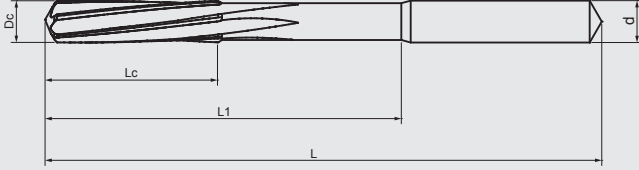


R319 超微粒鑄鋼NC機械鉸刀 每0.01mm尺寸

NC Machine Reamers In Steps of 0.01mm

Designed with left helix and right cutting flutes.
Downward chip evacuation.
Accuracy tolerance: 0/+0.004mm.

左螺旋右刀刃設計。
排屑方向往下。
刃徑精度公差: 0/+0.004mm。



VHM
Carbide

Uncoated
Bright



Steel
<56HRC



Application for reaming different steels below 56HRC, cast iron...and etc.

適用切削於56HRC以下各種鋼材及鑄鐵...等材料鉸孔應用。

P

H

K

Standard Length

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

R319 超微粒鎢鋼NC機械鉸刀 每0.01mm尺寸






NC Machine Reamers In Steps of 0.01mm

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

Please refer to page 318 for parameters.

切削條件

Cutting Conditions

R308 R309 R319 R329	R308 / R309	R319		R329			
							
	cutting speed Vc (m/min)	feed per tooth fz(mm)	cutting speed Vc (m/min)	feed per tooth fz(mm)	cutting speed Vc (m/min)	feed per tooth fz(mm)	
Carbon Steel Materials							
P	GR1 Carbon Steel	15	0.008xDc	15	0.008xDc	15	0.008xDc
	GR2 <24HRC Low-alloyed Steel	15	0.008xDc	15	0.008xDc	15	0.008xDc
	GR3 <30HRC Hi-alloyed Steel	12	0.006xDc	12	0.006xDc	12	0.006xDc
Hardened Steel Materials							
H	GR4 30-38HRC Hardened Steel	8	0.005xDc	8	0.005xDc	8	0.005xDc
	GR5 38-48HRC Hardened Steel	5	0.003xDc	5	0.003xDc	5	0.003xDc
Stainless Steel Materials							
M	GR8-1 Ferritic、Martensitic	12	0.006xDc	12	0.006xDc	12	0.006xDc
	GR8-2 Austenitic	12	0.006xDc	12	0.006xDc	12	0.006xDc
	GR8-3 Austenitic-ferritic	12	0.006xDc	12	0.006xDc	12	0.006xDc
	GR8-4 Austenitic-ferritic Heat-resistant	8	0.004xDc	8	0.004xDc	8	0.004xDc
Cast Iron Materials							
K	GR9-1 Grey cast iron	15	0.006xDc	15	0.009xDc	15	0.009xDc
	GR9-2 Nodular cast iron	15	0.006xDc	15	0.009xDc	15	0.009xDc
Aluminium Steel Materials							
N	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							
N	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。