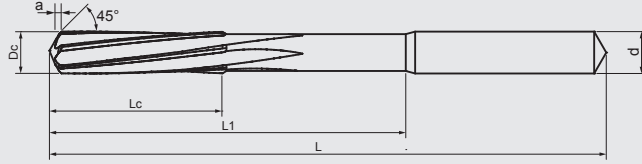
Downward chip evacuation.

Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.

Accuracy tolerance: 0/+0.004mm.

左螺旋右切刃設計，不等分割刃設計。排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。刃徑精度公差：0/+0.004mm。



VHM Carbide **Uncoated Bright** **Steel Cast Iron Stainless Steel AL, Copper** **Through Hole** **Blind Hole**



Accuracy tolerance: 0/+0.004mm.

刃徑精度公差：0/+0.004mm。

- P**
- H**
- M**
- K**
- N**

Standard Length

Code No. R319-Dc

Dc +0.004 -0	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R319 Bright
0.98~0.99	6	18	50	4	0.1	3	•
1.00	6	18	50	4	0.1	3	•
1.01~1.02	6	18	50	4	0.1	3	•
1.03~1.10	9	18	50	4	0.1	3	•
1.11~1.19	9	18	50	4	0.1	3	•
1.20	9	18	50	4	0.1	3	•
1.21~1.30	9	18	50	4	0.15	3	•
1.31~1.39	9	18	50	4	0.15	3	•
1.40	9	18	50	4	0.15	3	•
1.41~1.42	9	18	50	4	0.15	3	•
1.43~1.49	9	18	50	4	0.15	3	•
1.50	9	18	50	4	0.15	3	•
1.51~1.53	10	18	50	4	0.15	3	•
1.54~1.59	10	18	50	4	0.2	3	•
1.60	10	18	50	4	0.2	3	•
1.61~1.70	10	18	50	4	0.2	3	•
1.71~1.79	10	19	50	4	0.2	4	•
1.80	11	19	50	4	0.2	4	•
1.81~1.90	11	19	50	4	0.2	4	•
1.91~1.99	12	19	50	4	0.2	4	•
2.00	12	19	50	4	0.2	4	•
2.01~2.03	12	19	50	4	0.2	4	•
2.04~2.12	12	19	50	4	0.25	4	•
2.13~2.19	12	19	50	4	0.25	4	•
2.20	12	19	50	4	0.25	4	•
2.21~2.36	12	19	50	4	0.25	4	•
2.37~2.49	16	29	60	4	0.25	4	•
2.50	16	29	60	4	0.25	4	•
2.51~2.65	16	29	60	4	0.25	4	•
2.66~2.79	17	33	65	4	0.25	6	•
2.80	17	33	65	4	0.25	6	•
2.81~2.90	17	33	65	4	0.25	6	•
2.91~2.99	17	33	65	4	0.3	6	•
3.00	17	33	65	4	0.3	6	•
3.01~3.03	17	33	65	4	0.3	6	•
3.04~3.19	18	33	65	4	0.3	6	•
3.20	18	33	65	4	0.3	6	•
3.21~3.35	18	33	65	4	0.3	6	•
3.36~3.49	18	43	75	4	0.3	6	•
3.50	18	43	75	4	0.3	6	•
3.51~3.60	18	43	75	4	0.3	6	•
3.61~3.75	18	43	75	4	0.3	6	•

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc +0.004 -0	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R319 Bright		
3.76~3.90	19	43	75	4	0.3	6	●		
3.91~3.99	19	43	75	4	0.4	6	●		
4.00	19	43	75	4	0.4	6	●		
4.01~4.09	19	43	75	4	0.4	6	●		
4.10~4.25	19	43	75	4	0.4	6	●		
4.26~4.49	21	49	80	6	0.4	6	●		
4.50	21	49	80	6	0.4	6	●		
4.51~4.60	21	49	80	6	0.5	6	●		
4.61~4.75	21	49	80	6	0.5	6	●		
4.76~4.90	23	52	93	6	0.5	6	●		
4.91~4.99	23	52	93	6	0.5	6	●		
5.00	23	52	93	6	0.5	6	●		
5.01~5.10	23	52	93	6	0.5	6	●		
5.11~5.30	23	52	93	6	0.5	6	●		
5.31~5.40	26	53	93	6	0.5	6	●		
5.41~5.49	26	53	93	6	0.5	6	●		
5.50	26	53	93	6	0.5	6	●		
5.51~5.60	26	53	93	6	0.5	6	●		
5.61~5.80	26	53	93	6	0.5	6	●		
5.81~5.90	26	53	93	6	0.5	6	●		
5.91~5.99	26	53	93	6	0.5	6	●		
6.00	26	53	93	6	0.5	6	●		
6.01~6.03	26	53	93	6	0.5	6	●		
6.04~6.30	28	61	101	8	0.6	6	●		
6.31~6.49	28	61	101	8	0.6	6	●		
6.50	28	61	101	8	0.6	6	●		
6.51~6.70	28	61	101	8	0.6	6	●		
6.71~6.80	31	68	109	8	0.6	6	●		
6.81~6.99	31	68	109	8	0.6	6	●		
7.00	31	68	109	8	0.6	6	●		
7.01~7.10	31	68	109	8	0.6	6	●		
7.11~7.30	31	68	109	8	0.6	6	●		
7.31~7.49	31	68	109	8	0.6	6	●		
7.50	31	68	109	8	0.6	6	●		
7.51~7.60	33	77	117	8	0.6	6	●		
7.61~7.80	33	77	117	8	0.6	6	●		
7.81~7.90	33	77	117	8	0.6	6	●		
7.91~7.99	33	77	117	8	0.6	6	●		
8.00	33	77	117	8	0.6	6	●		
8.01~8.09	33	77	117	8	0.6	6	●		
8.10~8.30	33	77	117	8	0.8	6	●		
8.31~8.49	33	77	117	8	0.8	6	●		
8.50	33	77	117	8	0.8	6	●		
8.51~8.60	36	80	125	10	0.8	6	●		
8.61~8.80	36	80	125	10	0.8	6	●		
8.81~8.99	36	80	125	10	0.8	6	●		
9.00	36	80	125	10	0.8	6	●		
9.01~9.10	36	80	125	10	0.8	6	●		
9.11~9.30	36	80	125	10	0.8	6	●		
9.31~9.49	36	80	125	10	0.8	6	●		
9.50	36	80	125	10	0.8	6	●		
9.51~9.69	38	88	133	10	0.8	6	●		
9.70~9.85	38	88	133	10	0.8	6	●		
9.86~9.90	38	88	133	10	0.8	6	●		
9.91~9.99	38	88	133	10	0.8	6	●		
10.00	38	88	133	10	0.8	6	●		
10.01~10.05	38	88	133	10	0.8	6	●		
10.06~10.20	38	88	133	10	1.0	6	●		
10.21~10.49	38	88	133	10	1.0	6	●		
10.50	38	88	133	10	1.0	6	●		
10.51~10.60	38	88	133	10	1.0	6	●		
10.61~10.79	41	97	142	10	1.0	6	●		
10.80~10.99	41	97	142	10	1.0	6	●		
11.00	41	97	142	10	1.0	6	●		
11.01~11.06	41	97	142	10	1.0	6	●		
11.07~11.39	41	97	142	10	1.0	6	●		
11.40~11.49	41	97	142	10	1.0	6	●		
11.50	41	97	142	10	1.0	6	●		
11.51~11.80	41	97	142	10	1.0	6	●		
11.81~11.90	44	100	151	12	1.0	6	●		
11.91~11.99	44	100	151	12	1.0	6	●		
12.00	44	100	151	12	1.0	6	●		
12.01~12.05	44	100	151	12	1.0	6	●		

切削條件參考表請參照P32頁

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

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鑽頭

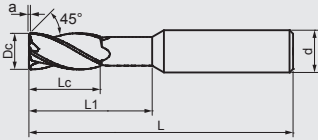
鉸刀

技術資料

R328 超微粒鎢鋼NC精密機械鉸刀(附底刃)

High Precision NC Machine Reamers (End Cutting)

Designed with right helix and right cutting flutes. 右螺旋右切刃設計。
 Upward chip evacuation. 排屑方向往上。
 Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc. 適用切削於48HRC以下各種鋼鐵，不銹鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。
 Designed with the function of end cutting. 附底刃的功能。
 At quiescent point, the end cutting is equipped with cutting function for even out completely the residual left in the bottom of the hole and calibrate well deviation. 底刃靜點具有切削功能，可進行盲孔底部餘料完全移除。
 Accuracy tolerance: H7 (m5) 0/+0.004mm 刃徑精度公差：H7 (m5) 0/+0.004mm



VHM Carbide **Uncoated Bright** **R 30°** **Steel Cast Iron Stainless Steel AL, Copper** **Through Hole** **Blind Hole**



孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)	鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)				
	以上	以下	m5(JIS)	H7(DIN I420)	H7	H8	下限	中間值	上限
-	3		+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6		+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10		+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18		+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30		+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015



Stub Length Code No. R328-Dc

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R328 Bright
0.98	0/+0.004	2	10	50	4	0.05	4	●
0.99	0/+0.004	2	10	50	4	0.05	4	●
1	H7	2	10	50	4	0.05	4	●
1.01	0/+0.004	2	10	50	4	0.05	4	●
1.02	0/+0.004	2	10	50	4	0.05	4	●
1.03	0/+0.004	2	10	50	4	0.05	4	●
1.1	H7	2	10	50	4	0.05	4	●
1.2	H7	2	10	50	4	0.05	4	●
1.3	H7	2	10	50	4	0.05	4	●
1.4	H7	2	10	50	4	0.05	4	●
1.48	0/+0.004	2	10	50	4	0.05	4	●
1.49	0/+0.004	2	10	50	4	0.05	4	●
1.5	H7	2	10	50	4	0.05	4	●
1.51	0/+0.004	2	10	50	4	0.05	4	●
1.52	0/+0.004	2	10	50	4	0.05	4	●
1.53	0/+0.004	2	10	50	4	0.05	4	●
1.6	H7	2	10	50	4	0.1	4	●
1.7	H7	2	10	50	4	0.1	4	●
1.8	H7	2	10	50	4	0.1	4	●
1.9	H7	2	10	50	4	0.1	4	●
1.98	0/+0.004	4	10	50	4	0.1	4	●
1.99	0/+0.004	4	10	50	4	0.1	4	●
2	H7	4	10	50	4	0.1	4	●
2.01	0/+0.004	4	10	50	4	0.1	4	●
2.02	0/+0.004	4	10	50	4	0.1	4	●
2.03	0/+0.004	4	10	50	4	0.1	4	●
2.1	H7	4	10	50	4	0.1	4	●
2.2	H7	4	10	50	4	0.1	4	●
2.3	H7	4	10	50	4	0.1	4	●
2.4	H7	4	10	50	4	0.1	4	●
2.48	0/+0.004	4	10	50	4	0.1	4	●
2.49	0/+0.004	4	10	50	4	0.1	4	●
2.5	H7	4	10	50	4	0.1	4	●
2.51	0/+0.004	4	10	50	4	0.1	4	●
2.52	0/+0.004	4	10	50	4	0.1	4	●
2.53	0/+0.004	4	10	50	4	0.1	4	●

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R328 Bright		
2.6	H7	4	10	50	4	0.1	4	●		
2.7	H7	4	10	50	4	0.1	4	●		
2.8	H7	4	10	50	4	0.1	4	●		
2.9	H7	4	10	50	4	0.1	4	●		
2.95	0/+0.004	6	15	50	4	0.1	4	●		
2.96	0/+0.004	6	15	50	4	0.1	4	●		
2.97	0/+0.004	6	15	50	4	0.1	4	●		
2.98	0/+0.004	6	15	50	4	0.1	4	●		
2.99	0/+0.004	6	15	50	4	0.1	4	●		
3	H7	6	15	50	4	0.1	4	●		
3.01	0/+0.004	6	15	50	4	0.1	4	●		
3.02	0/+0.004	6	15	50	4	0.1	4	●		
3.03	0/+0.004	6	15	50	4	0.1	4	●		
3.04	0/+0.004	6	15	50	4	0.1	4	●		
3.05	0/+0.004	6	15	50	4	0.1	4	●		
3.1	H7	6	15	50	4	0.1	4	●		
3.2	H7	6	15	50	4	0.1	4	●		
3.3	H7	6	15	50	4	0.1	4	●		
3.4	H7	6	15	50	4	0.1	4	●		
3.5	H7	6	15	50	4	0.1	4	●		
3.6	H7	6	15	50	4	0.15	4	●		
3.7	H7	6	15	50	4	0.15	4	●		
3.8	H7	6	15	50	4	0.15	4	●		
3.9	H7	6	15	50	4	0.15	4	●		
3.95	0/+0.004	8	15	50	6	0.15	4	●		
3.96	0/+0.004	8	15	50	6	0.15	4	●		
3.97	0/+0.004	8	15	50	6	0.15	4	●		
3.98	0/+0.004	8	15	50	6	0.15	4	●		
3.99	0/+0.004	8	15	50	6	0.15	4	●		
4	H7	8	15	50	6	0.15	4	●		
4.01	0/+0.004	8	15	50	6	0.15	4	●		
4.02	0/+0.004	8	15	50	6	0.15	4	●		
4.03	0/+0.004	8	15	50	6	0.15	4	●		
4.04	0/+0.004	8	15	50	6	0.15	4	●		
4.05	0/+0.004	8	15	50	6	0.15	4	●		
4.1	H7	8	15	50	6	0.15	4	●		
4.2	H7	8	15	50	6	0.15	4	●		
4.3	H7	8	15	50	6	0.15	4	●		
4.4	H7	8	15	50	6	0.15	4	●		
4.5	H7	8	15	50	6	0.15	4	●		
4.6	H7	8	15	50	6	0.15	4	●		
4.7	H7	8	15	50	6	0.15	4	●		
4.8	H7	8	15	50	6	0.15	4	●		
4.9	H7	8	15	50	6	0.15	4	●		
4.95	0/+0.004	10	20	50	6	0.2	4	●		
4.96	0/+0.004	10	20	50	6	0.2	4	●		
4.97	0/+0.004	10	20	50	6	0.2	4	●		
4.98	0/+0.004	10	20	50	6	0.2	4	●		
4.99	0/+0.004	10	20	50	6	0.2	4	●		
5	H7	10	20	50	6	0.2	4	●		
5.01	0/+0.004	10	20	50	6	0.2	4	●		
5.02	0/+0.004	10	20	50	6	0.2	4	●		
5.03	0/+0.004	10	20	50	6	0.2	4	●		
5.04	0/+0.004	10	20	50	6	0.2	4	●		
5.05	0/+0.004	10	20	50	6	0.2	4	●		
5.1	H7	10	20	50	6	0.2	4	●		
5.2	H7	10	20	50	6	0.2	4	●		
5.3	H7	10	20	50	6	0.2	4	●		
5.4	H7	10	20	50	6	0.2	4	●		
5.5	H7	10	20	50	6	0.2	4	●		
5.6	H7	10	20	50	6	0.2	4	●		
5.7	H7	10	20	50	6	0.2	4	●		
5.8	H7	10	20	50	6	0.2	4	●		
5.9	H7	10	20	50	6	0.2	4	●		

High Precision NC Machine Reamers (End Cutting)

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R328 Bright		
5.95	0/+0.004	12	25	60	8	0.2	4	●		
5.96	0/+0.004	12	25	60	8	0.2	4	●		
5.97	0/+0.004	12	25	60	8	0.2	4	●		
5.98	0/+0.004	12	25	60	8	0.2	4	●		
5.99	0/+0.004	12	25	60	8	0.2	4	●		
6	H7	12	25	60	8	0.2	4	●		
6.01	0/+0.004	12	25	60	8	0.2	4	●		
6.02	0/+0.004	12	25	60	8	0.2	4	●		
6.03	0/+0.004	12	25	60	8	0.2	4	●		
6.04	0/+0.004	12	25	60	8	0.2	4	●		
6.05	0/+0.004	12	25	60	8	0.2	4	●		
6.1	H7	12	25	60	8	0.2	4	●		
6.2	H7	12	25	60	8	0.2	4	●		
6.3	H7	12	25	60	8	0.2	4	●		
6.4	H7	12	25	60	8	0.2	4	●		
6.5	H7	12	25	60	8	0.2	4	●		
6.6	H7	12	25	60	8	0.2	4	●		
6.7	H7	12	25	60	8	0.2	4	●		
6.8	H7	12	25	60	8	0.2	4	●		
6.9	H7	12	25	60	8	0.2	4	●		
6.95	0/+0.004	14	25	60	8	0.25	4	●		
6.96	0/+0.004	14	25	60	8	0.25	4	●		
6.97	0/+0.004	14	25	60	8	0.25	4	●		
6.98	0/+0.004	14	25	60	8	0.25	4	●		
6.99	0/+0.004	14	25	60	8	0.25	4	●		
7	H7	14	25	60	8	0.25	4	●		
7.01	0/+0.004	14	25	60	8	0.25	4	●		
7.02	0/+0.004	14	25	60	8	0.25	4	●		
7.03	0/+0.004	14	25	60	8	0.25	4	●		
7.04	0/+0.004	14	25	60	8	0.25	4	●		
7.05	0/+0.004	14	25	60	8	0.25	4	●		
7.1	H7	14	25	60	8	0.25	4	●		
7.2	H7	14	25	60	8	0.25	4	●		
7.3	H7	14	25	60	8	0.25	4	●		
7.4	H7	14	25	60	8	0.25	4	●		
7.5	H7	14	25	60	8	0.25	4	●		
7.6	H7	14	25	60	8	0.25	4	●		
7.7	H7	14	25	60	8	0.25	4	●		
7.8	H7	14	25	60	8	0.25	4	●		
7.9	H7	14	25	60	8	0.25	4	●		
7.95	0/+0.004	16	30	75	10	0.25	4	●		
7.96	0/+0.004	16	30	75	10	0.25	4	●		
7.97	0/+0.004	16	30	75	10	0.25	4	●		
7.98	0/+0.004	16	30	75	10	0.25	4	●		
7.99	0/+0.004	16	30	75	10	0.25	4	●		
8	H7	16	30	75	10	0.25	4	●		
8.01	0/+0.004	16	30	75	10	0.25	4	●		
8.02	0/+0.004	16	30	75	10	0.25	4	●		
8.03	0/+0.004	16	30	75	10	0.25	4	●		
8.04	0/+0.004	16	30	75	10	0.25	4	●		
8.05	0/+0.004	16	30	75	10	0.25	4	●		
8.1	H7	16	30	75	10	0.25	4	●		
8.2	H7	16	30	75	10	0.25	4	●		
8.3	H7	16	30	75	10	0.25	4	●		
8.4	H7	16	30	75	10	0.25	4	●		
8.5	H7	16	30	75	10	0.25	4	●		
8.6	H7	16	30	75	10	0.25	4	●		
8.7	H7	16	30	75	10	0.25	4	●		
8.8	H7	16	30	75	10	0.25	4	●		
8.9	H7	16	30	75	10	0.25	4	●		
8.95	0/+0.004	18	30	75	10	0.3	4	●		
8.96	0/+0.004	18	30	75	10	0.3	4	●		
8.97	0/+0.004	18	30	75	10	0.3	4	●		
8.98	0/+0.004	18	30	75	10	0.3	4	●		

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc mm	Tolerance mm	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R328 Bright		
8.99	0/+0.004	18	30	75	10	0.3	4	●		
9	H7	18	30	75	10	0.3	4	●		
9.01	0/+0.004	18	30	75	10	0.3	4	●		
9.02	0/+0.004	18	30	75	10	0.3	4	●		
9.03	0/+0.004	18	30	75	10	0.3	4	●		
9.04	0/+0.004	18	30	75	10	0.3	4	●		
9.05	0/+0.004	18	30	75	10	0.3	4	●		
9.1	H7	18	30	75	10	0.3	4	●		
9.2	H7	18	30	75	10	0.3	4	●		
9.3	H7	18	30	75	10	0.3	4	●		
9.4	H7	18	30	75	10	0.3	4	●		
9.5	H7	18	30	75	10	0.3	4	●		
9.6	H7	18	30	75	10	0.3	4	●		
9.7	H7	18	30	75	10	0.3	4	●		
9.8	H7	18	30	75	10	0.3	4	●		
9.9	H7	18	30	75	10	0.3	4	●		
9.95	0/+0.004	20	35	75	12	0.3	4	●		
9.96	0/+0.004	20	35	75	12	0.3	4	●		
9.97	0/+0.004	20	35	75	12	0.3	4	●		
9.98	0/+0.004	20	35	75	12	0.3	4	●		
9.99	0/+0.004	20	35	75	12	0.3	4	●		
10	H7	20	35	75	12	0.3	4	●		
10.01	0/+0.004	20	35	75	12	0.3	4	●		
10.02	0/+0.004	20	35	75	12	0.3	4	●		
10.03	0/+0.004	20	35	75	12	0.3	4	●		
10.04	0/+0.004	20	35	75	12	0.3	4	●		
10.05	0/+0.004	20	35	75	12	0.3	4	●		
10.1	H7	20	35	75	12	0.3	4	●		
10.2	H7	20	35	75	12	0.3	4	●		
10.3	H7	20	35	75	12	0.3	4	●		
10.4	H7	20	35	75	12	0.3	4	●		
10.5	H7	20	35	75	12	0.3	4	●		
10.6	H7	20	35	75	12	0.3	4	●		
10.7	H7	20	35	75	12	0.3	4	●		
10.8	H7	20	35	75	12	0.3	4	●		
10.9	H7	20	35	75	12	0.3	4	●		
11	H7	22	35	75	12	0.35	4	●		
11.1	H7	22	35	75	12	0.35	4	●		
11.2	H7	22	35	75	12	0.35	4	●		
11.3	H7	22	35	75	12	0.35	4	●		
11.4	H7	22	35	75	12	0.35	4	●		
11.5	H7	22	35	75	12	0.35	4	●		
11.6	H7	22	35	75	12	0.35	4	●		
11.7	H7	22	35	75	12	0.35	4	●		
11.8	H7	22	35	75	12	0.35	4	●		
11.9	H7	22	35	75	12	0.35	4	●		
11.95	0/+0.004	24	35	75	12	0.35	4	●		
11.96	0/+0.004	24	35	75	12	0.35	4	●		
11.97	0/+0.004	24	35	75	12	0.35	4	●		
11.98	0/+0.004	24	35	75	12	0.35	4	●		
11.99	0/+0.004	24	35	75	12	0.35	4	●		
12	H7	24	35	75	12	0.35	4	●		
12.01	0/+0.004	24	35	75	12	0.35	4	●		
12.02	0/+0.004	24	35	75	12	0.35	4	●		
12.03	0/+0.004	24	35	75	12	0.35	4	●		
12.04	0/+0.004	24	35	75	12	0.35	4	●		
12.05	0/+0.004	24	35	75	12	0.35	4	●		

切削條件參考表請參照P32頁

鋼鐵用高效率立銑刀

鋼、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

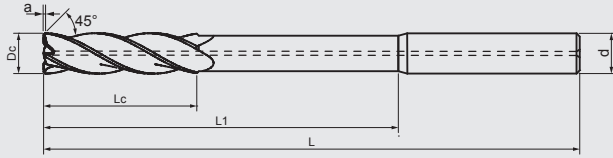
技術資料

R329 超微粒鎢鋼NC精密機械鉸刀(附底刃)

High Precision NC Machine Reamers (End Cutting)

Designed with right helix and right cutting flutes.
Upward chip evacuation.
Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.
Designed with the function of end cutting.
With internal coolant for even out the residual left in the bottom of the hole.
Accuracy tolerance: H7 (m5)
0/+0.004mm

右螺旋右切刃設計。
排屑方向往上。
適用切削於48HRC以下各種鋼鐵，不銹鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。
附底刃的功能。
具有內冷孔，可進行盲孔底部餘料移除達到精緻面。
刃徑精度公差：H7 (m5)
0/+0.004mm



VHM Carbide

Uncoated Bright

R 30°

Steel
Cast Iron
Stainless Steel
AL, Copper

Through Hole

Blind Hole



- P
- H
- M
- K
- N

孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015

Standard Length Code No. R329-Dc

Dc +0.004 -0	Tolerance mm	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R329 Bright
2.95	0/+0.004	15	33	61	3	0.1	4	●
2.96	0/+0.004	15	33	61	3	0.1	4	●
2.97	0/+0.004	15	33	61	3	0.1	4	●
2.98	0/+0.004	15	33	61	3	0.1	4	●
2.99	0/+0.004	15	33	61	3	0.1	4	●
3	H7	15	33	61	3	0.1	4	●
3.01	0/+0.004	15	33	61	3	0.1	4	●
3.02	0/+0.004	15	33	61	3	0.1	4	●
3.03	0/+0.004	15	33	61	3	0.1	4	●
3.04	0/+0.004	15	33	61	3	0.1	4	●
3.05	0/+0.004	15	33	61	3	0.1	4	●
3.95	0/+0.004	19	43	75	4	0.15	4	●
3.96	0/+0.004	19	43	75	4	0.15	4	●
3.97	0/+0.004	19	43	75	4	0.15	4	●
3.98	0/+0.004	19	43	75	4	0.15	4	●
3.99	0/+0.004	19	43	75	4	0.15	4	●
4	H7	19	43	75	4	0.15	4	●
4.01	0/+0.004	19	43	75	4	0.15	4	●
4.02	0/+0.004	19	43	75	4	0.15	4	●
4.03	0/+0.004	19	43	75	4	0.15	4	●
4.04	0/+0.004	19	43	75	4	0.15	4	●
4.05	0/+0.004	19	43	75	4	0.15	4	●
4.95	0/+0.004	23	52	86	5	0.2	4	●
4.96	0/+0.004	23	52	86	5	0.2	4	●
4.97	0/+0.004	23	52	86	5	0.2	4	●
4.98	0/+0.004	23	52	86	5	0.2	4	●
4.99	0/+0.004	23	52	86	5	0.2	4	●
5	H7	23	52	86	5	0.2	4	●
5.01	0/+0.004	23	52	86	5	0.2	4	●
5.02	0/+0.004	23	52	86	5	0.2	4	●
5.03	0/+0.004	23	52	86	5	0.2	4	●
5.04	0/+0.004	23	52	86	5	0.2	4	●
5.05	0/+0.004	23	52	86	5	0.2	4	●
5.95	0/+0.004	26	52	93	6	0.2	4	●
5.96	0/+0.004	26	52	93	6	0.2	4	●
5.97	0/+0.004	26	52	93	6	0.2	4	●

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Dc $+0.004$ -0	Tolerance mm	Lc mm	L1 mm	L mm	d h5	a mm	Z teeth	R329 Bright		
5.98	0/+0.004	26	52	93	6	0.2	4	●		
5.99	0/+0.004	26	52	93	6	0.2	4	●		
6	H7	26	52	93	6	0.2	4	●		
6.01	0/+0.004	26	52	93	6	0.2	4	●		
6.02	0/+0.004	26	52	93	6	0.2	4	●		
6.03	0/+0.004	26	52	93	6	0.2	4	●		
6.04	0/+0.004	26	52	93	6	0.2	4	●		
6.05	0/+0.004	26	52	93	6	0.2	4	●		
6.95	0/+0.004	31	68	109	8	0.25	4	●		
6.96	0/+0.004	31	68	109	8	0.25	4	●		
6.97	0/+0.004	31	68	109	8	0.25	4	●		
6.98	0/+0.004	31	68	109	8	0.25	4	●		
6.99	0/+0.004	31	68	109	8	0.25	4	●		
7	H7	31	68	109	8	0.25	4	●		
7.01	0/+0.004	31	68	109	8	0.25	4	●		
7.02	0/+0.004	31	68	109	8	0.25	4	●		
7.03	0/+0.004	31	68	109	8	0.25	4	●		
7.04	0/+0.004	31	68	109	8	0.25	4	●		
7.05	0/+0.004	31	68	109	8	0.25	4	●		
7.95	0/+0.004	33	77	117	8	0.25	4	●		
7.96	0/+0.004	33	77	117	8	0.25	4	●		
7.97	0/+0.004	33	77	117	8	0.25	4	●		
7.98	0/+0.004	33	77	117	8	0.25	4	●		
7.99	0/+0.004	33	77	117	8	0.25	4	●		
8	H7	33	77	117	8	0.25	4	●		
8.01	0/+0.004	33	77	117	8	0.25	4	●		
8.02	0/+0.004	33	77	117	8	0.25	4	●		
8.03	0/+0.004	33	77	117	8	0.25	4	●		
8.04	0/+0.004	33	77	117	8	0.25	4	●		
8.05	0/+0.004	33	77	117	8	0.25	4	●		
8.95	0/+0.004	36	80	125	10	0.3	4	●		
8.96	0/+0.004	36	80	125	10	0.3	4	●		
8.97	0/+0.004	36	80	125	10	0.3	4	●		
8.98	0/+0.004	36	80	125	10	0.3	4	●		
8.99	0/+0.004	36	80	125	10	0.3	4	●		
9	H7	36	80	125	10	0.3	4	●		
9.01	0/+0.004	36	80	125	10	0.3	4	●		
9.02	0/+0.004	36	80	125	10	0.3	4	●		
9.03	0/+0.004	36	80	125	10	0.3	4	●		
9.04	0/+0.004	36	80	125	10	0.3	4	●		
9.05	0/+0.004	36	80	125	10	0.3	4	●		
9.95	0/+0.004	38	88	133	10	0.3	4	●		
9.96	0/+0.004	38	88	133	10	0.3	4	●		
9.97	0/+0.004	38	88	133	10	0.3	4	●		
9.98	0/+0.004	38	88	133	10	0.3	4	●		
9.99	0/+0.004	38	88	133	10	0.3	4	●		
10	H7	38	88	133	10	0.3	4	●		
10.01	0/+0.004	38	88	133	10	0.3	4	●		
10.02	0/+0.004	38	88	133	10	0.3	4	●		
10.03	0/+0.004	38	88	133	10	0.3	4	●		
10.04	0/+0.004	38	88	133	10	0.3	4	●		
10.05	0/+0.004	38	88	133	10	0.3	4	●		
11.95	0/+0.004	44	100	151	12	0.35	4	●		
11.96	0/+0.004	44	100	151	12	0.35	4	●		
11.97	0/+0.004	44	100	151	12	0.35	4	●		
11.98	0/+0.004	44	100	151	12	0.35	4	●		
11.99	0/+0.004	44	100	151	12	0.35	4	●		
12	H7	44	100	151	12	0.35	4	●		
12.01	0/+0.004	44	100	151	12	0.35	4	●		
12.02	0/+0.004	44	100	151	12	0.35	4	●		
12.03	0/+0.004	44	100	151	12	0.35	4	●		
12.04	0/+0.004	44	100	151	12	0.35	4	●		
12.05	0/+0.004	44	100	151	12	0.35	4	●		

切削條件參考表請參照P32頁

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

R302 超微粒鎢鋼長柄機械鉸刀

Machine Reamers

Designed with left helix and right cutting flutes with unequal flute design.

Downward chip evacuation.

Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.

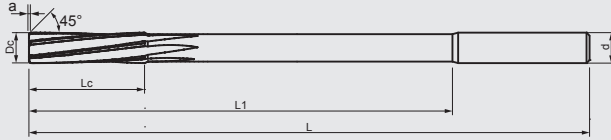
Accuracy tolerance: H7 (m5)

左螺旋右切刃設計，不等分割刃設計。

排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不銹鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。

刃徑精度公差：H7 (m5)



VHM Carbide **Uncoated Bright** L 7° 不等 Z **Steel Cast Iron Stainless Steel AL, Copper** **Through Hole** **Blind Hole**

孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
-	3	+0.002/+0.006	+0.004/+0.008	0/+0.010	0/+0.014	+0.004	+0.005	+0.006
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015



P
H
M
K
N

Long Length

Code No. R302-Dc

Dc H7	Lc mm	L1 mm	L mm	d mm	a mm	Z teeth	R302 Bright		
3	15	72	100	3	0.3	4	•		
4	19	88	119	4	0.4	4	•		
5	23	99	132	5	0.5	6	•		
6	26	104	139	6	0.5	6	•		
7	31	117	156	7	0.6	6	•		
8	33	124	165	8	0.6	6	•		
9	36	132	175	9	0.8	6	•		
10	38	139	184	10	0.8	6	•		
12	44	160	205	12	1.0	6	•		

切削條件參考表請參照P32頁

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

Machine Reamers

Designed with left helix and right cutting flutes with unequal flute design.

Downward chip evacuation.

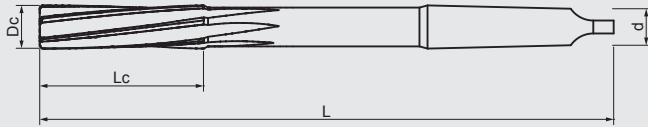
Application for reaming different steels below 48HRC, stainless steel, cast iron, aluminium, copper...and etc.

Accuracy tolerance: H7 (m5)

左螺旋右切刃設計，不等分割刃設計。排屑方向往下。

適用切削於48HRC以下各種鋼鐵，不鏽鋼及鑄鐵、鋁合金、銅...等材料鉸孔應用。

刃徑精度公差：H7 (m5)



HM Carbide Tipped
Uncoated Bright

不等
Steel Cast Iron Stainless Steel AL, Copper
Through Hole
Blind Hole



- P**
- H**
- M**
- K**
- N**

孔徑配合尺寸容許範圍與鉸刀直徑公差範圍規範

尺寸區分(mm)		鉸刀直徑公差(mm)		孔的公差(mm)		研磨鉸刀直徑公差(mm)		
以上	以下	m5(JIS)	H7(DIN 1420)	H7	H8	下限	中間值	上限
3	6	+0.004/+0.009	+0.005/+0.010	0/+0.012	0/+0.018	+0.005	+0.007	+0.009
6	10	+0.006/+0.012	+0.006/+0.012	0/+0.015	0/+0.022	+0.007	+0.009	+0.011
10	18	+0.007/+0.015	+0.008/+0.015	0/+0.018	0/+0.027	+0.009	+0.011	+0.013
18	30	+0.008/+0.017	+0.009/+0.017	0/+0.021	0/+0.033	+0.011	+0.013	+0.015
30	50	+0.009/+0.020	+0.012/+0.021	0/+0.025	0/+0.039	+0.013	+0.016	+0.019

Standard Length

Code No. R303-Dc

Dc H7	Lc mm	L mm	d M.T.	Z teeth	R303 Bright
10	38	168	1	6	•
11	41	175	1	6	•
12	44	182	1	6	•
13	44	182	1	6	•
14	47	189	1	6	•
15	50	204	2	6	•
16	52	210	2	6	•
17	54	214	2	6	•
18	56	219	2	6	•
19	58	223	2	6	•
20	60	228	2	6	•
22	64	237	2	6	•
24	68	268	3	8	•
25	68	268	3	8	•
26	70	273	3	8	•
28	71	277	3	8	•
30	73	281	3	8	•
32	77	317	4	8	•
35	78	321	4	8	•
36	79	325	4	8	•
38	81	329	4	8	•
40	81	329	4	8	•

切削條件參考表請參照P32頁

※ HM - Sold until stock last.
※ HM - 售完為止

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

切削條件

Cutting Conditions

	R208TX		R212TX		R300 / R307		R301		R308		
	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	
P	Carbon Steel Materials										
	GRI Carbon Steel	15	0.008xDc	15	0.008xDc	15	0.008xDc	15	0.008xDc	15	0.008xDc
	GR2 <24HRC Low-alloyed Steel	15	0.008xDc	15	0.008xDc	15	0.008xDc	15	0.008xDc	15	0.008xDc
	GR3 <30HRC Hi-alloyed Steel	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc
H	Hardened Steel Materials										
	GR4 30-38HRC Hardened Steel	8	0.005xDc	8	0.005xDc	8	0.005xDc	8	0.005xDc	8	0.005xDc
	GR5 38-48HRC Hardened Steel	6	0.003xDc	6	0.003xDc	5	0.003xDc	5	0.003xDc	5	0.003xDc
	GR6 48-55HRC Hardened Steel	5	0.002xDc	5	0.002xDc						
	GR7 55-68HRC Hardened Steel	4	0.001xDc	4	0.001xDc						
M	Stainless Steel Materials										
	GR8-1 Ferritic / Martensitic	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc
	GR8-2 Austenitic	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc
	GR8-3 Austenitic-ferritic	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc	12	0.006xDc
	GR8-4 Austenitic-ferritic Heat-resistant	8	0.004xDc	8	0.004xDc	8	0.004xDc	8	0.004xDc	8	0.004xDc
K	Cast Iron Materials										
	GR9-1 Grey cast iron	15	0.009xDc	15	0.009xDc	15	0.006xDc	15	0.006xDc	15	0.006xDc
	GR9-2 Nodular cast iron	15	0.009xDc	15	0.009xDc	15	0.006xDc	15	0.006xDc	15	0.006xDc
N	Aluminium Steel Materials										
	GR10-1 Wrought Aluminium alloys					20	0.006xDc	20	0.006xDc	20	0.006xDc
	GR10-2 Aluminium cast alloys <10%					20	0.006xDc	20	0.006xDc	20	0.006xDc
	GR10-3 Aluminium cast alloys >10%					20	0.006xDc	20	0.006xDc	20	0.006xDc
	Copper Steel Materials										
	GR11-1 Pure Copper					15	0.006xDc	15	0.006xDc	15	0.006xDc
	GR11-2 Brass					15	0.006xDc	15	0.006xDc	15	0.006xDc
	GR11-2 Bronze					15	0.006xDc	15	0.006xDc	15	0.006xDc

All cutting data serve for orientation only and should be adapted individually to the technical conditions on location

1. Please work with good rigidity / high precision facilities and collet chuck.
 2. Please choose proper cutting fluid.
 3. The cutting data is reference value only. Please adjust it according to your real working conditions.
 4. If RPM is lower the reference value, the Feed rate (fz) and RPM should be reduced by the same proportion.
 5. If vibration occurs during cutting, please reduce cutting parameter.
1. 請使用剛性好、精度高的設備和夾具。
 2. 請選擇適用於工件材料的切削液。
 3. 此切削條件表中的數值為切削條件的基準值，實際加工時，請考慮加工形狀、目的、使用機台等因素，對切削條件進行調整。
 4. 如果機台轉速低於表中所列數值，則進給速度應與轉速按同一比例降低。
 5. 切削加工時如果發生振顫，請降低切削條件。

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

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通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

銼刀

技術資料

	R318		R319		R328 / R329		R302		R303		
	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	
R318 R319 R328 R329 R302 R303											
	Carbon Steel Materials										
	P	GRI Carbon Steel	15	0.008×Dc	15	0.008×Dc	15	0.008×Dc	15	0.008×Dc	15
	GR2 <24HRC Low-alloyed Steel	15	0.008×Dc	15	0.008×Dc	15	0.008×Dc	15	0.008×Dc	15	0.008×Dc
	GR3 <30HRC Hi-alloyed Steel	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc
Hardened Steel Materials											
H	GR4 30-38HRC Hardened Steel	8	0.005×Dc	8	0.005×Dc	8	0.005×Dc	8	0.005×Dc	8	0.005×Dc
	GR5 38-48HRC Hardened Steel	5	0.003×Dc	5	0.003×Dc	5	0.003×Dc	5	0.003×Dc	5	0.003×Dc
	GR6 48-55HRC Hardened Steel										
	GR7 55-68HRC Hardened Steel										
Stainless Steel Materials											
M	GR8-1 Ferritic / Martensitic	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc
	GR8-2 Austenitic	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc
	GR8-3 Austenitic-ferritic	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc	12	0.006×Dc
	GR8-4 Austenitic-ferritic Heat-resistant	8	0.004×Dc	8	0.004×Dc	8	0.004×Dc	8	0.004×Dc	8	0.004×Dc
Cast Iron Materials											
K	GR9-1 Grey cast iron	15	0.006×Dc	15	0.006×Dc	15	0.009×Dc	15	0.006×Dc	15	0.009×Dc
	GR9-2 Nodular cast iron	15	0.006×Dc	15	0.006×Dc	15	0.009×Dc	15	0.006×Dc	15	0.009×Dc
Aluminium Steel Materials											
N	GR10-1 Wrought Aluminium alloys	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc
	GR10-2 Aluminium cast alloys <10%	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc
	GR10-3 Aluminium cast alloys >10%	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc	20	0.006×Dc
Copper Steel Materials											
N	GR11-1 Pure Copper	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc
	GR11-2 Brass	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc
	GR11-2 Bronze	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc	15	0.006×Dc

All cutting data serve for orientation only and should be adapted individually to the technical conditions on location

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1. 請使用剛性好、精度高的設備和夾具。
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 3. 此切削條件表中的數值為切削條件的基準值，實際加工時，請考慮加工形狀、目的、使用機台等因素，對切削條件進行調整。
 4. 如果機台轉速低於表中所列數值，則進給速度應與轉速按同一比例降低。
 5. 切削加工時如果發生振顫，請降低切削條件。

NC Machine Reamers
4&6 Flute Straight Shank Chucking Reamers

MG
Carbide

Uncoated
Bright



Code No: R391-DC

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用透立銑刀

鋁用立銑刀

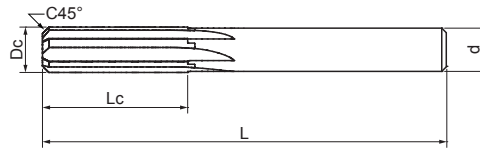
通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料



Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P	鋼鐵 Steel
H	硬化鋼 <48HRC Hardened Steel
M	不銹鋼 Stainless Steel
K	鑄鐵 Cast Iron
N	鋁 Aluminium
N	銅 Copper
N	塑膠 Plastics

Tolerance: DC

+0.004/+0.008: 0.5-3.0
+0.005/+0.010: 3.0-6.0
+0.006/+0.012: 6.0-10
+0.008/+0.015: 10-18

Feature of product:

提供卓越的耐磨性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等...

Standard Length

Dc H7	Lc mm	L mm	d mm	Z teeth	Bright R391
0.5	5	38	0.40	4	●
0.6	5	38	0.50	4	●
0.7	5	38	0.60	4	●
0.8	6	38	0.70	4	●
0.9	6	38	0.80	4	●
1	6	38	0.80	4	●
1.1	10	38	1.00	4	●
1.2	10	38	1.04	4	●
1.3	10	38	1.04	4	●
1.4	10	38	1.32	4	●
1.5	10	38	1.32	4	●
1.6	10	38	1.32	4	●
1.7	13	44	1.59	4	●
1.8	13	44	1.59	4	●
1.9	13	44	1.59	4	●
2	13	44	1.59	4	●
2.1	13	51	1.98	4	●
2.2	13	51	1.98	4	●
2.3	13	51	1.98	4	●
2.4	13	51	1.98	4	●
2.5	16	57	2.38	4	●
2.6	16	57	2.38	4	●
2.7	16	57	2.38	4	●
2.8	16	57	2.38	4	●
2.9	16	57	2.78	4	●
3	16	57	2.78	4	●
3.1	16	57	2.78	4	●
3.2	16	57	2.78	4	●
3.3	19	64	2.78	4	●
3.4	19	64	2.78	4	●
3.5	19	64	2.78	4	●
3.6	19	64	2.78	4	●
3.7	19	64	3.57	4	●
3.8	19	64	3.57	4	●



Code No: R391-DC

Standard Length

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

- P** 鋼鐵
Steel
- H** 硬化鋼 <48HRC
Hardened Steel
- M** 不銹鋼
Stainless Steel
- K** 鑄鐵
Cast Iron
- N** 鋁
Aluminium
- N** 銅
Copper
- N** 塑膠
Plastics

Tolerance: DC

+0.004/+0.008: 0.5-3.0
+0.005/+0.010: 3.0-6.0
+0.006/+0.012: 6.0-10
+0.008/+0.015: 10-18

Feature of product:

提供卓越的耐磨性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等……

Dc H7	Lc mm	L mm	d mm	Z teeth	Bright R391	Dc H7	Lc mm	L mm	d mm	Z teeth	Bright R391
3.9	19	64	3.57	4	●	8.5	32	89	7.94	6	●
4	19	64	3.57	4	●	8.6	32	89	7.94	6	●
4.1	22	70	3.97	4	●	8.7	32	89	7.94	6	●
4.2	22	70	3.97	4	●	8.8	32	89	7.94	6	●
4.3	22	70	3.97	4	●	8.9	32	89	7.94	6	●
4.4	22	70	3.97	4	●	9	32	89	7.94	6	●
4.5	22	70	4.37	4	●	9.1	32	89	7.94	6	●
4.6	22	70	4.37	4	●	9.2	32	89	9.13	6	●
4.7	22	70	4.37	4	●	9.3	32	89	9.13	6	●
4.8	22	70	4.37	4	●	9.4	32	89	9.13	6	●
4.9	22	70	4.76	4	●	9.5	32	89	9.13	6	●
5	25	76	4.76	4	●	9.6	32	89	9.13	6	●
5.1	25	76	4.76	4	●	9.7	32	89	9.13	6	●
5.2	25	76	4.76	4	●	9.8	32	89	9.13	6	●
5.3	25	76	4.76	4	●	9.9	32	89	9.53	6	●
5.4	25	76	4.76	4	●	10	32	89	9.53	6	●
5.5	25	76	4.76	4	●	10.1	32	89	9.53	6	●
5.6	25	76	4.76	4	●	10.2	32	89	9.53	6	●
5.7	25	76	5.56	4	●	10.3	32	89	9.53	6	●
5.8	25	76	5.56	4	●	10.4	32	89	9.53	6	●
5.9	25	76	5.56	4	●	10.5	32	89	9.53	6	●
6	25	76	5.56	4	●	10.6	35	102	9.53	6	●
6.1	25	76	5.56	4	●	10.7	35	102	9.53	6	●
6.2	25	76	5.56	4	●	10.8	35	102	9.53	6	●
6.3	25	76	5.56	4	●	10.9	35	102	9.53	6	●
6.4	25	76	5.56	4	●	11	35	102	9.53	6	●
6.5	29	83	6.35	6	●	11.1	35	102	9.53	6	●
6.6	29	83	6.35	6	●	11.2	35	102	9.53	6	●
6.7	29	83	6.35	6	●	11.3	35	102	9.53	6	●
6.8	29	83	6.35	6	●	11.4	35	102	9.53	6	●
6.9	29	83	6.35	6	●	11.5	35	102	9.53	6	●
7	29	83	6.35	6	●	11.6	35	102	11.11	6	●
7.1	29	83	6.35	6	●	11.7	35	102	11.11	6	●
7.2	29	83	6.35	6	●	11.8	35	102	11.11	6	●
7.3	29	83	7.14	6	●	11.9	35	102	11.11	6	●
7.4	29	83	7.14	6	●	12	35	102	11.11	6	●
7.5	29	83	7.14	6	●	12.1	38	102	11.11	6	●
7.6	29	83	7.14	6	●	12.2	38	102	11.11	6	●
7.7	29	83	7.14	6	●	12.3	38	102	11.11	6	●
7.8	29	83	7.14	6	●	12.4	38	102	11.11	6	●
7.9	29	83	7.14	6	●	12.5	38	102	11.11	6	●
8	29	83	7.14	6	●	12.6	38	102	11.11	6	●
8.1	32	89	7.94	6	●	12.7	38	102	11.11	6	●
8.2	32	89	7.94	6	●	12.8	38	102	11.11	6	●
8.3	32	89	7.94	6	●	12.9	38	102	11.11	6	●
8.4	32	89	7.94	6	●	13	38	102	11.11	6	●

Please refer to page 38 for parameters.

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

超微粒鎢鋼NC機械鉸刀

NC Machine Reamers
4&6 Flute Straight Shank Chucking Reamers

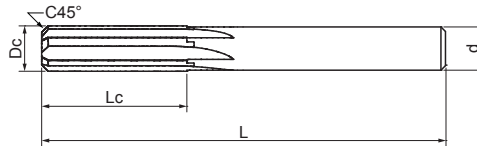
MG
Carbide

Uncoated
Bright



7leaders
The Art of Cutting

Code No: R391-DC



Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P	鋼鐵 Steel
H	硬化鋼 <48HRC Hardened Steel
M	不銹鋼 Stainless Steel
K	鑄鐵 Cast Iron
N	鋁 Aluminium
N	銅 Copper
N	塑膠 Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐用性。
在低張力和高耐用性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。

Standard Length

Dec.Equiv.	Dc		Lc		L		d	Z teeth	Bright R391
	Inch	mm	Inch	mm	Inch	mm			
0.0313	1/32	0.795	1/4	6.35	1-1/2	38.10	0.0260	4	●
0.0469	3/64	1.191	3/8	9.53	1-1/2	38.10	0.0410	4	●
0.0625	1/16	1.588	3/8	9.53	1-1/2	38.10	0.0520	4	●
0.0781	5/64	1.984	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0938	3/32	2.383	1/2	12.70	2	50.80	0.0781	4	●
0.1094	7/64	2.779	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1250	1/8	3.175	5/8	15.88	2-1/4	57.15	0.1094	4	●
0.1406	9/64	3.571	3/4	19.05	2-1/2	63.50	0.1250	4	●
0.1562	5/32	3.967	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1719	11/64	4.366	7/8	22.23	2-3/4	69.85	0.1562	4	●
0.1875	3/16	4.763	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.2031	13/64	5.159	1	25.40	3	76.20	0.1875	4	●
0.2188	7/32	5.558	1	25.40	3	76.20	0.1875	4	●
0.2344	15/64	5.954	1	25.40	3	76.20	0.2188	4	●
0.2500	1/4	6.350	1	25.40	3	76.20	0.2188	4	●
0.2656	17/64	6.746	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2812	9/32	7.142	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2969	19/64	7.541	1-1/8	28.58	3-1/4	82.55	0.2812	6	●
0.3125	5/16	7.938	1-1/8	28.58	3-1/4	82.55	0.2812	6	●
0.3281	21/64	8.334	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3438	11/32	8.733	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3594	23/64	9.129	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3750	3/8	9.525	1-1/4	31.75	3-1/2	88.90	0.3594	6	●
0.3906	25/64	9.921	1-1/4	31.75	3-1/2	88.90	0.3750	6	●
0.4062	13/32	10.317	1-1/4	31.75	3-1/2	88.90	0.3750	6	●
0.4219	27/64	10.716	1-3/8	34.93	4	101.60	0.3750	6	●
0.4375	7/16	11.113	1-3/8	34.93	4	101.60	0.3750	6	●
0.4531	29/64	11.509	1-3/8	34.93	4	101.60	0.4375	6	●
0.4688	15/32	11.908	1-3/8	34.93	4	101.60	0.4375	6	●
0.4844	31/64	12.304	1-1/2	38.10	4	101.60	0.4375	6	●
0.5000	1/2	12.700	1-1/2	38.10	4	101.60	0.4375	6	●
0.0400	#60	1.016	1/4	6.35	1-1/2	38.10	0.0360	4	●
0.0410	#59	1.041	1/4	6.35	1-1/2	38.10	0.0360	4	●
0.0420	#58	1.067	3/8	9.53	1-1/2	38.10	0.0380	4	●
0.0430	#57	1.092	3/8	9.53	1-1/2	38.10	0.0380	4	●
0.0465	#56	1.181	3/8	9.53	1-1/2	38.10	0.0410	4	●
0.0520	#55	1.321	3/8	9.53	1-1/2	38.10	0.0410	4	●
0.0550	#54	1.397	3/8	9.53	1-1/2	38.10	0.0520	4	●
0.0595	#53	1.511	3/8	9.53	1-1/2	38.10	0.0520	4	●
0.0635	#52	1.613	3/8	9.53	1-1/2	38.10	0.0520	4	●
0.0670	#51	1.702	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0700	#50	1.778	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0730	#49	1.854	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0760	#48	1.930	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0785	#47	1.994	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0810	#46	2.057	1/2	12.70	1-3/4	44.45	0.0625	4	●
0.0820	#45	2.083	1/2	12.70	2	50.80	0.0781	4	●
0.0860	#44	2.184	1/2	12.70	2	50.80	0.0781	4	●
0.0890	#43	2.261	1/2	12.70	2	50.80	0.0781	4	●
0.0935	#42	2.375	1/2	12.70	2	50.80	0.0781	4	●

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用銑立銑刀

鋁用立銑刀

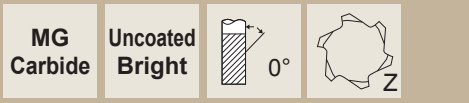
通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料



MG Carbide Uncoated Bright 0° Z

Code No: R391-DC

Standard Length

Dec.Equiv.	Dc		Lc		L		d	Z teeth	Bright R391
	Inch	mm	Inch	mm	Inch	mm			
0.0960	#41	2.438	1/2	12.70	2	50.80	0.0781	4	●
0.0980	#40	2.489	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.0995	#39	2.527	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1015	#38	2.578	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1040	#37	2.642	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1065	#36	2.705	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1100	#35	2.794	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1110	#34	2.819	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1130	#33	2.870	5/8	15.88	2-1/4	57.15	0.0938	4	●
0.1160	#32	2.946	5/8	15.88	2-1/4	57.15	0.1094	4	●
0.1200	#31	3.048	5/8	15.88	2-1/4	57.15	0.1094	4	●
0.1285	#30	3.264	5/8	15.88	2-1/4	57.15	0.1094	4	●
0.1360	#29	3.454	3/4	19.05	2-1/2	63.50	0.1250	4	●
0.1405	#28	3.569	3/4	19.05	2-1/2	63.50	0.1250	4	●
0.1440	#27	3.658	3/4	19.05	2-1/2	63.50	0.1250	4	●
0.1470	#26	3.734	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1495	#25	3.797	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1520	#24	3.861	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1540	#23	3.912	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1570	#22	3.988	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1590	#21	4.039	3/4	19.05	2-1/2	63.50	0.1406	4	●
0.1610	#20	4.089	7/8	22.23	2-3/4	69.85	0.1562	4	●
0.1660	#19	4.216	7/8	22.23	2-3/4	69.85	0.1562	4	●
0.1695	#18	4.305	7/8	22.23	2-3/4	69.85	0.1562	4	●
0.1730	#17	4.394	7/8	22.23	2-3/4	69.85	0.1562	4	●
0.1770	#16	4.496	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.1800	#15	4.572	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.1820	#14	4.623	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.1850	#13	4.699	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.1890	#12	4.801	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.1910	#11	4.851	7/8	22.23	2-3/4	69.85	0.1719	4	●
0.1935	#10	4.915	1	25.40	3	76.20	0.1875	4	●
0.1960	#9	4.978	1	25.40	3	76.20	0.1875	4	●
0.1990	#8	5.055	1	25.40	3	76.20	0.1875	4	●
0.2010	#7	5.105	1	25.40	3	76.20	0.1875	4	●
0.2040	#6	5.182	1	25.40	3	76.20	0.1875	4	●
0.2055	#5	5.220	1	25.40	3	76.20	0.1875	4	●
0.2090	#4	5.309	1	25.40	3	76.20	0.1875	4	●
0.2130	#3	5.410	1	25.40	3	76.20	0.1875	4	●
0.2210	#2	5.613	1	25.40	3	76.20	0.1875	4	●
0.2280	#1	5.791	1	25.40	3	76.20	0.2188	4	●
0.2340	A	5.944	1	25.40	3	76.20	0.2188	4	●
0.2380	B	6.045	1	25.40	3	76.20	0.2188	4	●
0.2420	C	6.147	1	25.40	3	76.20	0.2188	4	●
0.2460	D	6.248	1	25.40	3	76.20	0.2188	4	●
0.2500	E	6.350	1	25.40	3	76.20	0.2188	4	●
0.2570	F	6.528	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2610	G	6.629	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2660	H	6.756	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2720	I	6.909	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2770	J	7.036	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2810	K	7.137	1-1/8	28.58	3-1/4	82.55	0.2500	6	●
0.2900	L	7.366	1-1/8	28.58	3-1/4	82.55	0.2812	6	●
0.2950	M	7.493	1-1/8	28.58	3-1/4	82.55	0.2812	6	●
0.3020	N	7.671	1-1/8	28.58	3-1/4	82.55	0.2812	6	●
0.3160	O	8.026	1-1/8	28.58	3-1/4	82.55	0.2812	6	●
0.3230	P	8.204	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3320	Q	8.433	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3390	R	8.611	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3480	S	8.839	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3580	T	9.093	1-1/4	31.75	3-1/2	88.90	0.3125	6	●
0.3680	U	9.347	1-1/4	31.75	3-1/2	88.90	0.3594	6	●
0.3770	V	9.576	1-1/4	31.75	3-1/2	88.90	0.3594	6	●
0.3860	W	9.804	1-1/4	31.75	3-1/2	88.90	0.3594	6	●
0.3970	X	10.084	1-1/4	31.75	3-1/2	88.90	0.3750	6	●
0.4040	Y	10.262	1-1/4	31.75	3-1/2	88.90	0.3750	6	●
0.4130	Z	10.490	1-1/4	31.75	3-1/2	88.90	0.3750	6	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P 鋼鐵
Steel

H 硬化鋼 <48HRC
Hardened Steel

M 不銹鋼
Stainless Steel

K 鑄鐵
Cast Iron

N 鋁
Aluminium

N 銅
Copper

N 塑膠
Plastics

Tolerance: DC
 +0.0001/+0.0003: 1/32"-1/4"
 +0.0001/+0.0004: 1/4"-1/2"

Feature of product:
 提供卓越的耐磨性。
 在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。

Please refer to page 38 for parameters.

超微粒鎢鋼精密機械鉸刀

High Precision Machine Reamers
4&6 Flute Straight Shank Chucking Reamers

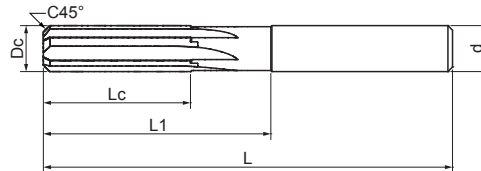
MG
Carbide

Uncoated
Bright



7leaders
The Art of Cutting

Code No: R392-DC



Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P	鋼鐵 Steel
H	硬化鋼 <48HRC Hardened Steel
M	不銹鋼 Stainless Steel
K	鑄鐵 Cast Iron
N	鋁 Aluminium
N	銅 Copper
N	塑膠 Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐用性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.0350		0.889	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0355		0.902	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0360		0.914	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0365		0.927	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0370		0.940	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0375		0.953	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0380		0.965	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0385		0.978	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0390		0.991	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0395		1.003	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0400	#60	1.016	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0405		1.029	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0410	#59	1.041	1/4	6.35	1/2	12.70	1-1/2	38.10	4	●
0.0415		1.054	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0420	#58	1.067	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0425		1.080	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0430	#57	1.092	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0435		1.105	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0440		1.118	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0445		1.130	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0450		1.143	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0455		1.156	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0460		1.168	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0465	#56	1.181	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0470		1.194	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0475		1.207	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0480		1.219	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0485		1.232	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0490		1.245	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0495		1.257	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0500		1.270	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0505		1.283	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0510		1.295	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0515		1.308	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0520	#55	1.321	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0525		1.334	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0530		1.346	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0535		1.359	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0540		1.372	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0545		1.384	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0550	#54	1.397	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0555		1.410	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●

鋼鐵用高效率立銑刀
鋼鐵、不銹鋼、難削材
多用透立銑刀
鋁用立銑刀
通用、精加工立銑刀
圓頭、R角立銑刀
鑽頭
鉸刀
技術資料



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.0560		1.422	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0565		1.435	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0570		1.448	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0575		1.461	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0580		1.473	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0585		1.486	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0590		1.499	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0595	#53	1.511	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0600		1.524	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0605		1.537	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0610		1.549	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0615		1.562	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0620		1.575	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0625	1/16	1.588	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0630		1.600	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0635	#52	1.613	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0640		1.626	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0645		1.638	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0650		1.651	3/8	9.53	5/8	15.88	1-1/2	38.10	4	●
0.0655		1.664	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0660		1.676	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0665		1.689	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0670	#51	1.702	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0675		1.715	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0680		1.727	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0685		1.740	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0690		1.753	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0695		1.765	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0700	#50	1.778	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0705		1.791	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0710		1.803	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0715		1.816	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0720		1.829	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0725		1.842	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0730	#49	1.854	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0735		1.867	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0740		1.880	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0745		1.892	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0750		1.905	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0755		1.918	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0760	#48	1.930	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0765		1.943	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0770		1.956	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0775		1.969	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0780		1.981	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0785	#47	1.994	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0790		2.007	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0795		2.019	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0800		2.032	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0805		2.045	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0810	#46	2.057	1/2	12.70	7/8	22.23	1-3/4	44.45	4	●
0.0815		2.070	1/2	12.70	7/8	22.23	2	44.45	4	●
0.0820	#45	2.083	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0825		2.096	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0830		2.108	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0835		2.121	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0840		2.134	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0845		2.146	1/2	12.70	7/8	22.23	2	50.80	4	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P 鋼鐵
Steel

H 硬化鋼 <48HRC
Hardened Steel

M 不銹鋼
Stainless Steel

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Copper

N 塑膠
Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
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圓頭、R角立銑刀

鑽頭

鉋刀

技術資料



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.0850		2.159	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0855		2.172	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0860	#44	2.184	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0865		2.197	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0870		2.210	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0875		2.223	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0880		2.235	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0885		2.248	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0890	#43	2.261	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0895		2.273	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0900		2.286	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0905		2.299	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0910		2.311	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0915		2.324	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0918		2.332	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0920		2.337	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0925		2.350	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0930		2.362	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0933		2.370	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0935	#42	2.375	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0940		2.388	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0945		2.400	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0950		2.413	1/2	12.70	7/8	22.23	2	50.80	4	●
0.0955		2.426	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0960	#41	2.438	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0965		2.451	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0970		2.464	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0975		2.477	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0980	#40	2.489	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0985		2.502	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0990		2.515	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.0995	#39	2.527	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1000		2.540	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1005		2.553	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1010		2.565	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1015	#38	2.578	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1020		2.591	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1025		2.604	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1030		2.616	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1035		2.629	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1040	#37	2.642	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1045		2.654	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1050		2.667	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1055		2.680	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1060		2.692	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1065	#36	2.705	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1070		2.718	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1075		2.731	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1080		2.743	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1085		2.756	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1090		2.769	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1095		2.781	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1100	#35	2.794	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1105		2.807	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1110	#34	2.819	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1115		2.832	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1120		2.845	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1125		2.858	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●

Work Material

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技術資料



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.1130	#33	2.870	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1135		2.883	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1140		2.896	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1145		2.908	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1150		2.921	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1155		2.934	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1160	#32	2.946	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1165		2.959	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1170		2.972	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1175		2.985	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1180		2.997	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1185		3.010	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1190		3.023	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1195		3.035	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1200	#31	3.048	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1205		3.061	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1210		3.073	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1215		3.086	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1220		3.099	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1225		3.112	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1230		3.124	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1235		3.137	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1240		3.150	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1245		3.162	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1250	1/8	3.175	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1255		3.188	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1260		3.200	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1265		3.213	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1270		3.226	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1275		3.239	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1280		3.251	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1285	#30	3.264	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1290		3.277	5/8	15.88	1-1/8	28.58	2-1/4	57.15	4	●
0.1295		3.289	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1300		3.302	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1305		3.315	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1310		3.327	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1315		3.340	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1320		3.353	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1325		3.366	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1330		3.378	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1335		3.391	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1340		3.404	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1345		3.416	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1350		3.429	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1355		3.442	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1360	#29	3.454	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1365		3.467	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1370		3.480	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1375		3.493	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1380		3.505	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1385		3.518	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1390		3.531	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1395		3.543	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1400		3.556	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1405	#28	3.569	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1410		3.581	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1415		3.594	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●

Work Material

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技術資料



0°



Z

Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.1420		3.607	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1425		3.620	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1430		3.632	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1435		3.645	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1440	#27	3.658	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1445		3.670	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1450		3.683	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1455		3.696	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1460		3.708	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1465		3.721	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1470	#26	3.734	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1475		3.747	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1480		3.759	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1485		3.772	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1490		3.785	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1495	#25	3.797	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1500		3.810	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1505		3.823	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1510		3.835	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1515		3.848	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1520	#24	3.861	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1525		3.874	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1530		3.886	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1535		3.899	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1540	#23	3.912	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1545		3.924	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1550		3.937	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1555		3.950	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1560		3.962	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1565		3.975	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1570	#22	3.988	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1575		4.001	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1580		4.013	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1585		4.026	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1590	#21	4.039	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1595		4.051	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1600		4.064	3/4	19.05	1-1/4	31.75	2-1/2	63.50	4	●
0.1605		4.077	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1610	#20	4.089	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1615		4.102	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1620		4.115	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1625		4.128	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1630		4.140	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1635		4.153	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1640		4.166	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1645		4.178	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1650		4.191	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1660	#19	4.216	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1665		4.229	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1670		4.242	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1675		4.255	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1680		4.267	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1685		4.280	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1690		4.293	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1695	#18	4.305	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1700		4.318	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1705		4.331	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1710		4.343	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P	鋼鐵 Steel
H	硬化鋼 <48HRC Hardened Steel
M	不銹鋼 Stainless Steel
K	鑄鐵 Cast Iron
N	鋁 Aluminium
N	銅 Copper
N	塑膠 Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐用性。

在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.1715		4.356	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1720		4.369	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1725		4.382	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1730	#17	4.394	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1735		4.407	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1740		4.420	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1745		4.432	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1750		4.445	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1755		4.458	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1760		4.470	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1765		4.483	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1770	#16	4.496	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1775		4.509	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1780		4.521	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1785		4.534	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1790		4.547	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1795		4.559	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1800	#15	4.572	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1805		4.585	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1810		4.597	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1815		4.610	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1820	#14	4.623	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1825		4.636	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1830		4.648	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1835		4.661	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1840		4.674	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1845		4.686	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1850	#13	4.699	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1855		4.712	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1860		4.724	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1865		4.737	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1870		4.750	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1875	3/16	4.763	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1880		4.775	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1885		4.788	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1890	#12	4.801	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1895		4.813	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1900		4.826	7/8	22.23	1-1/2	38.10	2-3/4	69.85	4	●
0.1905		4.839	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1910	#11	4.851	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1915		4.864	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1920		4.877	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1925		4.890	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1930		4.902	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1935	#10	4.915	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1940		4.928	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1945		4.940	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1950		4.953	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1955		4.966	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1960	#9	4.978	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1965		4.991	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1970		5.004	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1975		5.017	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1980		5.029	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1985		5.042	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1990		5.055	1	25.40	1-5/8	41.28	3	76.20	4	●
0.1995		5.067	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2000		5.080	1	25.40	1-5/8	41.28	3	76.20	4	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P 鋼鐵
Steel

H 硬化鋼 <48HRC
Hardened Steel

M 不銹鋼
Stainless Steel

K 鑄鐵
Cast Iron

N 鋁
Aluminium

N 銅
Copper

N 塑膠
Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐磨性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.2005		5.093	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2010	#7	5.105	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2015		5.118	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2020		5.131	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2025		5.144	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2030		5.156	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2035		5.169	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2040	#6	5.182	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2045		5.194	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2050		5.207	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2055	#5	5.220	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2060		5.232	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2065		5.245	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2070		5.258	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2075		5.271	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2080		5.283	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2085		5.296	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2090	#4	5.309	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2095		5.321	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2100		5.334	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2105		5.347	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2110		5.359	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2115		5.372	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2120		5.385	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2125		5.398	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2130	#3	5.410	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2135		5.423	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2140		5.436	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2145		5.448	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2150		5.461	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2155		5.474	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2160		5.486	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2165		5.499	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2170		5.512	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2175		5.525	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2180		5.537	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2185		5.550	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2190		5.563	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2195		5.575	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2200		5.588	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2205		5.601	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2210	#2	5.613	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2215		5.626	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2220		5.639	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2225		5.652	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2230		5.664	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2235		5.677	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2240		5.690	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2245		5.702	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2250		5.715	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2255		5.728	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2260		5.740	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2265		5.753	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2270		5.766	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2275		5.779	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2280	#1	5.791	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2285		5.804	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2290		5.817	1	25.40	1-5/8	41.28	3	76.20	4	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P 鋼鐵
Steel

H 硬化鋼 <48HRC
Hardened Steel

M 不銹鋼
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Cast Iron

N 鋁
Aluminium

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Copper

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Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐磨性。
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鋼鐵用高效率立銑刀
鋼鐵、不銹鋼、難削材
多用透立銑刀
鋁用立銑刀
通用、精加工立銑刀
圓頭、R角立銑刀
鑽頭
鉸刀
技術資料



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.2295		5.829	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2300		5.842	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2305		5.855	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2310		5.867	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2315		5.880	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2320		5.893	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2325		5.906	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2330		5.918	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2335		5.931	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2340	A	5.944	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2345		5.956	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2350		5.969	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2355		5.982	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2360		5.994	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2365		6.007	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2370		6.020	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2375		6.033	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2380	B	6.045	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2385		6.058	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2390		6.071	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2395		6.083	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2400		6.096	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2405		6.109	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2410		6.121	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2415		6.134	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2420	C	6.147	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2425		6.160	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2430		6.172	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2435		6.185	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2440		6.198	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2445		6.210	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2450		6.223	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2455		6.236	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2460	D	6.248	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2465		6.261	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2470		6.274	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2475		6.287	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2480		6.299	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2485		6.312	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2490		6.325	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2495		6.337	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2500	1/4-E	6.350	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2505		6.363	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2510		6.375	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2515		6.388	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2520		6.401	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2525		6.414	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2530		6.426	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2540		6.452	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2550		6.477	1	25.40	1-5/8	41.28	3	76.20	4	●
0.2560		6.502	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2570	F	6.528	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2580		6.553	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2590		6.579	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2600		6.604	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2610	G	6.629	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2620		6.655	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2630		6.680	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

- P** 鋼鐵
Steel
- H** 硬化鋼 <48HRC
Hardened Steel
- M** 不銹鋼
Stainless Steel
- K** 鑄鐵
Cast Iron
- N** 鋁
Aluminium
- N** 銅
Copper
- N** 塑膠
Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐磨性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

High Precision Machine Reamers
4&6 Flute Straight Shank Chucking Reamers

MG
Carbide

Uncoated
Bright



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.2640		6.706	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2650		6.731	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2660	H	6.756	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2670		6.782	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2680		6.807	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2690		6.833	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2700		6.858	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2710		6.883	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2720	I	6.909	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2730		6.934	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2740		6.960	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2750		6.985	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2760		7.010	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2770	J	7.036	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2780		7.061	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2790		7.087	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2800		7.112	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2810	K	7.137	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2820		7.163	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2830		7.188	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2840		7.214	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2850		7.239	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2860		7.264	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2870		7.290	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2890		7.341	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2900	L	7.366	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2910		7.391	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2920		7.417	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2930		7.442	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2940		7.468	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2950	M	7.493	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2960		7.518	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2970		7.544	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2980		7.569	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.2990		7.595	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3000		7.620	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3010		7.645	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3020	N	7.671	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3030		7.696	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3040		7.722	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3050		7.747	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3060		7.772	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3070		7.798	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3080		7.823	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3090		7.849	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3100		7.874	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3110		7.899	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3120		7.925	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3125	5/16	7.938	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3130		7.950	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3140		7.976	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3150		8.001	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3160	O	8.026	1-1/8	28.58	1-7/8	47.63	3-1/4	82.55	6	●
0.3170		8.052	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3180		8.077	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3190		8.103	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3200		8.128	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3210		8.153	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	

P	鋼鐵 Steel
H	硬化鋼 <48HRC Hardened Steel
M	不銹鋼 Stainless Steel
K	鑄鐵 Cast Iron
N	鋁 Aluminium
N	銅 Copper
N	塑膠 Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐用性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。

鋼鐵用高效率立銑刀
鋼鐵、不銹鋼、難削材
多用透立銑刀
鋁用立銑刀
通用、精加工立銑刀
圓頭、R角立銑刀
鑽頭
鉋刀
技術資料



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.3220		8.179	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3230	P	8.204	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3240		8.230	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3250		8.255	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3260		8.280	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3270		8.306	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3280		8.331	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3290		8.357	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3300		8.382	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3310		8.407	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3320	Q	8.433	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3330		8.458	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3340		8.484	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3350		8.509	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3360		8.534	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3370		8.560	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3380		8.585	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3390	R	8.611	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3400		8.636	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3410		8.661	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3420		8.687	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3430		8.712	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3440		8.738	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3450		8.763	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3460		8.788	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3470		8.814	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3480	S	8.839	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3490		8.865	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3500		8.890	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3510		8.915	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3520		8.941	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3530		8.966	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3540		8.992	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3550		9.017	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3560		9.042	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3580	T	9.093	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3590		9.119	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3600		9.144	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3610		9.169	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3620		9.195	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3630		9.220	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3640		9.246	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3650		9.271	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3660		9.296	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3670		9.322	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3680	U	9.347	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3690		9.373	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3700		9.398	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3710		9.423	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3720		9.449	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3750	3/8	9.525	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3755		9.538	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3765		9.563	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3770	V	9.576	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3780		9.601	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3790		9.627	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3800		9.652	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3810		9.677	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P 鋼鐵
SteelH 硬化鋼 <48HRC
Hardened SteelM 不銹鋼
Stainless SteelK 鑄鐵
Cast IronN 鋁
AluminiumN 銅
CopperN 塑膠
Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐磨性。
在低張力和高耐磨性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。



Code No: R392-DC

Standard Length (Dc=d)

Dec.Equiv.	Dc		Lc		L1		L		Z teeth	Bright R392
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
0.3820		9.703	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3830		9.728	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3850		9.779	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3860	W	9.804	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3900		9.906	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3910		9.931	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3930		9.982	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3940		10.008	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3950		10.033	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3960		10.058	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.3970	X	10.084	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4000		10.160	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4040	Y	10.262	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4050		10.287	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4060		10.312	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4100		10.414	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4110		10.439	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4120		10.465	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4130	Z	10.490	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4150		10.541	1-1/4	31.75	2	50.80	3-1/2	88.90	6	●
0.4290		10.897	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4300		10.922	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4320		10.973	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4330		10.998	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4350		11.049	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4360		11.074	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4380		11.125	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4390		11.151	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4400		11.176	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4410		11.201	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4420		11.227	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4430		11.252	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4450		11.303	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4460		11.328	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4480		11.379	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4500		11.430	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4520		11.481	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4600		11.684	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4690		11.913	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4700		11.938	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4710		11.963	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4720		11.989	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4730		12.014	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4740		12.040	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4750		12.065	1-3/8	34.93	2-1/8	53.98	4	101.60	6	●
0.4800		12.192	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.4900		12.446	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.4910		12.471	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.4950		12.573	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.4960		12.598	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.5000	1/2	12.700	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.5005		12.713	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.5020		12.751	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.5030		12.776	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.5040		12.802	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●
0.5050		12.827	1-1/2	38.10	2-1/4	57.15	4	101.60	6	●

Please refer to page 38 for parameters.

Work Material

P	H	M	K	N	S
●	○	○	●	●	○

P 鋼鐵
Steel

H 硬化鋼 <48HRC
Hardened Steel

M 不銹鋼
Stainless Steel

K 鑄鐵
Cast Iron

N 鋁
Aluminium

N 銅
Copper

N 塑膠
Plastics

Tolerance: DC

+0.0001/+0.0003: 1/32"-1/4"
+0.0001/+0.0004: 1/4"-1/2"

Feature of product:

提供卓越的耐用性。
在低張力和高耐用性材料中可以承受最高的切削溫度，如：青銅、銅、橡膠、鋁、鑄鐵及鋼鐵等。

鋼鐵用高效率立銑刀

鋼鐵、不銹鋼、難削材
多用途立銑刀

鋁用立銑刀

通用、精加工立銑刀

圓頭、R角立銑刀

鑽頭

鉸刀

技術資料

R391 R392	R391		R391		R392		
	cutting speed Vc (m/min)	feed per tooth Fn (mm/rev)	Cutting speed Vc (ft/min)	feed per tooth Fn (inch/rev)	Cutting speed Vc (ft/min)	feed per tooth Fn (inch/rev)	
Carbon Steel Materials							
P	GR1 Carbon Steel	15	0.008×Dc	50	0.008×Dc	50	0.008×Dc
	GR2 <24HRC Low-alloyed Steel	15	0.008×Dc	50	0.008×Dc	50	0.008×Dc
	GR3 <30HRC Hi-alloyed Steel	12	0.006×Dc	40	0.006×Dc	40	0.006×Dc
Hardened Steel Materials							
H	GR4 30-38HRC Hardened Steel	8	0.005×Dc	26	0.005×Dc	26	0.005×Dc
	GR5 38-48HRC Hardened Steel	5	0.003×Dc	16	0.003×Dc	16	0.003×Dc
Stainless Steel Materials							
M	GR8-1 Ferritic、Martensitic	12	0.006×Dc	40	0.006×Dc	40	0.006×Dc
	GR8-2 Austenitic	12	0.006×Dc	40	0.006×Dc	40	0.006×Dc
	GR8-3 Austenitic-ferritic	12	0.006×Dc	40	0.006×Dc	40	0.006×Dc
	GR8-4 Austenitic-ferritic Heat-resistant	8	0.004×Dc	26	0.004×Dc	26	0.004×Dc
Cast Iron Materials							
K	GR9-1 Grey cast iron	15	0.006×Dc	50	0.006×Dc	50	0.006×Dc
	GR9-2 Nodular cast iron	15	0.006×Dc	50	0.006×Dc	50	0.006×Dc
Aluminium Steel Materials							
N	GR10-1 Wrought Aluminium alloys	20	0.006×Dc	65	0.006×Dc	65	0.006×Dc
	GR10-2 Aluminium cast alloys <10%	20	0.006×Dc	65	0.006×Dc	65	0.006×Dc
	GR10-3 Aluminium cast alloys >10%	20	0.006×Dc	65	0.006×Dc	65	0.006×Dc
Copper Steel Materials							
N	GR11-1 Pure Copper	15	0.006×Dc	50	0.006×Dc	50	0.006×Dc
	GR11-2 Brass	15	0.006×Dc	50	0.006×Dc	50	0.006×Dc
	GR11-2 Bronze	15	0.006×Dc	50	0.006×Dc	50	0.006×Dc

All cutting data serve for orientation only and should be adapted individually to the technical conditions on location

1. Please work with good rigidity / high precision facilities and collet chuck.
2. Please choose proper cutting fluid.
3. The cutting data is reference value only. Please adjust it according to your real working conditions.
4. If RPM is lower the reference value, the Feed rate (fz) and RPM should be reduced by the same proportion.
5. If vibration occurs during cutting, please reduce cutting parameter.

1. 請使用剛性好、精度高的設備和夾具。
2. 請選擇適用於工件材料的切削液。
3. 此切削條件表中的數值為切削條件的基準值，實際加工時，請考慮加工形狀、目的、使用機台等因素，對切削條件進行調整。
4. 如果機台轉速低於表中所列數值，則進給速度應與轉速按同一比例降低。
5. 切削加工時如果發生振顫，請降低切削條件。

Hardness Conversion Table / 硬度換算表

HRC	HB	HV10	N/mm ²
	71	75	240
	76	80	255
	81	85	270
	86	90	285
	90	95	305
	95	100	320
	100	105	335
	105	110	350
	109	115	370
	114	120	385
	119	125	400
	124	130	415
	128	135	430
	133	140	450
	138	145	465
	143	150	480
	147	155	495
	152	160	510
	157	165	530
	162	170	545
	166	175	560
	171	180	575
	176	185	595
	181	190	610
	185	195	625
	190	200	640
	195	205	660
	199	210	675
	204	215	690
	209	220	705
	214	225	720
	219	230	740
	223	235	755
	228	240	770
	233	245	785
22	238	250	800
23	242	255	820
24	247	260	835
25	255	268	860
26	258	272	870
27	266	280	900

HRC	HB	HV10	N/mm ²
28	273	287	920
29	278	293	940
30	287	302	970
31	295	310	995
32	301	317	1020
33	311	327	1050
34	319	336	1080
35	328	345	1110
36	337	355	1140
37	346	364	1170
38	354	373	1200
39	363	382	1230
40	372	392	1260
41	383	403	1300
42	393	413	1330
43	402	423	1360
44	413	434	1400
45	424	446	1440
46	435	458	1480
47	449	473	1530
48	460	484	1570
49	472	497	1620
50	488	514	1680
51	501	527	1730
52	517	544	1790
53	532	560	1845
54	549	578	1910
55	567	596	1980
56	584	615	2050
57	607	639	2140
58	622	655	
59		675	
60		698	
61		720	
62		745	
63		773	
64		800	
65		829	
66		864	
67		900	
68		940	

ISO公差測量表

ϕ mm	<3	3-6	6-10	10-18	18-30	30-50	50-65	65-80
e7	- 14 - 24	- 20 - 32	- 25 - 40	- 32 - 50	- 40 - 61	- 50 - 75	- 60 - 90	- 60 - 90
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106	- 60 - 106
e9	- 14 - 39	- 20 - 50	- 25 - 61	- 32 - 75	- 40 - 92	- 50 - 112	- 60 - 134	- 60 - 134
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 13
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 19
h7	0 - 10	0 - 12	0 - 15	0 - 18	0 - 21	0 - 25	0 - 30	0 - 30
h8	0 - 14	0 - 18	0 - 22	0 - 27	0 - 33	0 - 39	0 - 46	0 - 46
h9	0 - 25	0 - 30	0 - 36	0 - 43	0 - 52	0 - 62	0 - 74	0 - 74
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84	0 - 100	0 - 120	0 - 120
h11	0 - 60	0 - 75	0 - 90	0 - 110	0 - 130	0 - 160	0 - 190	0 - 190
h16	0 - 600	0 - 750	0 - 900	0 - 1100	0 - 1300	0 - 1600	0 - 1900	0 - 1900
js14	+ 125 - 125	+ 150 - 150	+ 180 - 180	+ 215 - 215	+ 260 - 260	+ 310 - 310	+ 370 - 370	+ 370 - 370
js16	+ 300 - 300	+ 375 - 375	+ 450 - 450	+ 550 - 550	+ 650 - 650	+ 800 - 800	+ 950 - 950	+ 950 - 950
k11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 190 0
k12	+ 100 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 300 0
m6	+ 8 + 2	+ 12 + 4	+ 15 + 6	+ 18 + 7	+ 21 + 8	+ 25 + 9	+ 30 + 11	+ 30 + 11
m7	+ 12 + 2	+ 16 + 4	+ 21 + 6	+ 25 + 7	+ 29 + 8	+ 34 + 9	+ 41 + 11	+ 41 + 11
z9	+ 51 + 26	+ 65 + 35	+ 78 + 42	+ 103 + 60	+ 140 + 88	+ 198 + 136	+ 246 + 172	+ 284 + 210
H5	+ 4 0	+ 5 0	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 13 0
H6	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 16 0	+ 19 0	+ 19 0
H7	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 30 0
H8	+ 14 0	+ 18 0	+ 22 0	+ 27 0	+ 33 0	+ 39 0	+ 46 0	+ 46 0
H9	+ 25 0	+ 30 0	+ 36 0	+ 43 0	+ 52 0	+ 62 0	+ 74 0	+ 74 0
H10	+ 40 0	+ 48 0	+ 58 0	+ 70 0	+ 84 0	+ 100 0	+ 120 0	+ 120 0
H11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 190 0
P6	- 6 - 12	- 9 - 17	- 12 - 21	- 15 - 26	- 18 - 31	- 21 - 37	- 26 - 45	- 26 - 45
P7	- 6 - 16	- 8 - 20	- 9 - 24	- 11 - 29	- 14 - 35	- 17 - 42	- 21 - 51	- 21 - 51
P9	- 6 - 31	- 12 - 42	- 15 - 51	- 18 - 61	- 22 - 74	- 26 - 88	- 32 - 106	- 32 - 106

