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Shenzhen Bwin Precision Tools Co., Ltd 深圳市佰盈精密工具有限公司



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SHENZHEN BWIN PRECISION TOOLS CO., LTD
深圳市佰盈精密工具有限公司



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COMPANTY INTRODUCTION

深圳市佰盈精密工具有限公司是专业钨钢刀具本的制造商，拥有五轴数控工具磨床拾台，公司始终彻底贯彻“高品质，高精度，高性能”的理念，为客户提供高品质的铣刀、钻头、铰刀、中心钻、定位钻、倒角刀、燕尾刀、内R刀、镗刀、螺纹铣刀、丝锥等整体钨钢系列产品。

Shenzhen Bwin Precision Tools Co., Ltd is a professional manufacturer of tungsten steel tools, with five-axis CNC grinding machines, the company has been thoroughly implementing the "high-quality, high-precision, high-performance" concept, to provide customers with high-quality milling cutter, drill, reamer, center drill, positioning drill, chamfer cutter, dovertail cutter, internal R knife, boring cutter, thread milling cutter, taps and other intergrated tungsten steel products.

CNC五轴工具磨床

我们使用的是ANCA Walter五轴数控工具磨床，可以生产各种高品质的CNC钨钢标准铣刀、钻头及后面的非标刀具、成型刀具。







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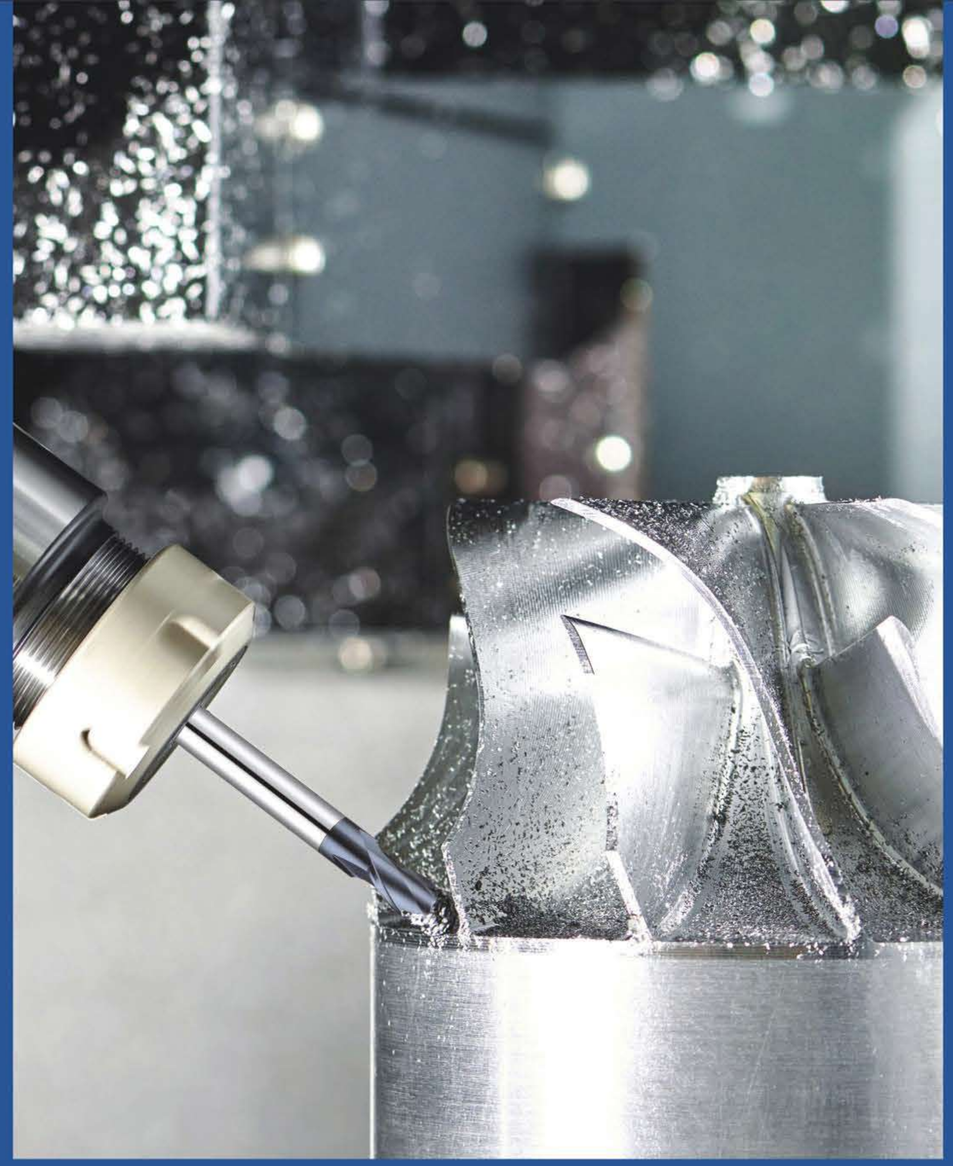
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Solid carbide cutter
整體硬質合金銑刀
500 Series

500系列刀具均采用进口超细微粒高品质棒材，加工所使用德国瓦尔特五轴高精度磨床。以确保刀具尺寸品质。涂层采用美国TiAIN纳米涂层，表面光洁度极佳兼具有极高的微硬度及热硬度。适合加工HRC50度以下的。适用于各种碳钢、铸铁、不锈钢、耐热钢、镍基及钛合金等材料的加工。

2刃立铣刀
2 EDGE END MILL

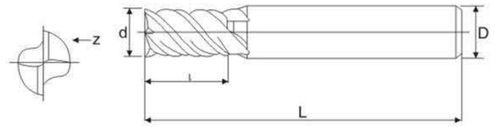
Wc=90 Co=10 HV30=1571 抗折=3750N/mm²m 硬度=91.8 粒徑=0.8ηm

MG

HRC ▶50

35°

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刃徑d	刃長ι	柄徑D	全長L	刃數Z
1.0	3	4	50	2/4
1.5	4	4	50	2/4
2.0	5	4	50	2/4
2.5	7	4	50	2/4
3.0	8	3	50	2/4
3.0	8	4	50	2/4
3.5	10	4	50	2/4
4.0	11	4	50	2/4
1.0	3	6	50	2/4
1.5	4	6	50	2/4
2.0	5	6	50	2/4
2.5	7	6	50	2/4
3.0	8	6	50	2/4
3.5	10	6	50	2/4
4.0	11	6	50	2/4
4.5	12	6	50	2/4
5.0	13	5	50	2/4
5.0	13	6	50	2/4
5.5	15	6	50	2/4
6.0	15	6	50	2/4
6.5	20	8	60	2/4
7.0	20	8	60	2/4
7.5	20	8	60	2/4
8.0	20	8	60	2/4
8.5	25	10	75	2/4
9.0	25	10	75	2/4
9.5	25	10	75	2/4
10.0	26	10	75	2/4
10.5	30	12	75	2/4
11.0	30	12	75	2/4
11.5	30	12	75	2/4
12.0	30	12	75	2/4
13.0	45	14	100	2/4
14.0	45	14	100	2/4
15.0	45	16	100	2/4
16.0	45	16	100	2/4
17.0	45	18	100	2/4
18.0	45	18	100	2/4
19.0	50	20	100	2/4
20.0	50	20	100	2/4



4刃立铣刀
4 EDGE END MILL

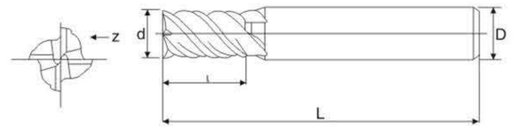
Wc=90 Co=10 HV30=1571 抗折=3750N/mm²m 硬度=91.8 粒徑=0.8ηm

MG

HRC ▶50

35°

TiAlN



刃徑d	刃長ι	柄徑D	全長L	刃數Z
1.0	3	4	50	2/4
1.5	4	4	50	2/4
2.0	5	4	50	2/4
2.5	7	4	50	2/4
3.0	8	3	50	2/4
3.0	8	4	50	2/4
3.5	10	4	50	2/4
4.0	11	4	50	2/4
1.0	3	6	50	2/4
1.5	4	6	50	2/4
2.0	5	6	50	2/4
2.5	7	6	50	2/4
3.0	8	6	50	2/4
3.5	10	6	50	2/4
4.0	11	6	50	2/4
4.5	12	6	50	2/4
5.0	13	5	50	2/4
5.0	13	6	50	2/4
5.5	15	6	50	2/4
6.0	15	6	50	2/4
6.5	20	8	60	2/4
7.0	20	8	60	2/4
7.5	20	8	60	2/4
8.0	20	8	60	2/4
8.5	25	10	75	2/4
9.0	25	10	75	2/4
9.5	25	10	75	2/4
10.0	26	10	75	2/4
10.5	30	12	75	2/4
11.0	30	12	75	2/4
11.5	30	12	75	2/4
12.0	30	12	75	2/4
13.0	45	14	100	2/4
14.0	45	14	100	2/4
15.0	45	16	100	2/4
16.0	45	16	100	2/4
17.0	45	18	100	2/4
18.0	45	18	100	2/4
19.0	50	20	100	2/4
20.0	50	20	100	2/4

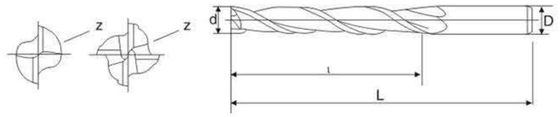


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2刃/4刃加长立铣刀
2-EDGE/4-EDGE LENGTHENED END MILL

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG
HRC ▶50
35°
TiAIN



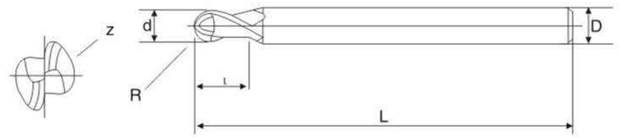
刃徑d	刃長ι	柄徑D	全長L	刃數Z
1	6	4	75	2/4
1.5	6	4	75	2/4
2	8	4	75	2/4
2.5	10	4	75	2/4
3	12	3	75	2/4
3	12	4	75	2/4
4	16	4	75	2/4
5	25	5	75	2/4
5	25	6	75	2/4
6	25	6	75	2/4
7	30	8	75	2/4
8	30	8	75	2/4
1	6	4	100	2/4
1.5	6	4	100	2/4
2	8	4	100	2/4
2.5	10	4	100	2/4
3	15	3	100	2/4
3	15	4	100	2/4
4	20	4	100	2/4
5	30	5	100	2/4
5	30	6	100	2/4
6	30	6	100	2/4
7	35	8	100	2/4
8	35	8	100	2/4
9	40	10	100	2/4
10	40	10	100	2/4
11	45	12	100	2/4
12	45	12	100	2/4
6	40	6	120	2/4
8	45	8	120	2/4
10	50	10	120	2/4
12	55	12	120	2/4
14	60	14	120	2/4
16	60	16	120	2/4
18	60	18	120	2/4
20	60	20	120	2/4
6	45	6	150	2/4
8	50	8	150	2/4
10	55	10	150	2/4
11	60	12	150	2/4
12	60	12	150	2/4
14	65	14	150	2/4
16	65	16	150	2/4
18	75	18	150	2/4
20	80	20	150	2/4



2刃球型立銑刀
2 Edge Ball Type End Milling Cutter

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG
HRC ▶50
30°
TiAIN



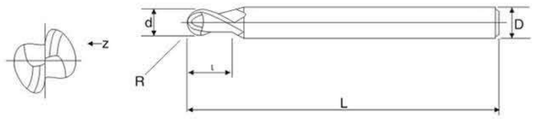
直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
1.0	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2.0	4	4	50	R1.0	2
2.5	5	4	50	R1.25	2
3.0	6	3	50	R1.5	2
3.0	6	4	50	R1.5	2
3.5	7	4	50	R1.75	2
4.0	8	4	50	R2.0	2
1.0	2	6	50	R0.5	2
1.5	3	6	50	R0.75	2
2.0	4	6	50	R1.0	2
2.5	5	6	50	R1.25	2
3.0	6	6	50	R1.5	2
3.5	7	6	50	R1.75	2
4.0	8	6	50	R2.0	2
4.5	9	6	50	R2.25	2
5.0	10	5	50	R2.5	2
5.0	10	6	50	R2.5	2
5.5	11	6	50	R2.75	2
6.0	12	6	50	R3.0	2
6.5	13	8	60	R3.25	2
7.0	14	8	60	R3.5	2
8.0	16	8	60	R4.0	2
9.0	18	10	75	R4.5	2
10	20	10	75	R5.0	2
11	22	12	75	R5.5	2
12	24	12	75	R6.0	2
13	26	14	100	R6.5	2
14	28	14	100	R7.0	2
15	30	14	100	R7.5	2
16	32	16	100	R8.0	2
17	34	16	100	R8.5	2
18	36	18	100	R9.0	2
19	38	20	100	R9.5	2
20	40	20	100	R10.0	2



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2刃加長球型立銑刀
2 With Long Ball Type Cutter Blade

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8ηm



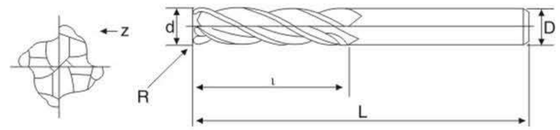
MG
HRC ▶50
30°
TiAlN

直徑d	刃長l	柄徑D	全長L	R徑	刃數Z
1	2	4	75	R0.5	2
1.5	3	4	75	R0.75	2
2	4	4	75	R1.0	2
2.5	5	4	75	R1.25	2
3	6	3	75	R1.5	2
3	6	4	75	R1.5	2
4	8	4	75	R2.0	2
5	10	5	75	R2.5	2
5	10	6	75	R2.5	2
6	12	6	75	R3.0	2
7	14	8	75	R3.5	2
8	16	8	75	R4.0	2
1	2	4	100	R0.5	2
1.5	3	4	100	R0.75	2
2	4	4	100	R1.0	2
3	6	4	100	R1.5	2
3	6	3	100	R1.5	2
4	8	4	100	R2.0	2
5	10	6	100	R2.5	2
5	10	5	100	R2.5	2
6	12	6	100	R3.0	2
7	14	8	100	R3.5	2
8	16	8	100	R4.0	2
9	18	10	100	R4.5	2
10	20	10	100	R5.0	2
11	22	12	100	R5.5	2
12	24	12	100	R6	2
4	10	4	120	R2	2
6	12	6	120	R3	2
8	16	8	120	R4	2
10	20	10	120	R5	2
12	24	12	120	R6	2
14	28	14	120	R7	2
16	32	16	120	R8	2
18	36	18	120	R9	2
20	40	20	120	R10	2
6	15	6	150	R3	2
8	20	8	150	R4	2
10	25	10	150	R5	2
12	30	12	150	R6	2
14	35	14	150	R7	2
16	40	16	150	R8	2
18	45	18	150	R9	2
20	50	20	150	R10	2



4刃圓鼻立銑刀
4 Edge Round Nose End Milling Cutter

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8ηm



MG
HRC ▶50
35°
TiAlN
R

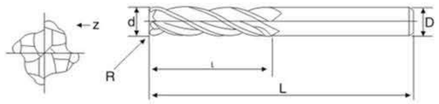
直徑d	刃長l	柄徑D	全長L	R徑	刃數Z
3	8	4	50	0.2	4
3	8	3	50	0.5	4
3	8	4	50	0.5	4
3	8	3	50	1.0	4
3	8	4	50	1.0	4
4	10	4	50	0.2	4
4	10	4	50	0.5	4
4	10	4	50	1.0	4
5	13	5	50	0.5	4
5	13	6	50	0.5	4
5	13	5	50	1.0	4
5	13	6	50	1.0	4
6	15	6	50	0.2	4
6	15	6	50	0.5	4
6	15	6	50	1.0	4
6	15	6	50	1.5	4
6	15	6	50	2.0	4
8	20	8	60	0.5	4
8	20	8	60	1.0	4
8	20	8	60	1.5	4
8	20	8	60	2.0	4
8	20	8	60	3.0	4
10	25	10	75	0.5	4
10	25	10	75	1.0	4
10	25	10	75	1.5	4
10	25	10	75	2.0	4
10	25	10	75	3.0	4
12	30	12	75	0.5	4
12	30	12	75	1.0	4
12	30	12	75	1.5	4
12	30	12	75	2.0	4
12	30	12	75	2.5	4
12	30	12	75	3.0	4
14	45	14	100	0.5/1.0/1.5/2.0/3.0	4
16	45	16	100	0.5/1.0/1.5/2.0/2.5/3.0	4
20	50	20	100	0.5/1.0/1.5/2.0/3.0	4



BWiN

4刃加長圓鼻立銑刀
4 Edge Long Round Nose End Milling Cutter

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m



MG

HRC ▶50

35°

TiAlN

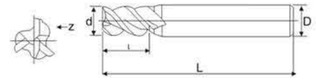
R



直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
3	12	4	75	0.5	4
3	12	4	75	1.0	4
4	16	4	75	0.5	4
4	16	4	75	1.0	4
6	25	6	75	0.5	4
6	25	6	75	1.0	4
6	25	6	75	1.5	4
6	25	6	75	2.0	4
8	30	8	75	0.5	4
8	30	8	75	1.0	4
8	30	8	75	1.5	4
8	30	8	75	2.0	4
3	15	4	100	0.5	4
3	15	4	100	1.0	4
4	20	4	100	0.5	4
4	20	4	100	1.0	4
6	30	6	100	0.5	4
6	30	6	100	1.0	4
6	30	6	100	1.5	4
6	30	6	100	2.0	4
8	35	8	100	0.5	4
8	35	8	100	1.0	4
8	35	8	100	1.5	4
8	35	8	100	2.0	4
8	35	8	100	3.0	4
10	40	10	100	0.5	4
10	40	10	100	1.0	4
10	40	10	100	1.5	4
10	40	10	100	2.0	4
10	40	10	100	3.0	4
12	45	12	100	0.5	4
12	45	12	100	1.0	4
12	45	12	100	1.5	4
12	45	12	100	2.0	4
12	45	12	100	3.0	4
6	45	6	150	0.5	4
6	45	6	150	1.0	4
8	50	8	150	0.5	4
8	50	8	150	1.0	4
10	55	10	150	0.5/1.0/1.5/2.0/3.0	4
12	60	12	150	0.5/1.0/2.0/3.0	4
16	65	16	150	0.5/1.0/2.0/3.0	4

3刃双刃带铝用铣刀
3-EDGE DOUBLE EDGE MILLING CUTTER WITH ALUMINUM

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m



MG

HRC ▶50

55°



刃徑d	刃長ι	柄徑D	全長L	刃數Z
1	3	4	50	3
1.5	4.5	4	50	3
2	6	2	50	3
2	6	4	50	3
2.5	7.5	4	50	3
3	9	3	50	3
3	9	4	50	3
3.5	11	4	50	3
4	12	4	50	3
1	3	6	50	3
1.5	4.5	6	50	3
2	6	6	50	3
2.5	7.5	6	50	3
3	9	6	50	3
4	12	6	50	3
4.5	15	6	50	3
5	15	5	50	3
5	15	6	50	3
5.5	18	6	50	3
6	18	6	50	3
6.5	20	8	60	3
7	20	8	60	3
7.5	24	8	60	3
8	24	8	60	3
8.5	30	10	75	3
9	30	10	75	3
9.5	30	10	75	3
10	30	10	75	3
10.5	30	12	75	3
11	30	12	75	3
11.5	30	12	75	3
12	30	12	75	3
12.5	30	12	75	3
13	45	14	100	3
13.5	45	14	100	3
14	45	14	100	3
14.5	45	14	100	3
15	45	16	100	3
15.5	45	16	100	3
16	45	16	100	3
16.5	45	16	100	3
17	45	18	100	3
17.5	45	18	100	3
18	45	18	100	3
18.5	50	18	100	3
19	50	20	100	3
19.5	50	20	100	3
20	50	20	100	3
22	50	20	100	3
24	60	20	120	3
25	60	25	120	3
30	60	25	120	3

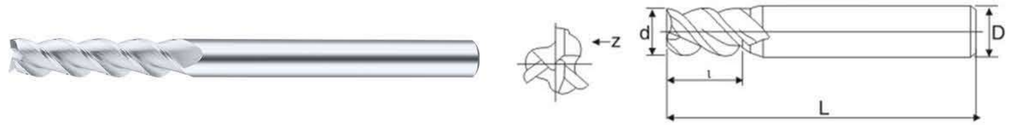
BWIN

3刃双刃带加长铝用铣刀

3 Edge Long Aluminum With End Milling Cutter

MG HRC ▶50 45°

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m



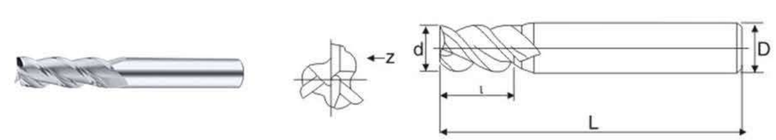
刃徑d	刃長ι	柄徑D	全長L	刃数Z
1	6	4	75	3
1.5	6	4	75	3
2	8	4	75	3
2.5	12	4	75	3
3	12	3	75	3
3	12	4	75	3
4	16	4	75	3
5	25	5	75	3
5	25	6	75	3
6	25	6	75	3
7	30	8	75	3
8	30	8	75	3
1.5	6	4	100	3
2	8	4	100	3
2.5	12	4	100	3
3	15	3	100	3
3	15	4	100	3
3.5	16	4	100	3
4	20	4	100	3
4.5	25	6	100	3
5	30	5	100	3
5	30	6	100	3
5.5	30	6	100	3
6	30	6	100	3
7	35	8	100	3
8	35	8	100	3
8.5	40	10	100	3
9	40	10	100	3
10	40	10	100	3
11	45	12	100	3
12	45	12	100	3
4	25	4	120	3
5	40	6	120	3
6	40	6	120	3
8	45	8	120	3
10	50	10	120	3
12	55	12	120	3
14	60	14	120	3

刃徑d	刃長ι	柄徑D	全長L	刃数Z
15	60	16	120	3
16	60	16	120	3
18	60	18	120	3
20	60	20	120	3
4	25	4	150	3
5	40	6	150	3
6	45	6	150	3
7	50	8	150	3
8	50	8	150	3
9	60	10	150	3
10	55	10	150	3
11	60	12	150	3
12	60	12	150	3
13	65	14	150	3
14	65	14	150	3
15	75	16	150	3
16	75	16	150	3
17	75	18	150	3
18	75	18	150	3
20	80	20	150	3
22	100	20	150	3
24	100	20	150	3
25	100	25	150	3
6	75	6	200	3
8	75	8	200	3
10	75	10	200	3
12	75	12	200	3
14	100	14	200	3
16	100	16	200	3
18	100	18	200	3
20	100	20	200	3
10	100	10	250	3
12	100	12	250	3
14	100	14	250	3
16	150	16	250	3
20	150	20	250	3
16	150	16	300	3
20	150	20	300	3

铝用小数点3刃铣刀

3-POINT MILLING CUTTER FOR ALUMINUM

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m



MG HRC ▶50 45°

刃徑d	刃長ι	柄徑D	全長L	刃数Z
1.1-1.4	4.5	4	50	3
1.6-1.9	6	4	50	3
2.1-2.4	8	4	50	3
2.6-2.9	9	4	50	3
3.1-3.4	11	4	50	3
3.6-3.9	12	4	50	3
4.1-4.4	15	6	50	3
4.6-4.9	15	6	50	3
5.1-5.4	18	6	50	3
5.6-5.9	18	6	50	3
6.1-6.4	20	8	60	3
6.6-6.9	20	8	60	3
7.1-7.4	24	8	60	3
7.6-7.9	24	8	60	3
8.1-8.4	30	10	75	3
8.6-8.9	30	10	75	3
9.1-9.4	30	10	75	3
9.6-9.9	30	10	75	3
10.1-10.4	30	12	75	3
10.6-10.9	30	12	75	3
11.1-11.4	30	12	75	3
11.6-11.9	30	12	75	3



BWiN

2刃双刃带铝用铣刀

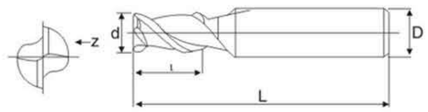
DOUBLE-EDGED ALUMINUM MILLING CUTTER WITH TWO EDGES

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG

HRC ▶50

45°



刃徑d	刃長 l	柄徑D	全長L	刃數Z
1	3	4	50	2
1.5	4.5	4	50	2
2	6	4	50	2
2.5	7.5	4	50	2
3	9	3	50	2
3	9	4	50	2
3	9	4	50	2
3.5	11	4	50	2
4	12	4	50	2
4.5	15	6	50	2
5	15	5	50	2
5	15	6	50	2
5.5	18	6	50	2
6	18	6	50	2
7	20	8	60	2
8	24	8	60	2
9	30	10	75	2
10	30	10	75	2
10.5	30	10	75	2
11	30	12	75	2
12	30	12	75	2
13	45	14	100	2
13.5	45	14	100	2
14	45	14	100	2
14.5	45	14	100	2
15	45	16	100	2
16	45	16	100	2
17	45	18	100	2
18	45	18	100	2
19	50	20	100	2
20	50	20	100	2
25	60	20	120	2



2刃双刃带铝用加长铣刀

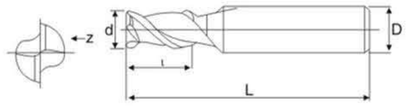
2 Edge Long Aluminum With End Milling Cutter

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG

HRC ▶50

45°



刃徑d	刃長 l	柄徑D	全長L	刃數Z
1	6	4	75	2
1.5	6	4	75	2
2	8	4	75	2
3	12	4	75	2
4	16	4	75	2
5	25	6	75	2
6	25	6	75	2
8	30	8	75	2
3	15	4	100	2
4	20	4	100	2
5	30	6	100	2
6	30	6	100	2
7	35	8	100	2
8	35	8	100	2
9	40	10	100	2
10	40	10	100	2
11	45	12	100	2
12	45	12	100	2
6	40	6	120	2
8	45	8	120	2
10	50	10	120	2
12	55	12	120	2
14	60	14	120	2
16	60	16	120	2
18	60	18	120	2
20	60	20	120	2
6	45	6	150	2
8	50	8	150	2
10	55	10	150	2
12	60	12	150	2
14	65	14	150	2
16	75	16	150	2
18	75	18	150	2
20	80	20	150	2

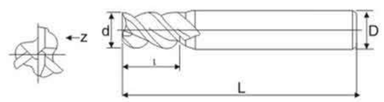


BWiN

3刃单刃带铝用铣刀

3-EDGE SINGLE EDGE MILLING CUTTER WITH ALUMINUM

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m



MG

HRC ▶50

55°

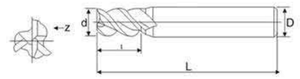
刃徑d	刃長l	柄徑D	全長L	刃數Z
1	3	4	50	3
1.5	4.5	4	50	3
2	6	4	50	3
2.5	7.5	4	50	3
3	9	3	50	3
3	9	4	50	3
3.5	11	4	50	3
4	12	4	50	3
1	3	6	50	3
1.5	4.5	6	50	3
2	6	6	50	3
2.5	7.5	6	50	3
3	9	6	50	3
4	12	6	50	3
4.5	15	6	50	3
5	15	5	50	3
5	15	6	50	3
5.5	18	6	50	3
6	18	6	50	3
6.5	20	8	60	3
7	20	8	60	3
7.5	24	8	60	3
8	24	8	60	3
8.5	30	10	75	3
9	30	10	75	3
9.5	30	10	75	3
10	30	10	75	3
10.5	30	12	75	3
11	30	12	75	3
11.5	30	12	75	3
12	30	12	75	3
12.5	30	12	75	3
13	45	14	100	3
13.5	45	14	100	3
14	45	14	100	3
14.5	45	14	100	3
15	45	16	100	3
15.5	45	16	100	3
16	45	16	100	3
16.5	45	16	100	3
17	45	18	100	3
18	45	18	100	3
19	50	20	100	3
20	50	20	100	3



3刃单刃带加长铝用铣刀

3 Edge Long Aluminum With End Milling Cutter

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m



MG

HRC ▶50

55°

刃徑d	刃長l	柄徑D	全長L	刃數Z
1	6	4	75	3
1.5	6	4	75	3
2	8	4	75	3
2.5	12	4	75	3
3	12	3	75	3
3	12	4	75	3
4	16	4	75	3
5	25	5	75	3
5	25	6	75	3
6	25	6	75	3
7	30	8	75	3
8	30	8	75	3
1	6	4	100	3
1.5	6	4	100	3
2	8	4	100	3
2.5	12	4	100	3
3	15	3	100	3
3	15	4	100	3
3.5	16	4	100	3
4	20	4	100	3
4.5	25	6	100	3
5	30	5	100	3
5	30	6	100	3
5.5	30	6	100	3
6	30	6	100	3
6.5	35	8	100	3
7	35	8	100	3
8	35	8	100	3
9	40	10	100	3
10	40	10	100	3
11	45	12	100	3
12	45	12	100	3
4	25	4	120	3
6	40	6	120	3
8	45	8	120	3
10	50	10	120	3
12	55	12	120	3
14	60	14	120	3
16	60	16	120	3
18	60	18	120	3
20	60	20	120	3
4	25	4	150	3
5	40	6	150	3
6	45	6	150	3
7	50	8	150	3
8	50	8	150	3
10	55	10	150	3
11	60	12	150	3
12	60	12	150	3
14	65	14	150	3
16	75	16	150	3
18	75	18	150	3
20	80	20	150	3

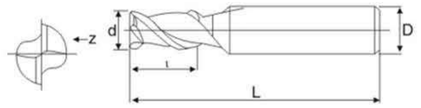


BWiN

2刃单刃带铝用铣刀

SINGLE EDGE ALUMINIUM MILLING CUTTER WITH 2 EDGES

Wc=90 Co=10 HV30=1571 抗折=3750N/mm²m 硬度=91.8 粒徑=0.8 η m



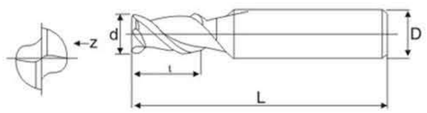
刃徑d	刃長l	柄徑D	全長L	刃數Z
1	3	4	50	2
1.5	4.5	4	50	2
2	6	4	50	2
2.5	7.5	4	50	2
3	9	3	50	2
3	9	4	50	2
3	9	4	50	2
3.5	11	4	50	2
4	12	4	50	2
4.5	15	6	50	2
5	15	5	50	2
5	15	6	50	2
5.5	18	6	50	2
6	18	6	50	2
6.5	20	8	60	2
7	20	8	60	2
7.5	24	8	60	2
8	24	8	60	2
8.5	30	10	75	2
9	30	10	75	2
9.5	30	10	75	2
10	30	10	75	2
11	30	12	75	2
11.5	30	12	75	2
12	30	12	75	2
13	45	14	100	2
14	45	14	100	2
15	45	16	100	2
16	45	16	100	2
17	45	18	100	2
18	45	18	100	2
19	50	20	100	2
20	50	20	100	2



2刃单刃带加长铝用铣刀

2 Edge Long Aluminum With End Milling Cutter

Wc=90 Co=10 HV30=1571 抗折=3750N/mm²m 硬度=91.8 粒徑=0.8 η m



刃徑d	刃長l	柄徑D	全長L	刃數Z
1	6	4	75	2
3	12	3	75	2
3	12	4	75	2
4	16	4	75	2
5	25	5	75	2
5	25	6	75	2
6	25	6	75	2
7	30	8	75	2
8	30	8	75	2
3	15	3	100	2
3	15	4	100	2
4	20	4	100	2
5	30	5	100	2
5	30	6	100	2
6	30	6	100	2
7	35	8	100	2
8	35	8	100	2
9	40	10	100	2
10	40	10	100	2
11	45	12	100	2
12	45	12	100	2
6	40	6	120	2
8	45	8	120	2
10	50	10	120	2
12	55	12	120	2
14	60	14	120	2
16	60	16	120	2
18	60	18	120	2
20	60	20	120	2
6	45	6	150	2
8	50	8	150	2
10	55	10	150	2
12	60	12	150	2
14	65	14	150	2
16	75	16	150	2
18	75	18	150	2
20	80	20	150	2



BWiN

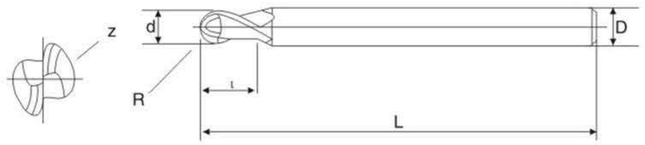
2刃鋁用球型立銑刀
2 Edge Aluminum Ball Mill

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m

MG

HRC ▶50

45°

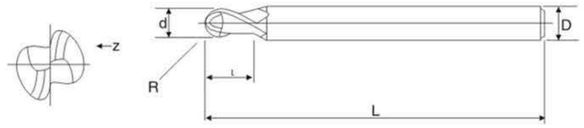


直徑d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2	4	4	50	R1	2
2.5	5	4	50	R1.25	2
3	6	3	50	R1.5	2
3	6	4	50	R1.5	2
3.5	7	4	50	R1.75	2
4	8	4	50	R2	2
4.5	9	6	50	R2.25	2
5	10	5	50	R2.5	2
5	10	6	50	R2.5	2
6	12	6	50	R3	2
7	14	8	60	R3.5	2
8	16	8	60	R4	2
9	18	10	75	R4.5	2
10	20	10	75	R5	2
11	22	12	75	R5.5	2
12	24	12	75	R6	2
12.5	25	12	75	R6.25	2
14	28	14	100	R7	2
16	32	16	100	R8	2
18	36	18	100	R9	2
20	40	20	100	R10	2



2刃鋁用加長球型立銑刀
2 Edged Aluminum With An Extended Ball End Mill

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m



MG

HRC ▶50

45°

直徑d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	2	1	75	R0.5	2
1.5	3	1.5	75	R0.75	2
2	4	2	75	R1	2
3	6	3	75	R1.5	2
3	6	3	75	R1.5	2
4	8	4	75	R2	2
5	10	5	75	R2.5	2
5	10	5	75	R2.5	2
5	10	5	75	R2.5	2
6	12	6	75	R3	2
8	16	8	75	R4	2
1	2	1	100	0.5	2
1.5	3	1.5	100	R0.75	2
2	4	2	100	R1	2
3	6	3	100	R1.5	2
3	6	3	100	R1.5	2
4	8	4	100	R2	2
5	10	5	100	R2.5	2
5	10	5	100	R2.5	2
6	12	6	100	R3	2
8	16	8	100	R4	2
10	20	10	100	R5	2
12	24	12	100	R6	2
4	8	4	120	R2	2
6	12	6	120	R3	2
8	16	8	120	R4	2
10	20	10	120	R5	2
12	24	12	120	R6	2
14	28	14	120	R7	2
16	32	16	120	R8	2
18	36	18	120	R9	2
20	40	20	120	R10	2
6	15	6	150	R3	2
8	20	8	150	R4	2
10	25	10	150	R5	2
12	30	12	150	R6	2
16	40	16	150	R8	2



BWiN

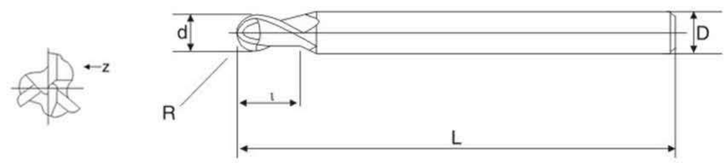
3刃铝用球型立铣刀
3 Edge Aluminum Ball Mill

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m

MG

HRC ▶50

45°



直刃d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	2	4	50	R0.5	3
1.5	3	4	50	R0.75	3
2	4	4	50	R1	3
3	6	4	50	R1.5	3
4	8	4	50	R2	3
5	10	6	50	R2.5	3
6	12	6	50	R3	3
8	16	8	60	R4	3
10	20	10	75	R5	3
12	24	12	75	R6	3
14	28	14	100	R7	3
16	32	16	100	R8	3
20	40	20	100	R10	3
1	2	4	75	R0.5	3
2	4	4	75	R1	3
3	6	4	75	R1.5	3
4	8	4	75	R2	3
5	10	6	75	R2.5	3
6	12	6	75	R3	3
8	16	8	75	R4	3
4	8	4	100	R2	3
5	10	6	100	R2.5	3
6	12	6	100	R3	3
8	16	8	100	R4	3
12	24	12	100	R6	3
6	15	6	150	R3	3
8	20	8	150	R4	3
16	40	16	150	R8	3

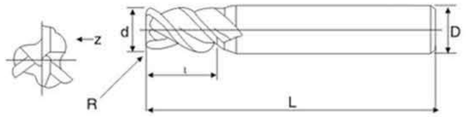


3刃鋁用圓鼻立銑刀
3 Edged Aluminum Nose With A Nose Cutter

MG HRC ▶50 45° R

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m



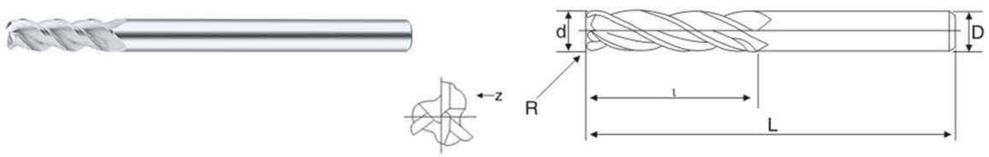


直徑d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	3	4	50	0.1/0.2/0.3	3
1.5	5	4	50	0.1/0.2/0.3/0.5	3
2	6	4	50	0.1/0.2/0.3/0.5	3
2.5	8	4	50	0.1/0.2/0.3/0.5	3
3	9	3	50	0.1/0.2/0.3/0.5/1.0	3
3	9	4	50	0.1/0.2/0.3/0.5/1.0	3
4	12	4	50	0.1/0.2/0.3/0.5/1.0	3
5	15	5	50	0.2/0.3/0.5/1.0/1.5/2.0	3
5	15	6	50	0.2/0.3/0.5/1.0/1.5/2.0	3
6	18	6	50	0.2/0.3/0.5/1.0/1.5/2.0	3
8	24	8	60	0.2/0.3/0.5/1.0/1.5/2.0/3.0	3
10	30	10	75	0.2/0.3/0.5/1.0/1.5/2.0/3.0/4.0	3
12	30	12	75	0.2/0.3/0.5/1.0/1.5/2.0/3.0/4.0/5.0	3
14	45	14	100	0.5/1.0/1.5/2.0/3.0/4.0/5.0/6.0	3
16	45	16	100	0.5/1.0/1.5/2.0/3.0/4.0/5.0/6.0	3
20	50	20	100	0.5/1.0/1.5/2.0/3.0/4.0/5.0/6.0	3

3刃鋁用加長圓鼻立銑刀
3 Long Round Nose End Milling Cutter For Aluminum

MG HRC ▶50 45° R

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m



直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
3	12	3	75	0.2/0.5/1.0	3
3	12	4	75	0.2/0.5/1.0	3
4	16	4	75	0.2/0.5/1.0	3
5	20	5	75	0.5/1.0/1.5/2.0	3
5	20	6	75	0.5/1.0/1.5/2.0	3
6	25	6	75	0.5/1.0/1.5/2.0	3
8	30	8	75	0.5/1.0/1.5/2.0/3.0	3
3	15	3	100	0.2/0.5/1.0	3
3	15	4	100	0.2/0.5/1.0	3
4	16	4	100	0.2/0.5/1.0	3
5	20	5	100	0.5/1.0/1.5/2.0	3
5	20	6	100	0.5/1.0/1.5/2.0	3
6	25	6	100	0.5/1.0/1.5/2.0	3
8	30	8	100	0.5/1.0/1.5/2.0/3.0	3
10	40	10	100	0.5/1.0/1.5/2.0/3.0	3
12	45	12	100	0.5/1.0/1.5/2.0/3.0	3
6	45	6	150	0.5/1.0	3
8	50	8	150	0.5/1.0/1.5/2.0	3
10	55	10	150	0.5/1.0/1.5/2.0/3.0	3
12	60	12	150	0.5/1.0/1.5/2.0/3.0	3
14	60	14	150	0.5/1.0/1.5/2.0/3.0	3
16	65	16	150	0.5/1.0/1.5/2.0/3.0	3

4刃波刃粗銑刀
4 Knife Edge Rough Milling Cutter

Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG HRC ▶50 35° TiAlN



刃徑d	刃長ι	柄徑D	全長L	刃數Z
3	8	3	50	4
3	8	4	50	4
4	10	4	50	4
5	13	5	50	4
5	13	6	50	4
6	15	6	50	4
8	20	8	60	4
10	25	10	75	4
12	30	12	75	4
14	45	14	100	4
16	45	16	100	4
18	45	18	100	4
20	50	20	100	4

3刃鋁用波刃粗銑刀
3 Blade Aluminum Rough Milling Cutter

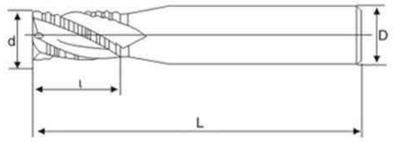
Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG

HRC ▶50

45°





刃徑d	刃長ι	柄徑D	全長L	刃數Z
3	9	3	50	3
3	9	4	50	3
4	12	4	50	3
5	15	5	50	3
5	15	6	50	3
6	18	6	50	3
8	25	8	60	3
10	30	10	75	3
12	35	12	75	3
14	45	14	100	3
16	45	16	100	3
18	45	18	100	3
20	50	20	100	3
6	30	6	100	3
8	35	8	100	3
10	40	10	100	3
12	45	12	100	3
10	55	10	150	3
12	60	12	150	3
14	65	14	150	3
16	75	16	150	3
18	75	18	150	3
20	80	20	150	3

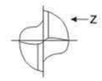
铝用2刃深沟立铣刀
ALUMINUM 2-EDGED DEEP GROOVE MILLING CUTTER

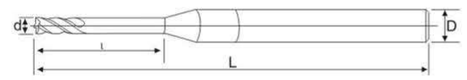
Wc＝90 Co＝10 HV30＝1571 抗折＝3750N/mm²m 硬度＝91.8 粒徑＝0.8 η m

MG

HRC ▶50

45°





刃徑d	刃長ι	柄徑D	全長L	刃數Z
0.2	2	4	50	2
0.3	2	4	50	2
0.4	2	4	50	2
0.4	4	4	50	2
0.5	2	4	50	2
0.5	4	4	50	2
0.5	6	4	50	2
0.5	8	4	50	2
0.6	2	4	50	2
0.6	4	4	50	2
0.6	6	4	50	2
0.6	8	4	50	2
0.8	2	4	50	2
0.8	4	4	50	2
0.8	6	4	50	2
0.8	8	4	50	2
1.0	6	4	50	2
1.0	8	4	50	2
1.0	10	4	50	2
1.0	12	4	50	2
1.0	16	4	50	2
1.5	8	4	50	2
1.5	10	4	50	2
1.5	12	4	50	2
1.5	16	4	50	2
1.5	20	4	50	2
2.0	8	4	50	2
2.0	10	4	50	2
2.0	12	4	50	2
2.0	16	4	50	2
2.0	20	4	50	2
2.5	10	4	50	2
2.5	12	4	50	2
2.5	16	4	50	2
2.5	20	4	50	2
3.0	12	4	50	2
3.0	16	4	50	2
3.0	20	4	50	2
3.0	25	4	50	2



BWiN

铝用3刃深沟立铣刀

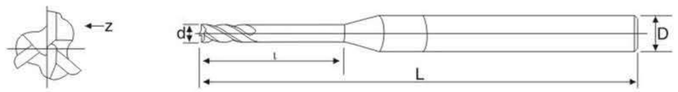
ALUMINUM 2-EDGED DEEP GROOVE MILLING CUTTER

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m

MG

HRC ▶50

45°





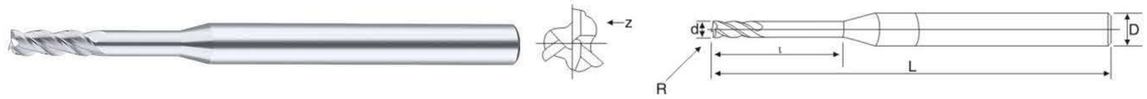
刃徑d	刃長l	柄徑D	全長L	刃數Z
1.0	6	4	50	3
1.0	8	4	50	3
1.0	10	4	50	3
1.0	12	4	50	3
1.0	16	4	50	3
1.0	20	4	50	3
1.5	8	4	50	3
1.5	10	4	50	3
1.5	12	4	50	3
1.5	16	4	50	3
1.5	20	4	50	3
1.5	25	4	50	3
2.0	6	4	50	3
2.0	8	4	50	3
2.0	10	4	50	3
2.0	12	4	50	3
2.0	14	4	50	3
2.0	16	4	50	3
2.0	20	4	50	3
2.5	10	4	50	3
2.5	12	4	50	3
2.5	16	4	50	3
2.5	20	4	50	3
3.0	12	4	50	3
3.0	16	4	50	3
3.0	20	4	50	3
3.0	25	4	50	3

铝用深沟3刃圆鼻铣刀

DEEP GROOVE 3-EDGE ROUND NOSE MILLING CUTTER FOR ALUMINUM

MG HRC ▶50 45° R

Wc = 90 Co = 10 HV30 = 1571 抗折 = 3750N/mm²m 硬度 = 91.8 粒徑 = 0.8 η m



直徑d	刃長l	柄徑D	全長L	R徑	刃數Z
1	4	4	50	R0.1	3
1	6	4	50	R0.1	3
1	8	4	50	R0.1	3
1	10	4	50	R0.1	3
1	12	4	50	R0.1	3
1	16	4	50	R0.1	3
1	20	4	50	R0.1	3
1	4	4	50	R0.2	3
1	6	4	50	R0.2	3
1	8	4	50	R0.2	3
1	10	4	50	R0.2	3
1	12	4	50	R0.2	3
1	16	4	50	R0.2	3
1	20	4	50	R0.2	3
1	4	4	50	R0.3	3
1	6	4	50	R0.3	3
1	8	4	50	R0.3	3
1	10	4	50	R0.3	3
1	12	4	50	R0.3	3
1	16	4	50	R0.3	3
1	20	4	50	R0.3	3
1.5	6	4	50	R0.1	3
1.5	8	4	50	R0.1	3
1.5	10	4	50	R0.1	3
1.5	12	4	50	R0.1	3
1.5	16	4	50	R0.1	3
1.5	20	4	50	R0.1	3
1.5	6	4	50	R0.2	3
1.5	8	4	50	R0.2	3
1.5	10	4	50	R0.2	3
1.5	12	4	50	R0.2	3
1.5	16	4	50	R0.2	3
1.5	20	4	50	R0.2	3
1.5	6	4	50	R0.3	3
1.5	8	4	50	R0.3	3
1.5	10	4	50	R0.3	3
1.5	12	4	50	R0.3	3
1.5	16	4	50	R0.3	3
1.5	20	4	50	R0.3	3

直徑d	刃長l	柄徑D	全長L	R徑	刃數Z
2	8	4	50	R0.1	3
2	10	4	50	R0.1	3
2	12	4	50	R0.1	3
2	14	4	50	R0.1	3
2	16	4	50	R0.1	3
2	20	4	50	R0.1	3
2	8	4	50	R0.2	3
2	10	4	50	R0.2	3
2	12	4	50	R0.2	3
2	16	4	50	R0.2	3
2	20	4	50	R0.2	3
2	8	4	50	R0.3	3
2	10	4	50	R0.3	3
2	12	4	50	R0.3	3
2	16	4	50	R0.3	3
2	20	4	50	R0.3	3
2	8	4	50	R0.5	3
2	10	4	50	R0.5	3
2	12	4	50	R0.5	3
2	16	4	50	R0.5	3
2	20	4	50	R0.5	3
3	12	4	50	R0.2	3
3	16	4	50	R0.2	3
3	20	4	50	R0.2	3
3	25	4	50	R0.2	3
3	12	4	50	R0.3	3
3	16	4	50	R0.3	3
3	20	4	50	R0.3	3
3	25	4	50	R0.3	3
3	12	4	50	R0.5	3
3	16	4	50	R0.5	3
3	20	4	50	R0.5	3
3	25	4	50	R0.5	3
3	10	4	50	R1	3
3	12	4	50	R1	3
3	16	4	50	R1	3
3	20	4	50	R1	3
3	25	4	50	R1	3

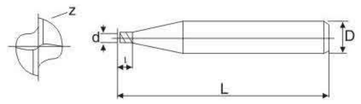
2刃微小徑立銑刀
2 Edge Small Diameter End Milling Cutter

Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6ηm

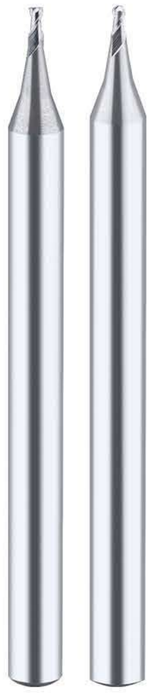
MG

HRC ▶50

45°



刃徑d	刃長l	柄徑D	全長L	刃數Z
0.1	0.2	4	50	2
0.15	0.3	4	50	2
0.2	0.4	4	50	2
0.3	0.6	4	50	2
0.4	0.8	4	50	2
0.5	1	4	50	2
0.6	1.2	4	50	2
0.7	1.4	4	50	2
0.8	1.6	4	50	2
0.9	1.8	4	50	2
R0.1	0.4	4	50	2
R0.15	0.6	4	50	2
R0.2	0.8	4	50	2
R0.25	1	4	50	2
R0.3	1.2	4	50	2
R0.35	1.4	4	50	2
R0.4	1.6	4	50	2
R0.45	1.8	4	50	2



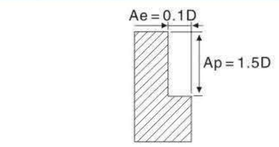
切削參數
Cutting Parameter

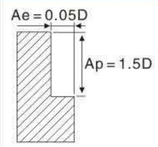
★請特別注意/Please pay special attention to
1.下表是側銑加工的標準值,刀具切槽時,轉速要以下表的50%~70%,進給速度要以40%~60%爲標準值。
2.請使用高精度的機床和刀柄。
3.請使用空氣冷却或不易生産烟霧的切削液。
4.側面銑削推薦順銑加工。
5.機床與工件安裝剛性較差的情況下，會産生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
6.在不幹涉的條件下盡可能使刀具懸長最短。

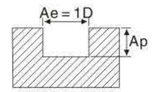
切削條件/Cutting condition

被加工材料	鑄鐵球墨鑄鐵		碳素鋼,合金鋼 ~750N/MM²		碳素鋼，合金鋼 ~30HRC		預硬鋼，調質鋼 ~40HRC		不銹鋼		預硬鋼，調質鋼 ~50HRC	
直徑(mm)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)
1	20000	250	20000	250	20000	200	20000	200	20000	90	20000	150
2	15000	400	15000	400	15000	360	15000	350	11150	100	13000	225
3	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410
4	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420
5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
14	3000	680	3000	680	2700	630	2300	525	1600	125	1800	410
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
18	2300	670	2300	670	2100	620	1800	515	1250	105	1400	405
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405
R0.5	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
R1.0	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
R1.5	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
R2.0	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
R2.5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
R3.0	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
R4.0	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
R5.0	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
R6.0	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420
R8.0	3000	1050	3000	1050	2400	800	2000	600	1350	380	1600	375
R10.0	2400	950	2400	950	1900	680	1600	560	1100	370	1250	330

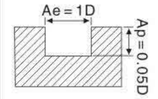
1~20最大切深量



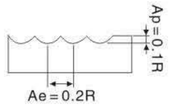


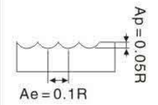


切槽削	
刀具直徑	切深Ap
Φ1≤D＜Φ3	0.15D
Φ3≤D	0.3D



R0.5~R10最大切深量





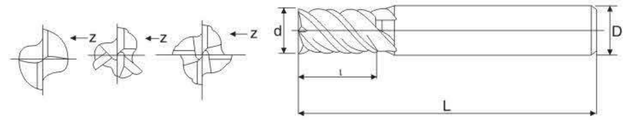


Solid carbide cutter
整體硬質合金銑刀
550 Series

550系列刀具均采用进口超细微粒高品质棒材，加工所使用德国瓦尔特五轴高精度磨床。以确保刀具尺寸品质。涂层采用美国Si纳米涂层，表面光洁度极佳兼具有极高的微硬度及热硬度。适合加工HRC55度以下的。适用于镍基合金、钛合金、不锈钢、模具钢、淬硬钢及灰口铸铁等材料的加工。

2刃/3刃/4刃立銑刀
2 Edge /3 Edge /4 Edge Milling Cutter

Wc＝87 Co＝12 HV30＝1700 抗折＝4000N/mm²m 硬度＝92.5 粒徑＝0.6 η m



刃徑d	刃長l	柄徑D	全長L	刃數Z
1.0	3	4	50	2/3/4
1.5	4	4	50	2/3/4
2.0	5	2	50	2/3/4
2.0	5	4	50	2/3/4
2.5	7	4	50	2/3/4
3.0	8	4	50	2/3/4
3.0	8	4	50	2/3/4
3.5	10	4	50	2/3/4
4.0	11	4	50	2/3/4
1.0	3	6	50	2/3/4
1.5	4	6	50	2/3/4
2.0	5	6	50	2/3/4
2.5	7	6	50	2/3/4
3.0	8	6	50	2/3/4
3.5	10	6	50	2/3/4
4.0	11	6	50	2/3/4
4.5	12	6	50	2/3/4
5.0	13	5	50	2/3/4
5.0	13	6	50	2/3/4
5.5	15	6	50	2/3/4
6.0	15	6	50	2/3/4
6.5	20	8	60	2/3/4
7.0	20	7	60	2/3/4
7.0	20	8	60	2/3/4
7.5	20	8	60	2/3/4
8.0	20	8	60	2/3/4
8.5	25	10	75	2/3/4
9.0	25	10	75	2/3/4
9.5	25	10	75	2/3/4
10.0	26	10	75	2/3/4
10.5	28	12	75	2/3/4
11.0	30	12	75	2/3/4
11.5	30	12	75	2/3/4
12.0	30	12	75	2/3/4
12.5	30	12	75	2/3/4
13.0	45	14	100	2/3/4
13.5	45	14	100	2/3/4
14.0	45	14	100	2/3/4
14.5	45	14	100	2/3/4
15.0	45	16	100	2/3/4
15.5	45	16	100	2/3/4
16.0	45	16	100	2/3/4
16.5	45	16	100	2/3/4
17.0	45	18	100	2/3/4
17.5	45	18	100	2/3/4
18.0	45	18	100	2/3/4
18.5	45	18	100	2/3/4
19.0	50	20	100	2/3/4
19.5	50	20	100	2/3/4
20.0	50	20	100	2/3/4
21.0	50	20	100	2/3/4
22.0	50	20	100	2/3/4
24.0	60	20	120	2/3/4
25.0	60	25	120	2/3/4
30.0	60	25	120	2/3/4

MG

HRC ▶55

35°

AiTiSi



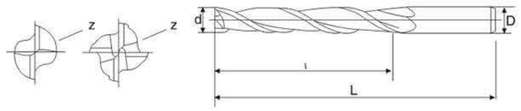
BWiN

2刃/4刃加長立銑刀
2 Edge /4 Edge Long End Milling Cutter

MG HRC ▶55 35° AiTiSi

Wc = 87 Co = 12 HV30 = 1700 抗折 = 4000N/mm²m 硬度 = 92.5 粒徑 = 0.6 η m



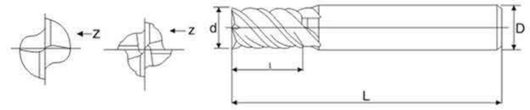


刃徑d	刃長ι	柄徑D	全長L	刃數Z
1.0	6	4	75	2/4
1.5	6	4	75	2/4
2.0	8	4	75	2/4
2.5	10	4	75	2/4
3.0	12	3	75	2/4
3.0	12	4	75	2/4
4.0	16	4	75	2/4
5.0	25	5	75	2/4
5.0	25	6	75	2/4
6.0	25	6	75	2/4
7.0	30	8	75	2/4
7.5	30	8	75	2/4
8.0	30	8	75	2/4
1.0	6	4	100	2/4
1.5	6	4	100	2/4
2.0	8	4	100	2/4
2.5	10	4	100	2/4
3.0	15	3	100	2/4
3.0	15	4	100	2/4
3.5	16	4	100	2/4
4.0	20	4	100	2/4
4.5	30	6	100	2/4
5.0	30	5	100	2/4
5.0	30	6	100	2/4
5.5	30	6	100	2/4
6.0	30	6	100	2/4
6.5	35	8	100	2/4
7.0	35	8	100	2/4
7.5	35	8	100	2/4
8.0	35	8	100	2/4
8.5	40	10	100	2/4
9.0	40	10	100	2/4
9.5	40	10	100	2/4
10	40	10	100	2/4
11	45	12	100	2/4
12	45	12	100	2/4
12.5	45	12	100	2/4
4	25	4	120	2/4
5	40	6	120	2/4
6	40	6	120	2/4
8	45	8	120	2/4

刃徑d	刃長ι	柄徑D	全長L	刃數Z
10	50	10	120	2/4
12	55	12	120	2/4
14	60	14	120	2/4
16	60	16	120	2/4
18	60	18	120	2/4
20	60	20	120	2/4
4	25	4	150	2/4
5	45	6	150	2/4
6	45	6	150	2/4
7	50	8	150	2/4
8	50	8	150	2/4
9	55	10	150	2/4
10	55	10	150	2/4
11	60	12	150	2/4
12	60	12	150	2/4
13	65	14	150	2/4
14	65	14	150	2/4
15	65	16	150	2/4
16	65	16	150	2/4
17	75	18	150	2/4
18	75	18	150	2/4
19	80	20	150	2/4
20	80	20	150	2/4
22	100	20	150	2/4
24	100	20	150	2/4
25	100	25	150	2/4
6	75	6	200	2/4
8	75	8	200	2/4
10	75	10	200	2/4
12	75	12	200	2/4
14	100	14	200	2/4
16	100	16	200	2/4
18	100	18	200	2/4
20	100	20	200	2/4
10	100	10	250	2/4
12	100	12	250	2/4
14	150	14	250	2/4
16	150	16	250	2/4
20	150	20	250	2/4
16	150	16	300	2/4
20	150	20	300	2/4

小数点2/4刃铣刀
2/4 EDGE MILLING CUTTER FOR GRAPHITE

Wc = 87 Co = 12 HV30 = 1700 抗折 = 4000N/mm²m 硬度 = 92.5 粒徑 = 0.6 η m



MG HRC ▶55 35° AiTiSi

刃徑d	刃長ι	柄徑D	全長L	刃數Z
1.1-1.4	4	4	50	2/4
1.6-1.9	5	4	50	2/4
2.1-2.4	7	4	50	2/4
2.6-2.9	8	4	50	2/4
3.1-3.4	10	4	50	2/4
3.6-3.9	11	4	50	2/4
4.1-4.4	12	6	50	2/4
4.6-4.9	13	6	50	2/4
5.1-5.4	15	6	50	2/4
5.6-5.9	15	6	50	2/4
6.1-6.4	20	8	60	4
6.6-6.9	20	8	60	4
7.1-7.4	20	8	60	4
7.6-7.9	20	8	60	4
8.1-8.4	25	10	75	4
8.6-8.9	25	10	75	4
9.1-9.4	25	10	75	4
9.6-9.9	26	10	75	4
10.1-10.4	28	12	75	4
10.6-10.9	30	12	75	4
11.1-11.4	30	12	75	4
11.6-11.9	30	12	75	4

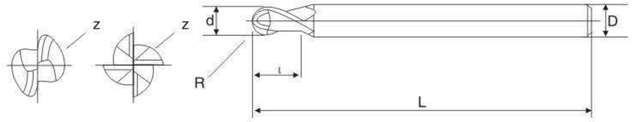


BWiN

2刃/4刃球型立銑刀
2 Edge /4 Edge Ball Type Vertical Milling Cutter

Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6 η m

MG
HRC ▶55
30%
AiTiSi



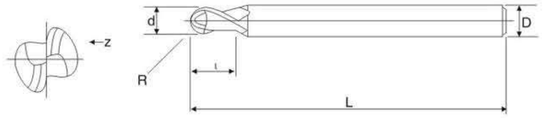
直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
1.0	2	4	50	R0.5	2/4
1.5	3	4	50	R0.75	2/4
2.0	4	2	50	R1.0	2/4
2.0	4	4	50	R1.0	2/4
2.5	5	4	50	R1.25	2/4
3.0	6	3	50	R1.5	2/4
3.0	6	4	50	R1.5	2/4
3.5	7	4	50	R1.75	2/4
4.0	8	4	50	R2.0	2/4
1.0	2	6	50	R0.5	2/4
1.5	3	6	50	R0.75	2/4
2.0	4	6	50	R1.0	2/4
2.5	5	6	50	R1.25	2/4
3.0	6	6	50	R1.5	2/4
3.5	7	6	50	R1.75	2/4
4.0	8	6	50	R2.0	2/4
4.5	9	6	50	R2.25	2/4
5.0	10	5	50	R2.5	2/4
5.0	10	6	50	R2.5	2/4
5.5	11	6	50	R2.75	2/4
6.0	12	6	50	R3.0	2/4
6.5	13	8	60	R3.25	2/4
7.0	14	8	60	R3.5	2/4
7.5	15	8	60	R3.75	2/4
8.0	16	8	60	R4.0	2/4
8.5	17	10	75	R4.25	2/4
9.0	18	10	75	R4.5	2/4
9.5	19	10	75	R4.75	2/4
10.0	20	10	75	R5.0	2/4
10.5	21	12	75	R5.25	2/4
11.0	22	12	75	R5.5	2/4
11.5	23	12	75	R5.75	2/4
12.0	24	12	75	R6.0	2/4
12.5	25	12	75	R6.25	2/4
13.0	26	14	100	R6.5	2/4
13.5	27	14	100	R6.75	2/4
14.0	28	14	100	R7.0	2/4
14.5	29	16	100	R7.25	2/4
15.0	30	16	100	R7.5	2/4
16.0	32	16	100	R8.0	2/4
16.5	33	16	100	R8.25	2/4
17.0	34	18	100	R8.5	2/4
18.0	36	18	100	R9.0	2/4
19.0	38	20	100	R9.5	2/4
20.0	40	20	100	R10.0	2/4
22.0	44	20	100	R11.0	2/4
24.0	48	20	120	R12.0	2/4
25.0	50	25	120	R12.5	2/4



2刃/4刃加长球型立铣刀
2/4 EDGE LENGTHENED BALL END MILL

Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6 η m

MG
HRC ▶55
30%
AiTiSi



直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
1	2	4	75	R0.5	2/4
1.5	3	4	75	R0.75	2/4
2	4	4	75	R1.0	2/4
2.5	5	4	75	R1.25	2/4
3	6	3	75	R1.5	2/4
3	6	4	75	R1.5	2/4
4	8	4	75	R2.0	2/4
5	10	5	75	R2.5	2/4
5	10	6	75	R2.5	2/4
6	12	6	75	R3.0	2/4
7	14	8	75	R3.5	2/4
8	16	8	75	R4.0	2/4
1	2	4	100	R0.5	2/4
1.5	3	4	100	R0.75	2/4
2	4	4	100	R1.0	2/4
3	6	4	100	R1.5	2/4
3	6	3	100	R1.5	2/4
4	8	4	100	R2.0	2/4
5	10	6	100	R2.5	2/4
5	10	5	100	R2.5	2/4
6	12	6	100	R3.0	2/4
7	14	8	100	R3.5	2/4
8	16	8	100	R4.0	2/4
9	18	10	100	R4.5	2/4
10	20	10	100	R5.0	2/4
11	22	12	100	R5.5	2/4
12	24	12	100	R6	2/4
4	10	4	120	R2	2/4
6	12	6	120	R3	2/4
8	16	8	120	R4	2/4
10	20	10	120	R5	2/4
12	24	12	120	R6	2/4
14	28	14	120	R7	2/4
16	32	16	120	R8	2/4
18	36	18	120	R9	2/4
20	40	20	120	R10	2/4
4	10	4	150	R2	2/4
6	15	6	150	R3	2/4
8	20	8	150	R4	2/4
10	25	10	150	R5	2/4
12	30	12	150	R6	2/4
14	35	14	150	R7	2/4
16	40	16	150	R8	2/4
18	45	18	150	R9	2/4
20	50	20	150	R10	2/4
6	25	6	200	R3	2/4
8	35	8	200	R4	2/4
10	40	10	200	R5	2/4
12	50	12	200	R6	2/4
14	60	14	200	R7	2/4
16	65	16	200	R8	2/4
20	80	20	200	R10	2/4



BWiN

小数点2刃球刀

2 Edge Ball Type Vertical Milling Cutter

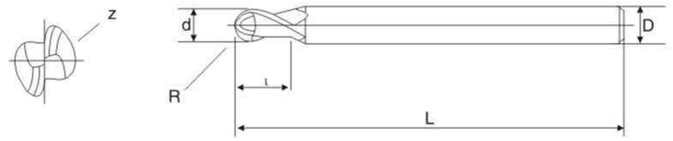
Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6ηm

MG

HRC ▶55

30°

AiTiSi



直刃d	刃長l	柄徑D	全長L	R徑	刃數Z
1.1	4	4	50	0.55	2
1.2	4	4	50	0.6	2
1.3	4	4	50	0.65	2
1.4	4	4	50	0.7	2
1.6	4	4	50	0.8	2
1.7	4	4	50	0.85	2
1.8	4	4	50	0.9	2
1.9	4	4	50	0.95	2
2.1	6	4	50	1.05	2
2.2	6	4	50	1.1	2
2.3	6	4	50	1.15	2
2.4	6	4	50	1.2	2
2.6	6	4	50	1.3	2
2.7	6	4	50	1.35	2
2.8	6	4	50	1.4	2
2.9	6	4	50	1.45	2
3.1	8	4	50	1.55	2
3.2	8	4	50	1.6	2
3.3	8	4	50	1.65	2
3.4	8	4	50	1.7	2
3.6	8	4	50	1.8	2
3.7	8	4	50	1.85	2
3.8	8	4	50	1.9	2
3.9	8	4	50	1.95	2



4刃圓鼻立銑刀

4 Edge Round Nose End Milling Cutter

Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6ηm

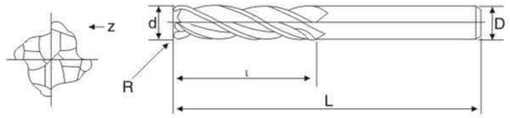
MG

HRC ▶55

35°

AiTiSi

R

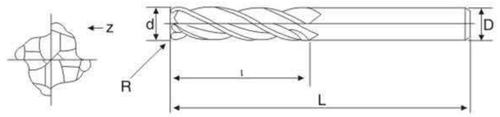


直徑d	刃長l	柄徑D	全長L	R徑	刃數Z
1	3	4	50	0.1/0.2/0.3	4
1.5	4	4	50	0.1/0.2/0.3/0.5	4
2	5	4	50	0.1/0.2/0.3/0.5	4
2.5	7	4	50	0.1/0.2/0.3/0.5	4
3	8	3	50	0.1/0.2/0.3/0.5/1.0	4
3	8	4	50	0.1/0.2/0.3/0.5/1.0	4
4	10	4	50	0.1/0.2/0.3/0.5/1.0	4
5	13	5	50	0.2/0.3/0.5/1.0/1.5/2.0	4
5	13	6	50	0.2/0.3/0.5/1.0/1.5/2.0	4
6	15	6	50	0.2/0.3/0.5/1.0/1.5/2.0	4
8	20	8	60	0.2/0.3/0.5/1.0/1.5/2.0/3.0	4
10	25	10	75	0.2/0.3/0.5/1.0/1.5/2.0/3.0/4.0	4
12	30	12	75	0.2/0.3/0.5/1.0/1.5/2.0/3.0/4.0/5.0	4
14	45	14	100	0.5/1.0/1.5/2.0/3.0/4.0/5.0/6.0	4
16	45	16	100	0.5/1.0/1.5/2.0/3.0/4.0/5.0/6.0	4
20	50	20	100	0.5/1.0/1.5/2.0/3.0/4.0/5.0/6.0	4



4刃加長圓鼻立銑刀
4 Edge Long Round Nose End Milling Cutter

Wc = 87 Co = 12 HV30 = 1700 抗折 = 4000N/mm²m 硬度 = 92.5 粒徑 = 0.6 η m

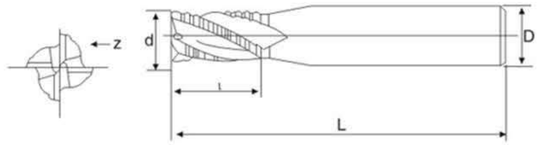


直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
3	12	3	75	0.2/0.5/1.0	4
3	12	4	75	0.2/0.5/1.0	4
4	16	4	75	0.2/0.5/1.0	4
5	25	5	75	0.5/1.0/1.5/2.0	4
5	25	6	75	0.5/1.0/1.5/2.0	4
6	25	6	75	0.5/1.0/1.5/2.0	4
8	30	8	75	0.5/1.0/1.5/2.0/3.0	4
3	15	3	100	0.2/0.5/1.0	4
3	15	4	100	0.2/0.5/1.0	4
4	20	4	100	0.2/0.5/1.0	4
5	30	5	100	0.5/1.0/1.5/2.0	4
5	30	6	100	0.5/1.0/1.5/2.0	4
6	30	6	100	0.5/1.0/1.5/2.0	4
8	35	8	100	0.5/1.0/1.5/2.0/3.0	4
10	40	10	100	0.5/1.0/1.5/2.0/3.0	4
12	45	12	100	0.5/1.0/1.5/2.0/3.0	
6	40	6	120	0.5/1.0	4
8	45	8	120	0.5/1.0/2.0	4
10	50	10	120	0.5/1.0/2.0/3.0	4
12	55	12	120	0.5/1.0/2.0/3.0	4
12	45	12	150	0.5/1.0/1.5/2.0/3.0	4
6	45	6	150	0.5/1.0	4
8	50	8	150	0.5/1.0/1.5/2.0	4
10	55	10	150	0.5/1.0/1.5/2.0/3.0	4
12	60	12	150	0.5/1.0/1.5/2.0/3.0	4
14	65	14	150	0.5/1.0/1.5/2.0/3.0	4
16	65	16	150	0.5/1.0/1.5/2.0/3.0	4



4刃波刃粗銑刀
4 Knife Edge Rough Milling Cutter

Wc = 87 Co = 12 HV30 = 1700 抗折 = 4000N/mm²m 硬度 = 92.5 粒徑 = 0.6 η m



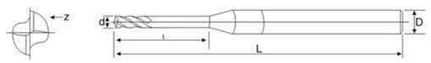
刃徑d	刃長ι	柄徑D	全長L	刃數Z
3	8	4	50	4
3	8	3	50	4
4	10	4	50	4
5	13	6	50	4
5	13	5	50	4
6	15	6	50	4
8	20	8	60	4
10	25	10	75	4
12	30	12	75	4
14	45	14	100	4
16	45	16	100	4
18	45	18	100	4
20	50	20	100	4
6	30	6	100	4
8	35	8	100	4
10	40	10	100	4
12	45	12	100	4
10	55	10	150	4
12	60	12	150	4
14	65	14	150	4
16	65	16	150	4
18	75	18	150	4
20	80	20	150	4



55度2刃深沟立铣刀

55-DEGREE 2-BLADE DEEP GROOVE END MILL

Wc＝87 Co＝12 HV30＝1700 抗折＝4000N/mm²m 硬度＝92.5 粒徑＝0.6 η m



MG

HRC ▶55

35°

AiTiSi

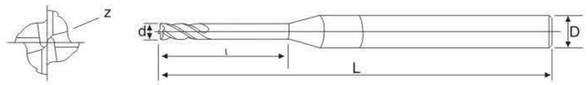
刃徑d	刃長 l	柄徑D	全長L	刃數Z
0.2	2	4	50	2
0.2	4	4	50	2
0.3	2	4	50	2
0.3	4	4	50	2
0.4	2	4	50	2
0.4	4	4	50	2
0.4	6	4	50	2
0.5	2	4	50	2
0.5	4	4	50	2
0.5	6	4	50	2
0.5	8	4	50	2
0.6	2	4	50	2
0.6	4	4	50	2
0.6	6	4	50	2
0.6	8	4	50	2
0.7	2	4	50	2
0.7	4	4	50	2
0.7	6	4	50	2
0.7	8	4	50	2
0.8	4	4	50	2
0.8	6	4	50	2
0.8	8	4	50	2
0.8	10	4	50	2
0.9	4	4	50	2
0.9	6	4	50	2
0.9	8	4	50	2
0.9	10	4	50	2
1.0	6	4	50	2
1.0	8	4	50	2
1.0	10	4	50	2
1.0	12	4	50	2
1.0	16	4	50	2
1.0	20	4	50	2
1.0	25	4	50	2
1.5	6	4	50	2
1.5	8	4	50	2
1.5	10	4	50	2
1.5	12	4	50	2
1.5	14	4	50	2
1.5	16	4	50	2
1.5	20	4	50	2
1.5	25	4	50	2
2.0	8	4	50	2
2.0	10	4	50	2
2.0	12	4	50	2
2.0	14	4	50	2
2.0	16	4	50	2
2.0	20	4	50	2
2.0	25	4	50	2
2.5	10	4	50	2
2.5	12	4	50	2
2.5	16	4	50	2
2.5	20	4	50	2
2.5	25	4	50	2
3.0	10	4	50	2
3.0	12	4	50	2
3.0	16	4	50	2
3.0	20	4	50	2
3.0	25	4	50	2



55度4刃深沟立铣刀

55-DEGREE 4-BLADE DEEP GROOVE END MILL

Wc＝87 Co＝12 HV30＝1700 抗折＝4000N/mm²m 硬度＝92.5 粒徑＝0.6 η m



MG

HRC ▶55

35°

AiTiSi

刃徑d	刃長 l	柄徑D	全長L	刃數Z
1.0	6	4	50	4
1.0	8	4	50	4
1.0	10	4	50	4
1.0	12	4	50	4
1.0	16	4	50	4
1.0	20	4	50	4
1.0	25	4	50	4
1.5	8	4	50	4
1.5	10	4	50	4
1.5	12	4	50	4
1.5	14	4	50	4
1.5	16	4	50	4
1.5	20	4	50	4
1.5	25	4	50	4
2.0	8	4	50	4
2.0	10	4	50	4
2.0	12	4	50	4
2.0	14	4	50	4
2.0	16	4	50	4
2.0	20	4	50	4
2.0	25	4	50	4
2.5	10	4	50	4
2.5	12	4	50	4
2.5	16	4	50	4
2.5	20	4	50	4
2.5	25	4	50	4
3.0	12	4	50	4
3.0	16	4	50	4
3.0	20	4	50	4
3.0	25	4	50	4

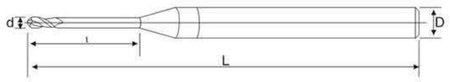


BWiN

2刃球型深溝立銑刀
2 Edge Ball Type Deep Groove Cutter

Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6 η m





刃徑d	刃長ι	柄徑D	全長L	刃數Z
R0.1	1	4	50	2
R0.1	2	4	50	2
R0.1	4	4	50	2
R0.15	1	4	50	2
R0.15	2	4	50	2
R0.15	4	4	50	2
R0.2	1	4	50	2
R0.2	2	4	50	2
R0.2	4	4	50	2
R0.25	1	4	50	2
R0.25	2	4	50	2
R0.25	4	4	50	2
R0.25	6	4	50	2
R0.25	8	4	50	2
R0.3	2	4	50	2
R0.3	4	4	50	2
R0.3	6	4	50	2
R0.3	8	4	50	2
R0.35	2	4	50	2
R0.35	4	4	50	2
R0.35	6	4	50	2
R0.35	8	4	50	2
R0.4	4	4	50	2
R0.4	6	4	50	2
R0.4	8	4	50	2
R0.4	10	4	50	2
R0.45	4	4	50	2
R0.45	6	4	50	2
R0.45	8	4	50	2
R0.45	10	4	50	2
R0.5	4	4	50	2
R0.5	6	4	50	2

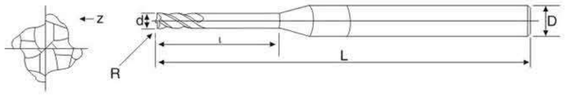
刃徑d	刃長ι	柄徑D	全長L	刃數Z
R0.5	8	4	50	2
R0.5	10	4	50	2
R0.5	12	4	50	2
R0.5	16	4	50	2
R0.5	20	4	50	2
R0.5	25	4	50	2
R0.75	4	4	50	2
R0.75	6	4	50	2
R0.75	8	4	50	2
R0.75	10	4	50	2
R0.75	12	4	50	2
R0.75	14	4	50	2
R0.75	16	4	50	2
R0.75	20	4	50	2
R0.75	25	4	50	2
R1.0	6	4	50	2
R1.0	8	4	50	2
R1.0	10	4	50	2
R1.0	12	4	50	2
R1.0	16	4	50	2
R1.0	20	4	50	2
R1.0	25	4	50	2
R1.25	10	4	50	2
R1.25	16	4	50	2
R1.25	20	4	50	2
R1.25	25	4	50	2
R1.5	10	4	50	2
R1.5	12	4	50	2
R1.5	16	4	50	2
R1.5	20	4	50	2
R1.5	25	4	50	2

4刃深沟圆鼻铣刀
4-BLADE DEEP GROOVE ROUND NOSE MILLING CUTTER

MG HRC ▶55 35° AiTiSi R

Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6 η m





直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
1	4	4	50	R0.1	4
1	6	4	50	R0.1	4
1	8	4	50	R0.1	4
1	10	4	50	R0.1	4
1	12	4	50	R0.1	4
1	16	4	50	R0.1	4
1	20	4	50	R0.1	4
1	4	4	50	R0.2	4
1	6	4	50	R0.2	4
1	8	4	50	R0.2	4
1	10	4	50	R0.2	4
1	12	4	50	R0.2	4
1	16	4	50	R0.2	4
1	20	4	50	R0.2	4
1	4	4	50	R0.3	4
1	6	4	50	R0.3	4
1	8	4	50	R0.3	4
1	10	4	50	R0.3	4
1	12	4	50	R0.3	4
1	16	4	50	R0.3	4
1	20	4	50	R0.3	4
1.5	6	4	50	R0.1	4
1.5	8	4	50	R0.1	4
1.5	10	4	50	R0.1	4
1.5	12	4	50	R0.1	4
1.5	16	4	50	R0.1	4
1.5	20	4	50	R0.1	4
1.5	6	4	50	R0.2	4
1.5	8	4	50	R0.2	4
1.5	10	4	50	R0.2	4
1.5	12	4	50	R0.2	4
1.5	16	4	50	R0.2	4
1.5	20	4	50	R0.2	4
1.5	6	4	50	R0.3	4
1.5	8	4	50	R0.3	4
1.5	10	4	50	R0.3	4
1.5	12	4	50	R0.3	4
1.5	16	4	50	R0.3	4
1.5	20	4	50	R0.3	4

直徑d	刃長ι	柄徑D	全長L	R徑	刃數Z
2	8	4	50	R0.1	4
2	10	4	50	R0.1	4
2	12	4	50	R0.1	4
2	14	4	50	R0.1	4
2	16	4	50	R0.1	4
2	20	4	50	R0.1	4
2	8	4	50	R0.2	4
2	10	4	50	R0.2	4
2	12	4	50	R0.2	4
2	16	4	50	R0.2	4
2	20	4	50	R0.2	4
2	8	4	50	R0.3	4
2	10	4	50	R0.3	4
2	12	4	50	R0.3	4
2	16	4	50	R0.3	4
2	20	4	50	R0.3	4
2	8	4	50	R0.5	4
2	10	4	50	R0.5	4
2	12	4	50	R0.5	4
2	16	4	50	R0.5	4
2	20	4	50	R0.5	4
3	12	4	50	R0.2	4
3	16	4	50	R0.2	4
3	20	4	50	R0.2	4
3	25	4	50	R0.2	4
3	12	4	50	R0.3	4
3	16	4	50	R0.3	4
3	20	4	50	R0.3	4
3	25	4	50	R0.3	4
3	12	4	50	R0.5	4
3	16	4	50	R0.5	4
3	20	4	50	R0.5	4
3	25	4	50	R0.5	4
3	10	4	50	R1	4
3	12	4	50	R1	4
3	16	4	50	R1	4
3	20	4	50	R1	4
3	25	4	50	R1	4

2刃微小徑立銑刀
2 Edge Small Diameter End Milling Cutter

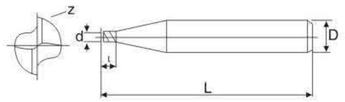
Wc＝87 Co＝12 HV30＝1700 抗折＝4000N/mm²m 硬度＝92.5 粒徑＝0.6ηm

UMG

HRC ▶55

35°

AiTiSi



刃徑d	刃長ι	柄徑D	全長L	刃數Z
0.1	0.2	4	50	2
0.15	0.3	4	50	2
0.2	0.4	4	50	2
0.3	0.6	4	50	2
0.4	0.8	4	50	2
0.5	1	4	50	2
0.6	1.2	4	50	2
0.7	1.4	4	50	2
0.8	1.6	4	50	2
0.9	1.8	4	50	2
R0.1	0.4	4	50	2
R0.15	0.6	4	50	2
R0.2	0.8	4	50	2
R0.25	1	4	50	2
R0.3	1.2	4	50	2
R0.35	1.4	4	50	2
R0.4	1.6	4	50	2
R0.45	1.8	4	50	2



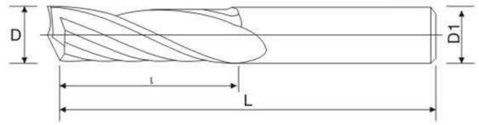
單刃銑刀
Single Blade Milling Cutter

Wc＝87 Co＝12 HV30＝1700 抗折＝4000N/mm²m 硬度＝92.5 粒徑＝0.6ηm

MG

HRC ▶55

30°



刃徑D1	刃長ι	柄長D	全長L
1.0	4	4	40
2.0	8	4	40
2.5	12	4	40
3.0	17	3.0	40
3.0	22	3.0	40
3.175	17	3.175	40
3.175	22	3.175	45
4.0	17	4.0	45
4.0	22	4.0	50
5.0	17	5.0	50
5.0	22	5.0	50
6.0	17	6.0	50
6.0	22	6.0	50
8.0	25	8.0	60
8.0	32	8.0	60
10.0	32	10.0	75
12.0	32	12.0	75
6.0	32	6.0	75
6.0	32	6.0	100
8.0	52	8.0	100
10.0	52	10.0	100
12.0	52	12.0	100



BWiN

550 SERIES
550系列

切削參數
Cutting Parameter

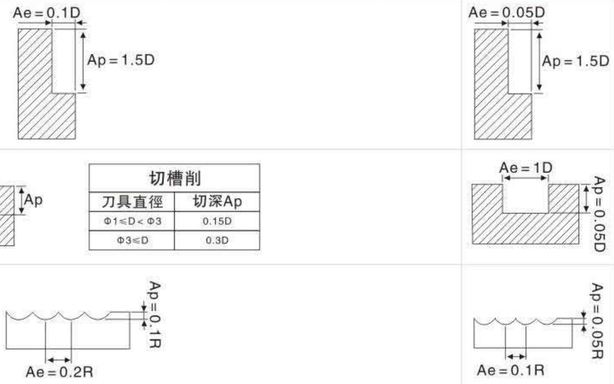
★請特別注意/Please pay special attention to

1.下表是側銑加工的標準值,刀具切槽時,轉速要以下表的50%~70%,進給速度要以40%~60%爲標準值。
2.請使用高精度的機床和刀柄。
3.請使用空氣冷却或不易生産烟霧的切削液。
4.側面銑削推薦順銑加工。
5.機床與工件安裝剛性較差的情況下，會産生振動和异常聾音，此時應將下表的轉速與進給速度同比降低。
6.在不幹涉的條件下盡可能使刀具懸長最短。

切削條件/Cutting condition

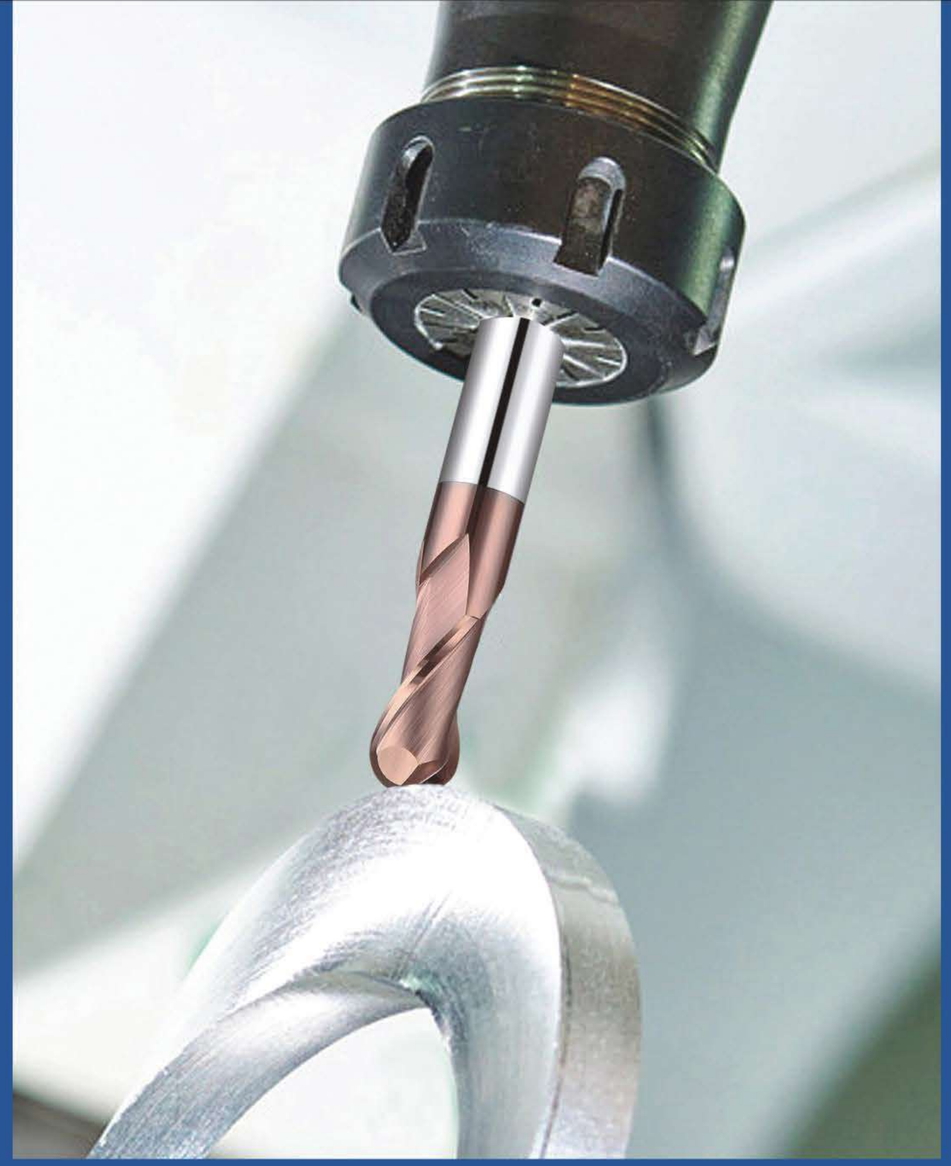
被加工材料	鑄鐵球墨鑄鐵		碳素鋼,合金鋼 ~750N/MM²		碳素鋼，合金鋼 ~30HRC		預硬鋼，調質鋼 ~40HRC		不銹鋼		預硬鋼，調質鋼 ~50HRC	
直徑(mm)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)
1	20000	250	20000	250	20000	200	20000	200	20000	90	20000	150
2	15000	400	15000	400	15000	360	15000	350	11150	100	13000	225
3	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410
4	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420
5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
14	3000	680	3000	680	2700	630	2300	525	1600	125	1800	410
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
18	2300	670	2300	670	2100	620	1800	515	1250	105	1400	405
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405
R0.5	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
R1.0	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
R1.5	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
R2.0	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
R2.5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
R3.0	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
R4.0	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
R5.0	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
R6.0	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420
R8.0	3000	1050	3000	1050	2400	800	2000	600	1350	380	1600	375
R10.0	2400	950	2400	950	1900	680	1600	560	1100	370	1250	330

1~20最大切深量



切槽削	
刀具直徑	切深Ap
Φ1≤D< Φ3	0.15D
Φ3≤D	0.3D

R0.5~R10最大切深量



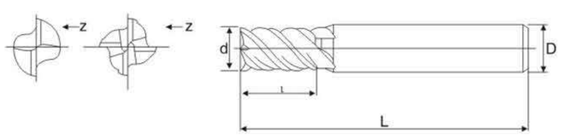
Solid carbide cutter
整體硬質合金銑刀
600 Series

600系列刀具均采用美国肯纳系列极细微粒高品质棒材，加工使用德国瓦尔特五轴高精度磨床磨制，以确保刀具品质。涂层采用德国最新Si纳米涂层，表面光洁度极佳兼具有极高的耐磨性和抗氧性，可承受在高温环境下的高速切削，刀具可加工硬度HRC60度产品。

2刃/4刃立銑刀
2 Edge /4 Edge Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 η m

MG
HRC ▶60
35°
ALCrN



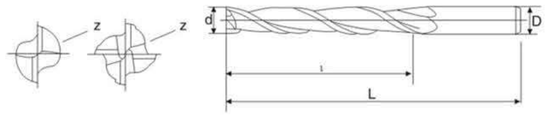
刃徑d	刃長ι	柄徑D	全長L	刃數Z
1.0	3	4	50	2/4
1.5	4	4	50	2/4
2.0	5	4	50	2/4
2.5	6	4	50	2/4
3.0	8	3	50	2/4
3.0	8	4	50	2/4
3.5	9	4	50	2/4
4.0	10	4	50	2/4
1	3	6	50	2/4
1.5	4	6	50	2/4
2	5	6	50	2/4
2.5	6	6	50	2/4
3	8	6	50	2/4
3.5	9	6	50	2/4
4	10	6	50	2/4
4.5	12	6	50	2/4
5.0	13	5	50	2/4
5.0	13	6	50	2/4
5.5	15	6	50	2/4
6.0	15	6	50	2/4
6.5	20	8	60	2/4
7.0	20	8	60	2/4
7.5	20	8	60	2/4
8.0	20	8	60	2/4
8.5	25	10	75	2/4
9.0	25	10	75	2/4
9.5	25	10	75	2/4
10.0	25	10	75	2/4
10.5	30	12	75	2/4
11	30	12	75	2/4
11.5	30	12	75	2/4
12	30	12	75	2/4
13	45	14	100	2/4
14	45	14	100	2/4
15	45	16	100	2/4
16	45	16	100	2/4
17	45	18	100	2/4
18	45	18	100	2/4
19	50	20	100	2/4
20	50	20	100	2/4



2刃/4刃加長立銑刀
2 Edge /4 Edge Long End Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 η m

MG
HRC ▶60
35°
ALCrN



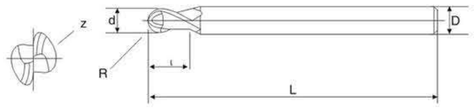
刃徑d	刃長ι	柄徑D	全長L	刃數Z
1	6	4	75	2/4
1.5	6	4	75	2/4
2	8	4	75	2/4
3	12	3	75	2/4
3	12	4	75	2/4
4	15	4	75	2/4
5	20	5	75	2/4
5	20	6	75	2/4
6	25	6	75	2/4
7	30	8	75	2/4
8	32	8	75	2/4
3	12	3	100	2/4
3	12	4	100	2/4
4	15	4	100	2/4
5	20	5	100	2/4
5	20	6	100	2/4
6	25	6	100	2/4
7	40	8	100	2/4
8	35	8	100	2/4
9	45	10	100	2/4
10	40	10	100	2/4
11	45	12	100	2/4
12	45	12	100	2/4
6	40	6	120	2/4
8	45	8	120	2/4
12	55	12	120	2/4
14	60	14	120	2/4
16	60	16	120	2/4
18	60	18	120	2/4
20	60	20	120	2/4
6	45	6	150	2/4
8	50	8	150	2/4
10	55	10	150	2/4
12	60	12	150	2/4
14	65	14	150	2/4
16	65	16	150	2/4
18	75	18	150	2/4
20	75	20	150	2/4



BWiN

2刃球型立銑刀
2 Edge Ball Type End Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 ηm



MG

HRC ▶60

30°

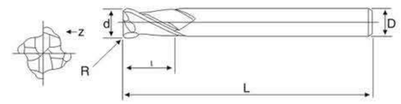
ALCrN

直徑d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2	4	4	50	R1	2
2.5	5	4	50	R1.25	2
3	6	4	50	R1.5	2
3	6	4	50	R1.5	2
3.5	7	4	50	R1.75	2
4	8	4	50	R2	2
2	4	6	50	R1	2
2.5	5	6	50	R1.25	2
3	6	6	50	R1.5	2
4	8	6	50	R2	2
4.5	9	6	50	R2.25	2
5	10	5	50	R2.5	2
5	10	6	50	R2.5	2
6	12	6	50	R3.0	2
7	14	8	60	R3.5	2
8	16	8	60	R4	2
9	18	10	75	R4.5	2
10	20	10	75	R5	2
11	22	12	75	R5.5	2
12	24	12	75	R6	2
14	28	14	100	R7	2
16	32	16	100	R8	2
18	36	18	100	R9	2
20	40	20	100	R10	2
1.5	3	4	75	R0.75	2
3	6	3	75	R1.5	2
3	6	4	75	R1.5	2
4	8	4	75	R2	2
5	10	5	75	R2.5	2
5	10	6	75	R2.5	2
6	12	6	75	R3	2
8	16	8	75	R4	2
1	2	4	100	R0.5	2
2	4	4	100	R1	2
3	6	3	100	R1.5	2
3	6	4	100	R1.5	2
4	8	4	100	R2	2
5	10	5	100	R2.5	2
5	10	6	100	R2.5	2
6	12	6	100	R3	2
8	16	8	100	R4	2
10	20	10	100	R5	2
12	24	12	100	R6	2
6	15	6	150	R3	2
8	20	8	150	R4	2
10	25	10	150	R5	2
12	30	12	150	R6	2
14	35	14	150	R7	2
16	40	16	150	R8	2
18	45	18	150	R9	2
20	50	20	150	R10	2



4刃圓鼻立銑刀
4 Edge Round Nose End Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 ηm



MG

HRC ▶60

35°

ALCrN

R

刃徑d	刃長 l	柄徑D	全長L	R角	刃數Z
1	3	4	50	R0.1	4
1	3	4	50	R0.2	4
1	3	4	50	R0.3	4
1.5	4	4	50	R0.1	4
1.5	4	4	50	R0.2	4
1.5	4	4	50	R0.3	4
1.5	4	4	50	R0.5	4
2	5	4	50	R0.1	4
2	5	4	50	R0.2	4
2	5	4	50	R0.3	4
2	5	4	50	R0.5	4
2.5	7	4	50	R0.1	4
2.5	7	4	50	R0.2	4
3	8	4	50	R0.1	4
3	8	4	50	R0.2	4
3	8	4	50	R0.3	4
3	8	4	50	R0.5	4
3	8	3	50	R0.5	4
3	8	4	50	R1	4
3	8	3	50	R1	4
4	10	4	50	R0.1	4
4	10	4	50	R0.2	4
4	10	4	50	R0.3	4
4	10	4	50	R0.5	4
4	10	4	50	R1	4
5	13	5	50	R0.5	4
5	13	6	50	R0.5	4
5	13	6	50	R1	4
6	15	6	50	R0.2	4
6	15	6	50	R0.5	4
6	15	6	50	R1	4
6	15	6	50	R1.5	4
6	15	6	50	R2	4
8	20	8	60	R0.2	4
8	20	8	60	R0.3	4
8	20	8	60	R0.5	4
8	20	8	60	R1	4
8	20	8	60	R1.5	4
8	20	8	60	R2	4
10	25	10	75	R0.5	4
10	25	10	75	R1	4
10	25	10	75	R1.5	4
10	25	10	75	R2	4
10	25	10	75	R3	4
12	30	12	75	R0.3	4
12	30	12	75	R0.5	4
12	30	12	75	R1	4
12	30	12	75	R1.5	4
12	30	12	75	R2	4
12	30	12	75	R2.5	4
12	30	12	75	R3	4
16	45	16	100	R0.5	4
16	45	16	100	R1	4
20	50	20	100	R1	4

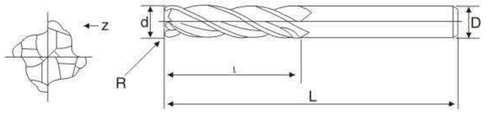


BWiN

4刃加長圓鼻立銑刀
4 Edge Long Round Nose End Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 η m

MG
HRC ▶60
35°
ALCrN
R



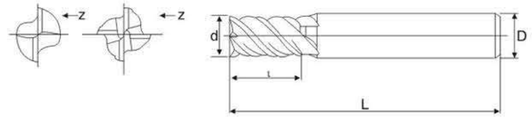
刃徑d	刃長 l	柄徑D	全長L	R角	刃數Z
3	12	4	75	R0.5	4
3	12	4	75	R1.0	4
4	15	4	75	R0.5	4
4	15	4	75	R1.0	4
6	20	6	75	R0.5	4
6	20	6	75	R1.0	4
8	25	8	75	R0.5	4
8	25	8	75	R1.0	4
8	25	8	75	R1.5	4
8	25	8	75	R2.0	4
3	12	4	100	R0.5	4
3	12	4	100	R1.0	4
4	15	4	100	R0.5	4
4	15	4	100	R1.0	4
6	20	6	100	R0.5	4
6	20	6	100	R1.0	4
6	20	6	100	R1.5	4
6	20	6	100	R2.0	4
8	25	8	100	R0.5	4
8	25	8	100	R1.0	4
8	25	8	100	R1.5	4
8	25	8	100	R2.0	4
10	30	10	100	R0.5	4
10	30	10	100	R1.0	4
10	30	10	100	R1.5	4
10	30	10	100	R2.0	4
10	30	10	100	R3.0	4
12	35	12	100	R0.5	4
12	35	12	100	R1.0	4
12	35	12	100	R1.5	4
12	35	12	100	R2.0	4
12	35	12	100	R3.0	4



2刃/4刃立銑刀
2 Edge /4 Edge Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 η m

MG
HRC ▶60
35°
ALCrN



刃徑d	刃長 l	柄徑D	全長L	刃數Z
1.0	3	4	50	2/4
1.5	4	4	50	2/4
2.0	5	4	50	2/4
2.5	6	4	50	2/4
3.0	8	3	50	2/4
3.0	8	4	50	2/4
3.5	9	4	50	2/4
4.0	10	4	50	2/4
4.5	12	6	50	2/4
5.0	13	5	50	2/4
5.0	13	6	50	2/4
6.0	15	6	50	2/4
7.0	20	8	60	2/4
8.0	20	8	60	2/4
9.0	25	10	75	2/4
10.0	25	10	75	2/4
11	30	12	75	2/4
12	30	12	75	2/4
14	45	14	100	2/4
16	45	16	100	2/4
18	45	18	100	2/4
20	50	20	100	2/4
3	12	4	75	2/4
4	15	4	75	2/4
5	20	5	75	2/4
5	20	6	75	2/4
6	25	6	75	2/4
8	32	8	75	2/4
3	12	3	100	2/4
3	12	4	100	2/4
4	15	4	100	2/4
5	20	5	100	2/4
5	20	6	100	2/4
6	25	6	100	2/4
8	35	8	100	2/4
10	40	10	100	2/4
12	45	12	100	2/4
6	45	6	150	2/4
8	50	8	150	2/4
10	55	10	150	2/4
12	60	12	150	2/4
14	65	14	150	2/4
16	65	16	150	2/4
18	75	18	150	2/4
20	75	20	150	2/4



BWiN

2刃球型立銑刀
2 Edge Ball Type End Milling Cutter

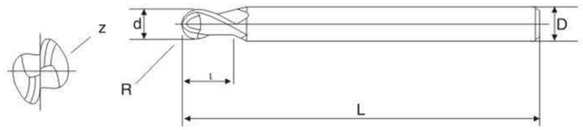
Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 η m

MG

HRC ▶60

30°

ALCrN



直徑d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2	4	4	50	R1	2
2.5	5	4	50	R1.25	2
3	6	4	50	R1.5	2
3	6	4	50	R1.5	2
3.5	7	4	50	R1.75	2
4	8	4	50	R2	2
4.5	9	6	50	R2.25	2
5	10	5	50	R2.5	2
5	10	6	50	R2.5	2
6	12	6	50	R3.0	2
7	14	8	60	R3.5	2
8	16	8	60	R4	2
10	20	10	75	R5	2
12	24	12	75	R6	2
14	28	14	100	R7	2
16	32	16	100	R8	2
18	36	18	100	R9	2
20	40	20	100	R10	2
3	6	3	75	R1.5	2
3	6	4	75	R1.5	2
4	8	4	75	R2	2
5	10	5	75	R2.5	2
5	10	6	75	R2.5	2
6	12	6	75	R3	2
8	16	8	75	R4	2
3	6	3	100	R1.5	2
3	6	4	100	R1.5	2
4	8	4	100	R2	2
5	10	5	100	R2.5	2
5	10	6	100	R2.5	2
6	12	6	100	R3	2
8	16	8	100	R4	2
10	20	10	100	R5	2
12	24	12	100	R6	2
6	15	6	150	R3	2
8	20	8	150	R4	2
10	25	10	150	R5	2
12	30	12	150	R6	2



4刃圓鼻立銑刀
4 Edge Round Nose End Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 η m

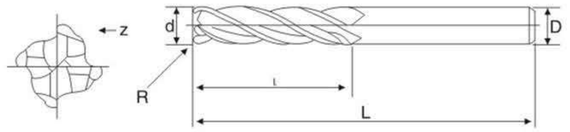
MG

HRC ▶60

35°

ALCrN

R



直徑d	刃長 l	柄徑D	全長L	R徑	刃數Z
1	3	4	50	0.2/0.3	4
2	5	4	50	0.2/0.3/0.5	4
3	8	3	50	0.2/0.3/0.5/1.0	4
3	8	4	50	0.2/0.3/0.5/1.0	4
4	10	4	50	0.2/0.3/0.5/1.0	4
5	13	5	50	0.5	4
5	13	6	50	0.5	4
6	15	6	50	0.5/1.0/1.5	4
8	20	8	60	0.5/1.0/1.5/2.0	4
10	25	10	75	0.5/1.0/1.5/2.0/3.0	4
12	30	12	75	0.5/1.0/1.5/2.0/3.0	4
16	45	16	100	0.5/1.0/2.0/3.0	4
3	12	4	75	0.5/1.0	4
4	15	4	75	0.5/1.0	4
6	20	6	75	0.5/1.0	4
8	25	8	75	0.5/1.0/1.5/2.0	4
3	12	4	100	0.5/1.0	4
4	15	4	100	0.5/1.0	4
6	20	6	100	0.5/1.0/1.5/2.0	4
8	25	8	100	0.5/1.0/1.5/2.0	4
10	30	10	100	0.5/1.0/1.5/2.0/3.0	4
12	35	12	100	0.5/1.0/1.5/2.0/3.0	4



BWiN

2刃微小徑立銑刀
2 Edge Small Diameter End Milling Cutter

Wc＝87 Co＝13 HV30＝1700 抗折＝3600N/mm²m 硬度＝92.7 粒徑＝0.4 η m

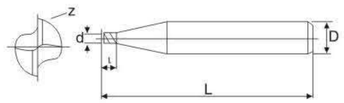
MG

HRC ▶60

35%

ALCrN





刃徑d	刃長l	柄徑D	全長L	刃數Z
0.15	0.3	4	50	2
0.2	0.4	4	50	2
0.3	0.6	4	50	2
0.4	0.8	4	50	2
0.5	1	4	50	2
0.6	1.2	4	50	2
0.7	1.4	4	50	2
0.8	1.6	4	50	2
0.9	1.8	4	50	2
R0.1	0.4	4	50	2
R0.15	0.6	4	50	2
R0.2	0.8	4	50	2
R0.25	1	4	50	2
R0.3	1.2	4	50	2
R0.35	1.4	4	50	2
R0.4	1.6	4	50	2
R0.45	1.8	4	50	2

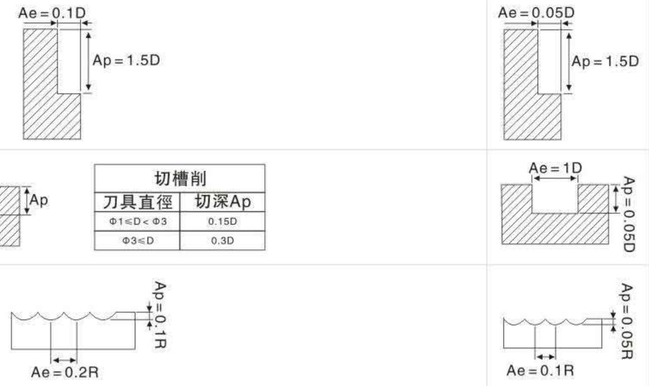
切削參數
Cutting Parameter

★請特別注意/Please pay special attention to
1.下表是側銑加工的標準值,刀具切槽時,轉速要以下表的50%~70%,進給速度要以40%~60%爲標準值。
2.請使用高精度的機床和刀柄。
3.請使用空氣冷却或不易生産烟霧的切削液。
4.側面銑削推薦順銑加工。
5.機床與工件安裝剛性較差的情况下，會産生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
6.在不幹涉的條件下盡可能使刀具懸長最短。

切削條件/Cutting condition

被加工材料	鑄鐵球墨鑄鐵		碳素鋼,合金鋼 ~750N/MM²		碳素鋼，合金鋼 ~30HRC		預硬鋼，調質鋼 ~40HRC		不銹鋼		預硬鋼，調質鋼 ~50HRC	
直徑(mm)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)
1	20000	250	20000	250	20000	200	20000	200	20000	90	20000	150
2	15000	400	15000	400	15000	360	15000	350	11150	100	13000	225
3	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410
4	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420
5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
14	3000	680	3000	680	2700	630	2300	525	1600	125	1800	410
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
18	2300	670	2300	670	2100	620	1800	515	1250	105	1400	405
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405
R0.5	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
R1.0	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
R1.5	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
R2.0	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
R2.5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
R3.0	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
R4.0	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
R5.0	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
R6.0	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420
R8.0	3000	1050	3000	1050	2400	800	2000	600	1350	380	1600	375
R10.0	2400	950	2400	950	1900	680	1600	560	1100	370	1250	330

1~20最大切深量



R0.5~R10最大切深量

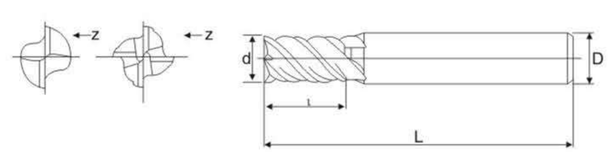


Solid carbide cutter
整體硬質合金銑刀
700Series

700高硬度铣刀系列，棒料采用进口AF极细微粒高品质棒材,兼具极高的耐磨性和抗折性。纳米晶体结构的Balzers基涂层表现出极优秀的红硬性和抗氧化性及抗热性。可用于硬度大于HRC65度以上钢材粗精高速切削加工。

2刃/4刃立銑刀
2 Edge /4 Edge Milling Cutter

Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2 η m
建議高速切削硬度爲65° 左右



UMG

HRC ▶70

35°

Balzers

刃徑d	刃長l	柄徑D	全長L	刃數Z
1.0	3	4	50	2/4
1.5	4	4	50	2/4
2.0	5	4	50	2/4
2.5	6	4	50	2/4
3.0	8	3	50	2/4
3.0	8	4	50	2/4
3.5	9	4	50	2/4
4.0	10	4	50	2/4
4.5	12	6	50	2/4
5.0	13	5	50	2/4
5.0	13	6	50	2/4
6.0	15	6	50	2/4
7.0	20	8	60	2/4
8.0	20	8	60	2/4
10.0	25	10	75	2/4
11	30	12	75	2/4
12	30	12	75	2/4
14	45	14	100	2/4
16	45	16	100	2/4
18	45	18	100	2/4
20	50	20	100	2/4
3	12	3	75	2/4
3	12	4	75	2/4
4	16	4	75	2/4
5	20	6	75	2/4
6	25	6	75	2/4
8	32	8	75	2/4
3	12	3	100	2/4
3	12	4	100	2/4
4	16	4	100	2/4
5	20	6	100	2/4
6	25	6	100	2/4
8	35	8	100	2/4
10	40	10	100	2/4
12	45	12	100	2/4

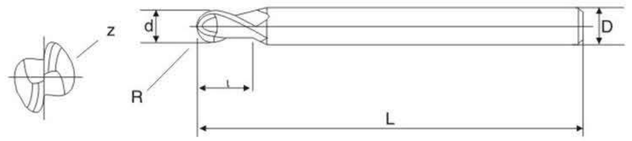


BWiN

2刃球型立銑刀
2 Edge Ball Type End Milling Cutter

Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2ηm
建議高速切削硬度爲65° 左右

UMG
HRC ▶70
30°
Balzers



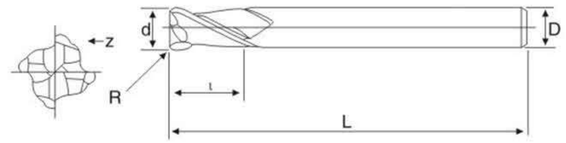
直刃d	刃長l	柄徑D	全長L	R徑	刃數Z
1.0	2.0	4	50	R0.5	2
1.5	3.0	4	50	R0.75	2
2.0	4.0	4	50	R1.0	2
2.5	5.0	4	50	R1.25	2
3.0	6.0	3	50	R1.5	2
3.0	6.0	4	50	R1.5	2
3.5	7.0	4	50	R1.75	2
4.0	8.0	4	50	R2.0	2
5.0	10.0	6	50	R2.5	2
6.0	12.0	6	50	R3.0	2
8.0	16.0	8	60	R4.0	2
10.0	20.0	10	75	R5.0	2
12.0	24.0	12	75	R6.0	2
14.0	28.0	14	100	R7.0	2
16.0	32.0	16	100	R8.0	2
18.0	36.0	18	100	R9.0	2
20.0	40.0	20	100	R10.0	2
3.0	6.0	4	75	R1.5	2
4.0	8.0	4	75	R2.0	2
5.0	10.0	6	75	R2.5	2
6.0	12.0	6	75	R3.0	2
8.0	16.0	8	75	R4.0	2
3.0	6.0	4	100	R1.5	2
4.0	8.0	4	100	R2.0	2
5.0	10.0	6	100	R2.5	2
6.0	12.0	6	100	R3.0	2
8.0	16.0	8	100	R4.0	2
10.0	20.0	10	100	R5.0	2
12.0	24.0	12	100	R6.0	2



4刃圓鼻立銑刀
4 Edge Round Nose End Milling Cutter

Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2ηm
建議高速切削硬度爲65° 左右

UMG
HRC ▶70
35°
Balzers



刃徑d	刃長l	柄徑D	全長L	R角	刃數Z
3	8	3	50	R0.5	4
3	8	4	50	R0.5	4
3	8	4	50	R1.0	4
4	10	4	50	R0.5	4
4	10	4	50	R1.0	4
6	15	6	50	R0.5	4
6	15	6	50	R1.0	4
8	20	8	60	R0.5	4
8	20	8	60	R1.0	4
10	25	10	75	R0.5	4
10	25	10	75	R1.0	4
12	30	12	75	R0.5	4
12	30	12	75	R1.0	4
4	15	4	75	R0.5	4
4	15	4	75	R1.0	4
6	20	6	75	R0.5	4
6	20	6	75	R1.0	4
8	25	8	75	R0.5	4
8	25	8	75	R1.0	4
3	12	4	100	R0.5	4
4	15	4	100	R0.5	4
4	15	4	100	R1.0	4
6	20	6	100	R0.5	4
6	20	6	100	R1.0	4
8	25	8	100	R0.5	4
8	25	8	100	R1.0	4
10	30	10	100	R0.5	4
10	30	10	100	R1.0	4
12	35	12	100	R0.5	4
12	35	12	100	R1.0	4



BWiN

锥度铣刀

Taper Milling Cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 ηm



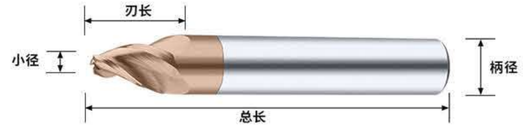
小径d	单边锥度	大径d1	柄径	刃长	总长	刃数Z
1	0.5°	1.07	4	4	50	3
1	1°	1.14	4	4	50	3
1	1.5°	1.21	4	4	50	3
1	2°	1.28	4	4	50	3
1	3°	1.42	4	4	50	3
1	5°	1.7	4	4	50	3
1.5	0.5°	1.59	4	5	50	3
1.5	1°	1.67	4	5	50	3
1.5	1.5°	1.76	4	5	50	3
1.5	2°	1.85	4	5	50	3
1.5	3°	2.02	4	5	50	3
1.5	5°	2.37	4	5	50	3
2	0.5°	2.1	4	6	50	3
2	1°	2.21	4	6	50	3
2	1.5°	2.31	4	6	50	3
2	2°	2.41	4	6	50	3
2	3°	2.62	4	6	50	3
2	5°	3.05	4	6	50	3
3	0.5°	3.17	4	10	50	3
3	1°	3.35	4	10	50	3
3	1.5°	3.52	4	10	50	3
3	2°	3.69	4	10	50	3
3	3°	4	4	9.5	50	3
3	5°	4.75	6	10	50	3
3	10°	6.53	8	10	60	3
3	15°	10	10	13.06	75	3
4	0.5°	4.26	6	15	50	3
4	1°	4.52	6	15	50	3
4	1.5°	4.79	6	15	50	3
4	2°	5.04	6	15	50	3
4	3°	5.57	6	15	50	3
4	5°	6.62	8	15	60	3
4	8°	8	8	14.2	60	3
4	10°	9.29	10	15	75	3
4	15°	12	12	14.93	75	3
6	0.5°	6.35	8	20	60	3
6	1°	7.4	8	20	60	3
6	1.5°	7.05	8	20	60	3
6	2°	7.4	8	20	60	3
6	3°	8	8	19	60	3
6	5°	9.5	10	20	75	3
6	8°	11.62	12	20	75	3
6	10°	12	12	17	75	3
8	0.5°	8.44	10	25	75	3
8	1°	8.87	10	25	75	3
8	1.5°	9.31	10	25	75	3
8	2°	9.74	10	25	75	3
8	3°	10.62	12	25	75	3
8	5°	12	12	22.8	75	3



涂层锥度铣刀

Coated taper milling cutter

Wc = 87 Co = 13 HV30 = 1700 抗折 = 3600N/mm²m 硬度 = 92.7 粒徑 = 0.4 ηm

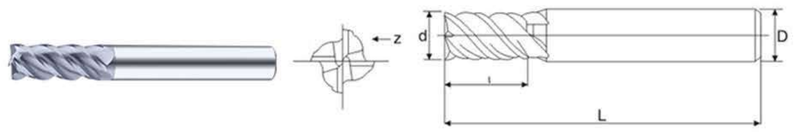


小径d	单边锥度	大径d1	柄径	刃长	总长	刃数Z
0.5	10°	4	4	10	50	3
0.5	15°	4	4	6.5	50	3
0.5	20°	4	4	4.8	50	3
0.6	10°	4	4	9.6	50	3
0.6	15°	4	4	6.4	50	3
0.6	20°	4	4	4.7	50	3
0.8	10°	4	4	9	50	3
0.8	15°	4	4	6	50	3
0.8	20°	4	4	4.4	50	3
1	0.5°	1.07	4	4	50	3
1	1°	1.14	4	4	50	3
1	1.5°	1.21	4	4	50	3
1	2°	1.28	4	4	50	3
1	3°	1.42	4	4	50	3
1	5°	1.7	4	4	50	3
1	10°	4	4	8.5	50	3
1	15°	4	4	5.6	50	3
1	20°	4	4	4.1	50	3
1.5	0.5°	1.59	4	5	50	3
1.5	1°	1.67	4	5	50	3
1.5	1.5°	1.76	4	5	50	3
1.5	2°	1.85	4	5	50	3
1.5	3°	2.02	4	5	50	3
1.5	5°	2.37	4	5	50	3
1.5	10°	4	4	7	50	3
1.5	15°	4	4	4.7	50	3
1.5	20°	4	4	3.4	50	3
2	0.5°	2.1	4	6	50	3
2	1°	2.21	4	6	50	3
2	1.5°	2.31	4	6	50	3
2	2°	2.41	4	6	50	3
2	3°	2.62	4	6	50	3

小径d	单边锥度	大径d1	柄径	刃长	总长	刃数Z
2	5°	3.05	4	6	50	3
3	0.5°	3.17	4	10	50	3
3	1°	3.35	4	10	50	3
3	1.5°	3.52	4	10	50	3
3	2°	3.69	4	10	50	3
3	3°	4	4	9.5	50	3
3	5°	4.75	6	10	50	3
3	10°	6.53	8	10	60	3
3	15°	10	10	13.06	75	3
4	0.5°	4.26	6	15	50	3
4	1°	4.52	6	15	50	3
4	1.5°	4.79	6	15	50	3
4	2°	5.04	6	15	50	3
4	3°	5.57	6	15	50	3
4	5°	6.62	8	15	60	3
4	8°	8	8	14.2	60	3
4	10°	9.29	10	15	75	3
4	15°	12	12	14.93	75	3
6	0.5°	6.35	8	20	60	3
6	1°	7.4	8	20	60	3
6	1.5°	7.05	8	20	60	3
6	2°	7.4	8	20	60	3
6	3°	8	8	19	60	3
6	5°	9.5	10	20	75	3
6	8°	11.62	12	20	75	3
6	10°	12	12	17	75	3
8	0.5°	8.44	10	25	75	3
8	1°	8.87	10	25	75	3
8	1.5°	9.31	10	25	75	3
8	2°	9.74	10	25	75	3
8	3°	10.62	12	25	75	3
8	5°	12	12	22.8	75	3

不锈钢铣刀

STAINLESS STEEL MILLING CUTTER

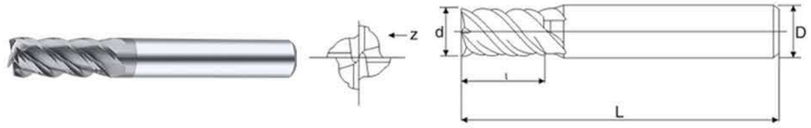


刃徑d	刃長l	柄徑D	全長L	刃數Z
1.0	3	4	50	4
1.5	4	4	50	4
2.0	5	4	50	4
2.5	7	4	50	4
3.0	8	3	50	4
3.0	8	4	50	4
3.5	10	4	50	4
4.0	11	4	50	4
5.0	13	5	50	4
5.0	13	6	50	4
6.0	15	6	50	4
8.0	20	8	60	4
9.0	25	10	75	4
10.0	25	10	75	4
11.0	30	12	75	4
12.0	30	12	75	4
14.0	45	14	100	4
16.0	45	16	100	4
18.0	45	18	100	4
20.0	50	20	100	4
3	12	4	75	4
4	15	4	75	4
5	20	6	75	4
6	20	6	75	4
8	25	8	75	4
3	12	4	100	4
4	16	4	100	4
5	20	6	100	4
6	25	6	100	4
8	32	8	100	4
10	40	10	100	4
12	45	12	100	4



钛合金专用4刃铣刀

SPECIAL 4-EDGE MILLING CUTTER FOR TITANIUM ALLOY



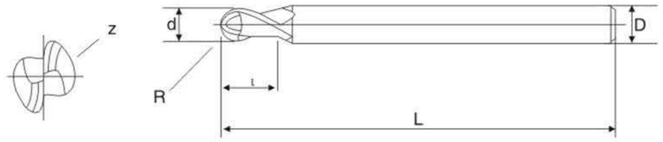
刃徑d	刃長l	柄徑D	全長L	刃數Z
1.0	3	4	50	4
1.5	4	4	50	4
2.0	5	4	50	4
2.5	8	4	50	4
3.0	8	4	50	4
4.0	10	4	50	4
5.0	13	6	50	4
6.0	15	6	50	4
8.0	20	8	60	4
10.0	25	10	75	4
12.0	30	12	75	4
14.0	45	14	100	4
16.0	45	16	100	4
18.0	45	18	100	4
20.0	45	20	100	4
3	12	4	75	4
4	15	4	75	4
5	20	6	75	4
6	20	6	75	4
8	25	8	75	4
3	12	4	100	4
4	16	4	100	4
5	20	6	100	4
6	25	6	100	4
8	32	8	100	4
10	40	10	100	4
12	45	12	100	4



BWiN

钛合金专用2刃球刀

TITANIUM ALLOY SPECIAL 2-BLADE BALL CUTTER

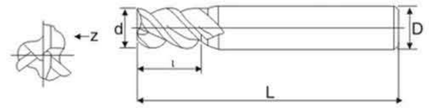


直刃d	刃長l	柄徑D	全長L	R徑	刃數Z
1	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2	4	4	50	R1	2
2.5	5	4	50	R1.25	2
3	6	4	50	R1.5	2
4	8	4	50	R2	2
5	10	6	50	R2.5	2
6	12	6	50	R3	2
8	16	8	60	R4	2
10	20	10	75	R5	2
12	24	12	75	R6	2
14	24	14	100	R7	2
16	32	16	100	R8	2
18	36	18	100	R9	2
20	40	20	100	R10	2
3	6	4	75	R1.5	2
4	8	4	75	R2	2
5	10	6	75	R2.5	2
6	12	6	75	R3	2
8	16	8	75	R4	2
3	6	4	100	R1.5	2
4	8	4	100	R2	2
5	10	6	100	R2.5	2
6	12	6	100	R3	2
8	16	8	100	R4	2
10	20	10	100	R5	2
12	24	12	100	R6	2



铝用U型槽铣刀JU系列

JU SERIES OF U-SLOT MILLING CUTTERS FOR ALUMINUM



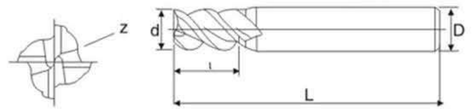
刃徑d	刃長l	柄徑D	全長L	刃數Z
3	9	3	50	3
3	9	4	50	3
4	12	4	50	3
5	15	5	50	3
5	15	6	50	3
6	18	6	50	3
8	24	8	60	3
10	30	10	75	3
12	30	12	75	3
14	45	14	100	3
16	45	16	100	3
18	45	18	100	3
20	50	20	100	3
3	12	3	75	3
3	12	4	75	3
4	12	4	75	3
5	25	5	75	3
5	25	6	75	3
6	25	6	75	3
8	30	8	75	3
3	15	3	100	3
3	15	4	100	3
4	20	4	100	3
5	30	5	100	3
5	30	6	100	3
6	30	6	100	3
8	35	8	100	3
10	40	10	100	3
12	45	12	100	3



BWiN

U型槽铣刀JU系列

U-SLOT MILLING CUTTER JU SERIES

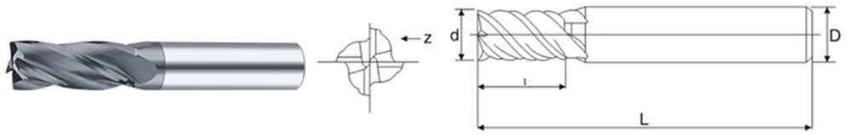


刃徑d	刃長l	柄徑D	全長L	刃数Z
3	8	3	50	4
3	8	4	50	4
4	10	4	50	4
5	13	6	50	4
5	13	6	50	4
6	15	6	50	4
8	20	8	60	4
10	25	10	75	4
12	30	12	75	4
14	45	14	100	4
16	45	16	100	4
18	45	18	100	4
20	50	20	100	4
3	12	3	75	4
3	12	4	75	4
4	12	4	75	4
5	20	5	75	4
5	20	6	75	4
6	25	6	75	4
8	30	8	75	4
3	15	3	100	4
3	15	4	100	4
4	20	4	100	4
5	30	5	100	4
5	30	6	100	4
6	30	6	100	4
8	35	8	100	4
10	40	10	100	4
12	45	12	100	4



石墨专用4刃铣刀

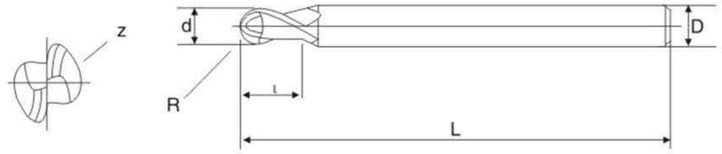
4 EDGE MILLING CUTTER FOR GRAPHITE



刃徑d	刃長l	柄徑D	全長L	刃数Z
1.0	3	4	50	4
1.5	4	4	50	4
2.0	5	4	50	4
2.5	6	4	50	4
3.0	8	4	50	4
4.0	11	4	50	4
5.0	13	6	50	4
6.0	15	6	50	4
8.0	20	8	60	4
10.0	25	10	75	4
12.0	30	12	75	4
5.0	15	6	75	4
6.0	20	6	75	4
8.0	20	8	75	4
6.0	30	6	100	4
8.0	35	8	100	4
10.0	40	10	100	4
12.0	45	12	100	4
8.0	50	8	150	4
10.0	55	10	150	4
12.0	60	12	150	4

2刃石墨球刀

2-EDGED GRAPHITE BALL KNIFE



直刃d	刃長ι	柄徑D	全長L	R徑	刃數Z
1.0	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2.0	4	4	50	R1.0	2
2.5	5	4	50	R1.25	2
3.0	6	4	50	R1.5	2
4.0	8	4	50	R2.0	2
5.0	10	6	50	R2.5	2
6.0	12	6	50	R3.0	2
8.0	16	8	60	R4.0	2
10.0	20	10	75	R5.0	2
5.0	10	6	75	R2.5	2
6.0	12	6	75	R3.0	2
8.0	16	8	75	R4.0	2
6.0	12	6	100	R3.0	2
8.0	16	8	100	R4.0	2
10.0	20	10	100	R5.0	2
10.0	25	10	150	R5.0	2

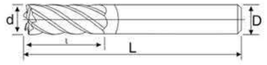


6刃強力切削立銑刀

6 Edge Strong Cutting Edge Milling Cutter

Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2ηm
建議高速切削硬度爲65° 左右





UMG

HRC ▶70

45°

Balzers

刃徑d	刃長ι	柄徑D	全長L	刃數Z
6	15	6	50	6
8	20	8	60	6
10	25	10	75	6
12	30	12	75	6
14	45	14	100	6
16	45	16	100	6
18	45	18	100	6
20	50	20	100	6
6	25	6	75	6
8	32	8	75	6
6	30	6	100	6
8	35	8	100	6
10	40	10	100	6
12	45	12	100	6
20	80	20	150	6

★請特別注意/Please pay special attention to

1.請使用高精度、高剛性的設備及夾具。
2.機床與工件安裝剛性較差的情況下，會產生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
3.請使用空氣冷却或MQL(最小量油霧冷却)
4.側面銑削推薦順銑加工。
5.在不幹涉的條件下盡可能使刀具懸長最短。

切削條件/Cutting condition

被加工材料	預硬鋼、淬硬鋼 40~50HRC		淬硬鋼5 0~60HRC		淬硬鋼 60~68HRC	
切削速度	300m/min		150m/min		100m/min	
直徑(mm)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)
6	16000	1850	8000	925	5300	610
8	12000	1850	6000	925	4000	610
10	9600	1850	4800	925	3200	610
12	8000	1920	4000	930	2700	650
14	6800	1600	3400	815	2300	550
16	6000	1440	3000	720	2000	480
18	5300	1270	2700	635	1800	430
20	4800	1150	2400	575	1600	385
最大切深量	Ae＝0.05D Ap＝1.5D 最大Ae＝1.0mm		Ae＝0.03D Ap＝1.5D 最大Ae＝0.5mm		Ae＝0.02D Ap＝1.5D 最大Ae＝0.3mm	

BWIN

700 SERIES
700系列

切削参數
Cutting Parameter

★請特別注意
1.請使用高精度、高剛性的設備及夾具。
2.機床與工件安裝剛性較差的情況下，會產生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
3.請使用空氣冷却或MQL(最小量油霧冷却)。
4.側面銑削推薦順銑加工。
5.在不幹涉的條件下盡可能使刀具懸長最短。

切削條件

被加工材料	預硬鋼、淬硬鋼 40~50HRC		淬硬鋼50~60HRC		淬硬鋼60~68HRC	
直徑(mm)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)
1	40000	320	40000	320	32000	260
2	40000	800	24000	480	16000	320
3	32000	1020	16000	510	11000	350
4	24000	1250	12000	620	8000	420
5	19000	1360	9500	680	6400	460
6	16000	1540	8000	770	5300	510
8	12000	1540	6000	770	4000	510
10	9600	1540	4800	770	3200	510
12	8000	1600	4000	800	2700	540
14	6800	1340	3400	680	2300	460
16	6000	1200	3000	600	2000	400
18	5300	1060	2700	530	1800	360
20	4800	960	2400	480	1600	320
最大切深量	Ae = 0.05D, Ap = 1.5D, 最大Ae = 1.0mm		Ae = 0.03D, Ap = 1D, 最大Ae = 0.5mm		Ae = 0.02D, Ap = 1D, 最大Ae = 0.3mm	

★請特別注意
1.請使用高精度、高剛性的設備及夾具。
2.下表是等高綫加工等負荷變化較小的基準，機床與工件安裝剛性較差的情况下，會產生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
3.請使用空氣冷却或MQL(最小量油霧冷却)。
4.側面銑削推薦順銑加工。
5.在不幹涉的條件下盡可能使刀具懸長最短。

切削條件

被加工材料	預硬鋼、淬硬鋼 40~50HRC				淬硬鋼 50~60HRC				淬硬鋼 60~68HRC			
球頭半徑 (mm)	轉速 (min^{-1})	進給速度 (mm/min)	Ap (mm)	Ae (mm)	轉速 (min^{-1})	進給速度 (mm/min)	Ap (mm)	Ae (mm)	轉速 (min^{-1})	進給速度 (mm/min)	Ap (mm)	Ae (mm)
R0.5	40000	1900	0.01	0.05	36000	1500	0.01	0.05	32000	1400	0.01	0.05
R1.0	33000	3100	0.02	0.075	26000	2100	0.02	0.075	24000	2000	0.02	0.075
R1.5	29000	4100	0.03	0.10	23000	2900	0.03	0.10	21000	2600	0.03	0.10
R2.0	22000	3900	0.04	0.15	17000	2500	0.04	0.15	15500	2100	0.04	0.15
R2.5	17500	3500	0.05	0.15	13500	2200	0.05	0.15	13000	2000	0.05	0.15
R3.0	15000	3100	0.06	0.20	11500	1700	0.06	0.20	10500	1500	0.06	0.20
R4.0	11000	2500	0.08	0.25	8600	1600	0.08	0.25	8000	1400	0.08	0.25
R5.0	9000	2000	0.10	0.30	7000	1400	0.10	0.30	6000	1200	0.10	0.30
R6.0	7500	1800	0.10	0.35	5700	1300	0.10	0.35	5300	1200	0.10	0.35
R8.0	5500	1800	0.10	0.40	4300	1300	0.10	0.40	4000	1200	0.10	0.40
R10.0	4500	1800	0.10	0.50	3500	1300	0.10	0.50	3200	1200	0.10	0.50
最大切深量	Ap, Ae				a							

高硬铣刀系列

1.采用**0.2um**的极细超微粒基体，兼有良好的韧性和硬度，实现了高硬高速高耐磨加工；
2.**durorey**涂层含有SiC的超耐热层和超微细纳米周期积层结构，具有高耐热性和耐磨损性的同时，发挥优异的韧性。即使在高硬度加工中野可抑制崩刃，实现刀具的长寿命化。
3.适合加工淬火钢（>**55HRC**）



高硬2刃/4刃立铣刀

HIGH HARDNESS 2/4 EDGE END MILLS

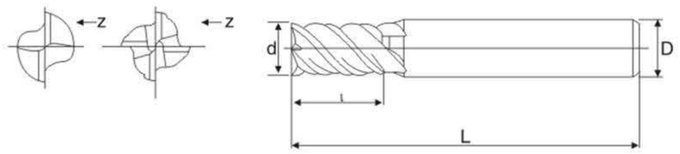
Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2ηm
建議高速切削硬度爲65° 左右

UMG

HRC ▶70

45°

Durorey





刃徑d	刃長l	柄徑D	全長L	刃數Z
1	3	4	50	2/4
1.5	4	4	50	2/4
2	6	4	50	2/4
2.5	8	4	50	2/4
3	8	4	50	2/4
4	11	4	50	2/4
5	13	6	50	2/4
6	15	6	50	2/4
8	20	8	60	2/4
10	25	10	75	2/4
12	30	12	75	2/4
14	45	14	100	2/4
16	45	16	100	2/4
20	45	20	100	2/4
6	20	6	75	2/4
8	25	8	75	2/4
8	25	8	100	2/4
10	30	10	100	2/4
12	35	12	100	2/4

高硬2刃球型立铣刀

HIGH HARDNESS BALL END MILL WITH 2 EDGES

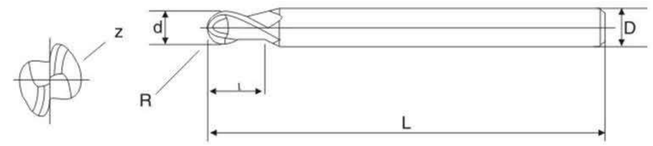
Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2ηm
建議高速切削硬度爲65° 左右

UMG

HRC ▶70

30°

Durorey



直刃d	刃長l	柄徑D	全長L	R徑	刃數Z
1	2	4	50	R0.5	2
1.5	3	4	50	R0.75	2
2	4	4	50	R1.0	2
2.5	5	4	50	R1.25	2
3	6	4	50	R1.5	2
3	6	4	50	R1.5	2
4	6	4	50	R2.0	2
1	2	6	50	R0.5	2
1.5	3	6	50	R0.75	2
2	4	6	50	R1	2
2.5	5	6	50	R1.25	2
3	6	6	50	R1.5	2
4	6	6	50	R2	2
5	7.5	6	50	R2.5	2
6	9	6	50	R3	2
8	12	8	60	R4	2
10	15	10	75	R5	2
12	18	12	75	R6	2
16	24	16	100	R8	2
4	6	4	75	R2	2
6	9	6	75	R3	2
8	12	8	75	R4	2
8	6	8	100	R4	2
10	15	10	100	R5	2
12	18	12	100	R6	2
16	24	16	150	R8	2



BWiN

高硬4刃圓鼻立铣刀

ROUND NOSE END MILL WITH HIGH HARDNESS AND 4 EDGES

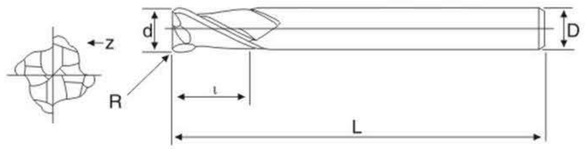
Wc＝91 Co＝9抗折＝4100N/mm² 硬度＝93.9 粒徑＜0.2ηm
建議高速切削硬度爲65° 左右

UMG

HRC ▶70

45°

Durorey



刃徑d	刃長l	柄徑D	全長L	R角	刃數Z
1	3	4	50	R0.2	4
1.5	4	4	50	R0.2	4
2	5	4	50	R0.2	4
2.5	7	4	50	R0.2	4
3	8	4	50	R0.2	4
3	8	4	50	R0.5	4
4	10	4	50	R0.2	4
4	10	4	50	R0.5	4
4	10	4	50	R1	4
6	15	6	50	R0.5	4
6	15	6	50	R1	4
8	20	8	60	R0.5	4
10	25	10	75	R0.5	4
10	25	10	75	R1	4
12	30	12	75	R0.5	4
12	30	12	75	R1	4
6	15	6	75	R0.5	4
6	15	6	75	R1	4
8	20	8	75	R0.5	4
6	15	6	100	R0.5	4
6	15	6	100	R1	4
8	20	8	100	R0.5	4
10	25	10	100	R0.5	4
10	25	10	100	R1	4
12	30	12	100	R0.5	4
12	30	12	100	R1	4



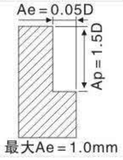
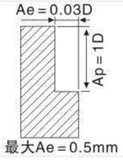
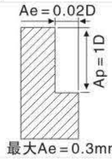
切削參數

Cutting Parameter

★請特別注意

1.請使用高精度、高剛性的設備及夾具。
2.機床與工件安裝剛性較差的情況下，會產生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
3.請使用空氣冷却或MQL(最小量油霧冷却)。
4.側面銑削推薦順銑加工。
5.在不幹涉的條件下盡可能使刀具懸長最短。

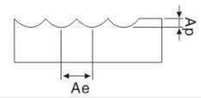
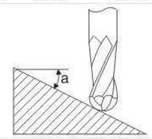
切削條件

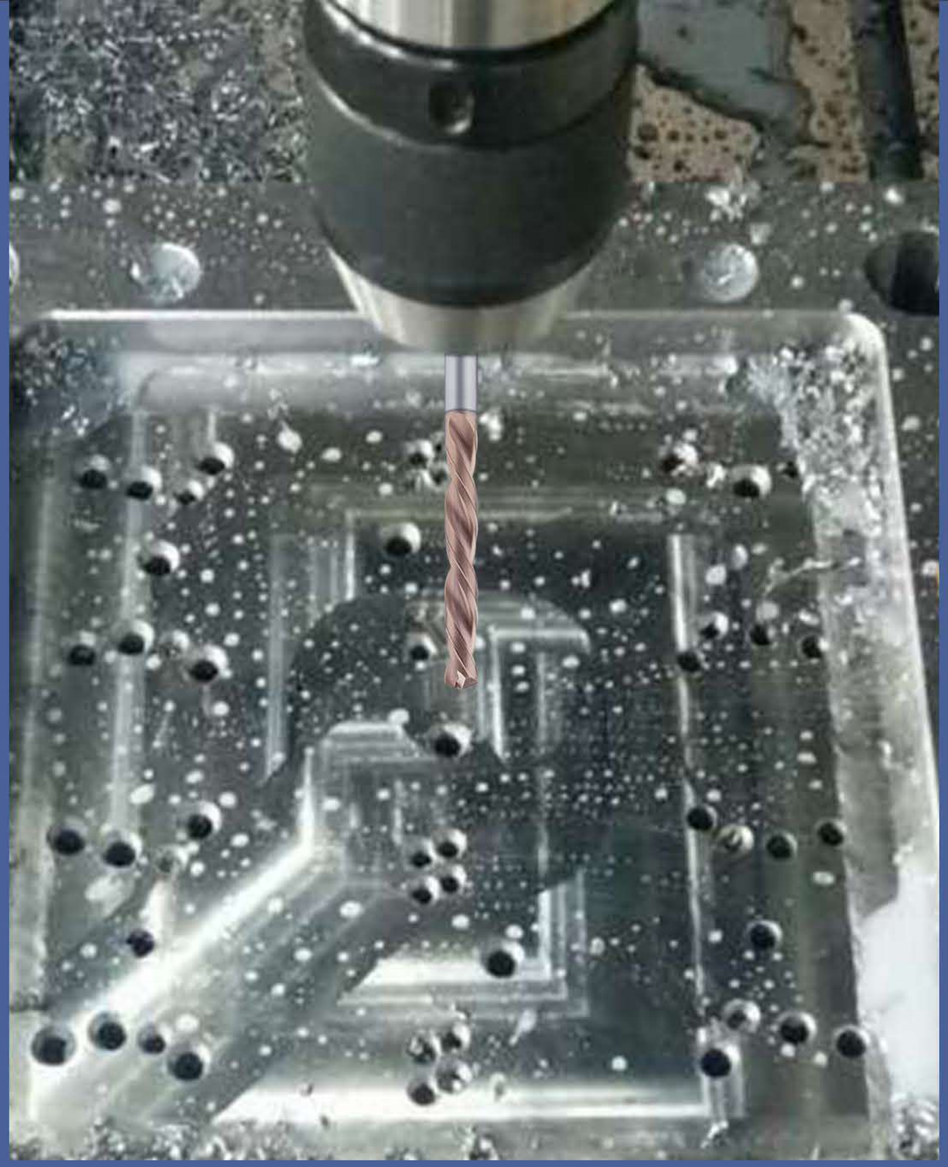
被加工材料	預硬鋼、淬硬鋼 40~50HRC		淬硬鋼50~60HRC		淬硬鋼60~68HRC	
直徑(mm)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)	轉速 (min^{-1})	進給速度 (mm/min)
1	40000	320	40000	320	32000	260
2	40000	800	24000	480	16000	320
3	32000	1020	16000	510	11000	350
4	24000	1250	12000	620	8000	420
5	19000	1360	9500	680	6400	460
6	16000	1540	8000	770	5300	510
8	12000	1540	6000	770	4000	510
10	9600	1540	4800	770	3200	510
12	8000	1600	4000	800	2700	540
14	6800	1340	3400	680	2300	460
16	6000	1200	3000	600	2000	400
18	5300	1060	2700	530	1800	360
20	4800	960	2400	480	1600	320
最大切深量						

★請特別注意

1.請使用高精度、高剛性的設備及夾具。
2.下表是等高綫加工等負荷變化較小的基準，機床與工件安裝剛性較差的情況下，會產生振動和异常聲音，此時應將下表的轉速與進給速度同比降低。
3.請使用空氣冷却或MQL(最小量油霧冷却)。
4.側面銑削推薦順銑加工。
5.在不幹涉的條件下盡可能使刀具懸長最短。

切削條件

被加工材料	預硬鋼、淬硬鋼 40~50HRC				淬硬鋼 50~60HRC				淬硬鋼 60~68HRC			
球頭半徑 (mm)	轉速 (min^{-1})	進給速度 (mm/min)	Ap (mm)	Ae (mm)	轉速 (min^{-1})	進給速度 (mm/min)	Ap (mm)	Ae (mm)	轉速 (min^{-1})	進給速度 (mm/min)	Ap (mm)	Ae (mm)
R0.5	40000	1900	0.01	0.05	36000	1500	0.01	0.05	32000	1400	0.01	0.05
R1.0	33000	3100	0.02	0.075	26000	2100	0.02	0.075	24000	2000	0.02	0.075
R1.5	29000	4100	0.03	0.10	23000	2900	0.03	0.10	21000	2600	0.03	0.10
R2.0	22000	3900	0.04	0.15	17000	2500	0.04	0.15	15500	2100	0.04	0.15
R2.5	17500	3500	0.05	0.15	13500	2200	0.05	0.15	13000	2000	0.05	0.15
R3.0	15000	3100	0.06	0.20	11500	1700	0.06	0.20	10500	1500	0.06	0.20
R4.0	11000	2500	0.08	0.25	8600	1600	0.08	0.25	8000	1400	0.08	0.25
R5.0	9000	2000	0.10	0.30	7000	1400	0.10	0.30	6000	1200	0.10	0.30
R6.0	7500	1800	0.10	0.35	5700	1300	0.10	0.35	5300	1200	0.10	0.35
R8.0	5500	1800	0.10	0.40	4300	1300	0.10	0.40	4000	1200	0.10	0.40
R10.0	4500	1800	0.10	0.50	3500	1300	0.10	0.50	3200	1200	0.10	0.50
最大切深量												

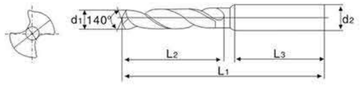


Solid carbide bit
整體硬質合金鑽頭

600钻头系列德国均采用德国AF系列高品质棒材，加工使用德国瓦尔特五轴高精度磨床磨制，以确保刀具品质。涂层采用瑞士Oerlikon涂层，表面光洁度极佳具备极高的耐磨性跟抗氧化性，可承受高温环境下的高效切削，刀具可加工硬度60°产品

3D高效鑽頭
3D High Efficiency Drill Bit





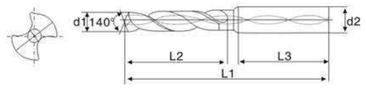
刃徑d	槽長L2	柄徑D	全長L
1.0	10.5	4	50
1.1	10.5	4	50
1.2	11	4	50
1.3	12	4	50
1.4	12	4	50
1.5	12	4	50
1.6	12	4	50
1.7	12	4	50
1.8	12	4	50
1.9	12	4	50
2.0	15	4	50
2.1	15	4	50
2.2	15	4	50
2.3	15	4	50
2.4	15	4	50
2.5	15	4	50
2.6	15	4	50
2.7	15	4	50
2.8	15	4	50
2.9	15	4	50
3.0	15	4	50
3.1	20	4	50
3.2	20	4	50
3.3	20	4	50
3.4	20	4	50
3.5	20	4	50
3.6	20	4	50
3.7	20	4	50
3.8	20	4	50
3.9	20	4	50
4.0	20	4	50
3.3	20	6	62
3.4	20	6	62
3.5	20	6	62
3.6	20	6	62
3.7	20	6	62
3.8	24	6	66
3.9	24	6	66
4.0	24	6	66
4.1	24	6	66
4.2	24	6	66
4.3	24	6	66
4.4	24	6	66
4.5	24	6	66
4.6	24	6	66
4.7	28	6	66
4.8	28	6	66
4.9	28	6	66
5.0	28	6	66
5.1	28	6	66
5.2	28	6	66
5.3	28	6	66
5.4	28	6	66
5.5	28	6	66
5.6	28	6	66
5.7	28	6	66
5.8	28	6	66
5.9	28	6	66

刃徑d	槽長L2	柄徑D	全長L
6.0	28	6	66
6.1	34	8	79
6.2	34	8	79
6.3	34	8	79
6.4	34	8	79
6.5	34	8	79
6.6	34	8	79
6.7	34	8	79
6.8	34	8	79
6.9	34	8	79
7.0	34	8	79
7.1	34	8	79
7.2	34	8	79
7.3	41	8	79
7.4	41	8	79
7.5	41	8	79
7.6	41	8	79
7.7	41	8	79
7.8	41	8	79
7.9	41	8	79
8.0	41	8	79
8.1	47	10	89
8.2	47	10	89
8.3	47	10	89
8.4	47	10	89
8.5	47	10	89
8.6	47	10	89
8.7	47	10	89
8.8	47	10	89
8.9	47	10	89
9.0	47	10	89
9.1	47	10	89
9.2	47	10	89
9.3	47	10	89
9.4	47	10	89
9.5	47	10	89
9.6	47	10	89
9.7	47	10	89
9.8	47	10	89
9.9	47	10	89
10.0	47	10	89
10.1	55	12	102
10.2	55	12	102
10.3	55	12	102
10.4	55	12	102
10.5	55	12	102
10.6	55	12	102
10.7	55	12	102
10.8	55	12	102
10.9	55	12	102
11.0	55	12	102
11.1	55	12	102
11.2	55	12	102
11.3	55	12	102
11.4	55	12	102
11.5	55	12	102
11.6	55	12	102
11.7	55	12	102

刃徑d	槽長L2	柄徑D	全長L
11.8	55	12	102
11.9	55	12	102
12.0	55	12	102
12.1	60	14	107
12.2	60	14	107
12.3	60	14	107
12.4	60	14	107
12.5	60	14	107
12.6	60	14	107
12.7	60	14	107
12.8	60	14	107
12.9	60	14	107
13.0	60	14	107
13.1	60	14	107
13.2	60	14	107
13.3	60	14	107
13.5	60	14	107
13.6	60	14	107
13.8	60	14	107
14.0	60	14	107
14.1	65	16	115
14.2	65	16	115
14.3	65	16	115
14.4	65	16	115
14.5	65	16	115
14.6	65	16	115
14.7	65	16	115
14.8	65	16	115
14.9	65	16	115
15.0	65	16	115
15.1	65	16	115
15.2	65	16	115
15.3	65	16	115
15.4	65	16	115
15.5	65	16	115
15.7	65	16	115
15.8	65	16	115
15.9	65	16	115
16	65	16	115
16.5	73	18	123
17	73	18	123
17.3	73	18	123
17.5	73	18	123
18	73	18	123
18.5	75	20	131
19	75	20	131
19.5	79	20	131
20	79	20	131
20.5	93	20	151
21	93	20	151
21.5	93	20	151
22	93	20	151
22.5	96	25	153
23	96	25	153
23.5	96	25	153
24	96	25	153
24.5	96	25	153
25	96	25	153

5D高效鑽頭
5D High Efficiency Drill Bit





刃徑d	槽長L2	柄徑D	全長L
3.3	28	6	66
3.4	28	6	66
3.5	28	6	66
3.6	28	6	66
3.7	28	6	66
3.8	36	6	74
3.9	36	6	74
4.0	36	6	74
4.1	36	6	74
4.2	36	6	74
4.3	36	6	74
4.4	36	6	74
4.5	36	6	74
4.6	36	6	74
4.7	44	6	82
4.8	44	6	82
4.9	44	6	82
5.0	44	6	82
5.1	44	6	82
5.2	44	6	82
5.3	44	6	82
5.4	44	6	82
5.5	44	6	82
5.6	44	6	82
5.7	44	6	82
5.8	44	6	82
5.9	44	6	82
6.0	44	6	82
6.1	53	8	91
6.2	53	8	91
6.3	53	8	91
6.4	53	8	91
6.5	53	8	91
6.6	53	8	91
6.7	53	8	91
6.8	53	8	91
6.9	53	8	91
7.0	53	8	91
7.1	53	8	91
7.2	53	8	91

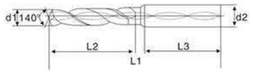
刃徑d	槽長L2	柄徑D	全長L
7.3	53	8	91
7.4	53	8	91
7.5	53	8	91
7.6	53	8	91
7.7	53	8	91
7.8	53	8	91
7.9	53	8	91
8.0	53	8	91
8.1	61	10	103
8.2	61	10	103
8.3	61	10	103
8.4	61	10	103
8.5	61	10	103
8.6	61	10	103
8.7	61	10	103
8.8	61	10	103
8.9	61	10	103
9.0	61	10	103
9.1	61	10	103
9.2	61	10	103
9.3	61	10	103
9.4	61	10	103
9.5	61	10	103
9.6	61	10	103
9.7	61	10	103
9.8	61	10	103
9.9	61	10	103
10.0	61	10	103
10.1	71	12	118
10.2	71	12	118
10.3	71	12	118
10.4	71	12	118
10.5	71	12	118
10.6	71	12	118
10.7	71	12	118
10.8	71	12	118
10.9	71	12	118
11.0	71	12	118
11.1	71	12	118
11.2	71	12	118

刃徑d	槽長L2	柄徑D	全長L
11.3	71	12	118
11.4	71	12	118
11.5	71	12	118
11.6	71	12	118
11.7	71	12	118
11.8	71	12	118
11.9	71	12	118
12.0	71	12	118
12.5	77	14	124
13	77	14	124
13.1	77	14	124
13.8	77	14	124
14	77	14	124
14.2	83	16	133
14.5	83	16	133
15	83	16	133
15.5	83	16	133
15.8	83	16	133
15.9	83	16	133
16	83	16	133
16.5	93	18	143
16.7	93	18	143
17	93	18	143
17.5	93	18	143
18	93	18	143
19	101	20	153
19.5	101	20	153
20	101	20	153
20.5	135	20	200
21	135	20	200
21.5	135	20	200
22	135	20	200
22.5	140	25	200
23	140	25	200
23.5	140	25	200
24	140	25	200
24.5	140	25	200
25	140	25	200

3D內冷鑽頭
3D Internal Cooling Aiguille







刃徑d	槽長L2	柄徑D	全長L
3.0	20	6	62
3.1	20	6	62
3.175	20	6	62
3.2	20	6	62
3.3	20	6	62
3.4	20	6	62
3.5	20	6	62
3.6	20	6	62
3.7	20	6	62
3.8	24	6	66
3.9	24	6	66
4.0	24	6	66
4.1	24	6	66
4.2	24	6	66
4.3	24	6	66
4.4	24	6	66
4.5	24	6	66
4.6	24	6	66
4.7	28	6	66
4.8	28	6	66
4.9	28	6	66
5.0	28	6	66
5.1	28	6	66
5.2	28	6	66
5.3	28	6	66
5.4	28	6	66
5.5	28	6	66
5.6	28	6	66
5.7	28	6	66
5.8	28	6	66
5.9	28	6	66
6.0	28	6	66
6.1	34	8	79
6.2	34	8	79
6.3	34	8	79
6.4	34	8	79
6.5	34	8	79
6.6	34	8	79
6.7	34	8	79
6.8	34	8	79
6.9	34	8	79
7.0	34	8	79
7.1	34	8	79
7.2	34	8	79
7.3	41	8	79
7.4	41	8	79
7.5	41	8	79
7.6	41	8	79
7.7	41	8	79
7.8	41	8	79
7.9	41	8	79
8.0	41	8	79
8.1	47	10	89
8.2	47	10	89
8.3	47	10	89
8.4	47	10	89
8.5	47	10	89
8.6	47	10	89
8.7	47	10	89
8.8	47	10	89
8.9	47	10	89
9.0	47	10	89
9.1	47	10	89
9.2	47	10	89
9.3	47	10	89
9.4	47	10	89
9.5	47	10	89
9.6	47	10	89
9.7	47	10	89
9.8	47	10	89
9.9	47	10	89
10.0	47	10	89

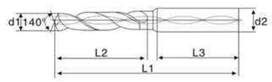
刃徑d	槽長L2	柄徑D	全長L
10.1	55	12	102
10.2	55	12	102
10.3	55	12	102
10.4	55	12	102
10.5	55	12	102
10.6	55	12	102
10.7	55	12	102
10.8	55	12	102
10.9	55	12	102
11.0	55	12	102
11.1	55	12	102
11.2	55	12	102
11.3	55	12	102
11.4	55	12	102
11.5	55	12	102
11.6	55	12	102
11.7	55	12	102
11.8	55	12	102
11.9	55	12	102
12.0	55	12	102
12.1	60	14	107
12.2	60	14	107
12.3	60	14	107
12.4	60	14	107
12.5	60	14	107
12.6	60	14	107
12.7	60	14	107
12.8	60	14	107
12.9	60	14	107
13	60	14	107
13.5	60	14	107
13.7	60	14	107
13.8	60	14	107
14	60	14	107
14.1	65	16	115
14.2	65	16	115
14.3	65	16	115
14.4	65	16	115
14.5	65	16	115
14.6	65	16	115
14.7	65	16	115
14.8	65	16	115
14.9	65	16	115
15	65	16	115
15.1	65	16	115
15.2	65	16	115
15.3	65	16	115
15.4	65	16	115
15.5	65	16	115
15.6	65	16	115
15.7	65	16	115
15.8	65	16	115
15.9	65	16	115
16	65	16	115
16.5	73	18	123
17	73	18	123
17.5	73	18	123
18	73	18	123
18.5	79	20	131
19	79	20	131
19.5	79	20	131
20	79	20	131
20.5	93	20	151
21	93	20	151
21.5	93	20	151
22	93	20	151
22.5	96	25	153
23	96	25	153
23.5	96	25	153
24	96	25	153
24.5	96	25	153
25	96	25	153

BWiN

5D內冷鑽頭
5D Internal Cooling Aiguille







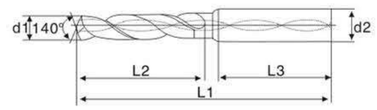
刃徑d	槽長L2	柄徑D	全長L
3.0	28	6	66
3.1	28	6	66
3.175	28	6	66
3.2	28	6	66
3.3	28	6	66
3.4	28	6	66
3.5	28	6	66
3.6	28	6	66
3.7	28	6	66
3.8	36	6	74
3.9	36	6	74
4.0	36	6	74
4.1	36	6	74
4.2	36	6	74
4.3	36	6	74
4.4	36	6	74
4.5	36	6	74
4.6	36	6	74
4.7	44	6	82
4.8	44	6	82
4.9	44	6	82
5.0	44	6	82
5.1	44	6	82
5.2	44	6	82
5.3	44	6	82
5.4	44	6	82
5.5	44	6	82
5.6	44	6	82
5.7	44	6	82
5.8	44	6	82
5.9	44	6	82
6.0	44	6	82
6.1	53	8	91
6.2	53	8	91
6.3	53	8	91
6.4	53	8	91
6.5	53	8	91
6.6	53	8	91
6.7	53	8	91
6.8	53	8	91
6.9	53	8	91
7.0	53	8	91
7.1	53	8	91
7.2	53	8	91
7.3	53	8	91
7.4	53	8	91
7.5	53	8	91
7.6	53	8	91
7.7	53	8	91
7.8	53	8	91
7.9	53	8	91
8.0	53	8	91
8.1	61	10	103
8.2	61	10	103
8.3	61	10	103
8.4	61	10	103
8.5	61	10	103
8.6	61	10	103
8.7	61	10	103
8.8	61	10	103
8.9	61	10	103
9.0	61	10	103
9.1	61	10	103
9.2	61	10	103
9.3	61	10	103
9.4	61	10	103

刃徑d	槽長L2	柄徑D	全長L
9.5	61	10	103
9.6	61	10	103
9.7	61	10	103
9.8	61	10	103
9.9	61	10	103
10.0	61	10	103
10.1	71	12	118
10.2	71	12	118
10.3	71	12	118
10.4	71	12	118
10.5	71	12	118
10.6	71	12	118
10.7	71	12	118
10.8	71	12	118
10.9	71	12	118
11.0	71	12	118
11.1	71	12	118
11.2	71	12	118
11.3	71	12	118
11.4	71	12	118
11.5	71	12	118
11.6	71	12	118
11.7	71	12	118
11.8	71	12	118
11.9	71	12	118
12.0	71	12	118
12.1	77	14	124
12.2	77	14	124
12.3	77	14	124
12.4	77	14	124
12.5	77	14	124
12.6	77	14	124
12.7	77	14	124
12.8	77	14	124
12.9	77	14	124
13	77	14	124
13.5	77	14	124
13.7	77	14	124
14	77	14	124
14.2	83	16	133
14.5	83	16	133
14.6	83	16	133
15	83	16	133
15.2	83	16	133
15.5	83	16	133
15.7	83	16	133
15.8	83	16	133
16	83	16	133
16.5	93	18	143
17	93	18	143
17.5	93	18	143
18	93	18	143
19	101	20	153
19.5	101	20	153
20	101	20	153
20.5	135	20	200
21	135	20	200
21.5	135	20	200
22	135	20	200
22.5	140	25	200
23	140	25	200
23.5	140	25	200
24	140	25	200
24.5	140	25	200
25	140	25	200

内冷微钻
INTERNAL COOLING MICRODRILL







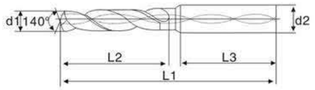
刃徑d	槽長L1	柄徑D	全長L
2	17	3	57
2.05	18	3	57
2.1	18	3	57
2.15	19	3	57
2.2	19	3	57
2.25	20	3	59
2.3	20	3	59
2.35	20	3	59
2.4	20	3	59
2.45	21	3	59
2.5	21	3	59
2.55	22	3	62
2.6	22	3	62
2.65	23	3	62
2.7	23	3	62
2.75	24	3	62
2.8	24	3	62
2.85	25	3	62
2.9	25	3	62
2.95	25	3	62

BWiN

8D內冷鑽頭
8D Internal Cooling Aiguille







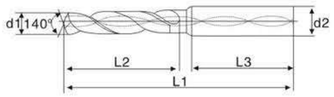
刃徑d	槽長L2	柄徑D	全長L
3.0	34	6	74
3.1	34	6	74
3.2	34	6	74
3.3	34	6	74
3.4	34	6	74
3.5	34	6	74
3.6	34	6	74
3.7	34	6	74
3.8	45	6	85
3.9	45	6	85
4.0	45	6	85
4.1	45	6	85
4.2	45	6	85
4.3	45	6	85
4.4	45	6	85
4.5	45	6	85
4.6	45	6	85
4.7	45	6	85
4.8	57	6	97
4.9	57	6	97
5.0	57	6	97
5.1	57	6	97
5.2	57	6	97
5.3	57	6	97
5.4	57	6	97
5.5	57	6	97
5.6	57	6	97
5.7	57	6	97
5.8	57	6	97
5.9	57	6	97
6.0	57	6	97
6.1	66	8	106
6.2	66	8	106
6.3	66	8	106
6.4	66	8	106
6.5	66	8	106
6.6	66	8	106
6.7	66	8	106
6.8	66	8	106
6.9	66	8	106
7.0	66	8	106
7.1	76	8	116
7.2	76	8	116
7.3	76	8	116
7.4	76	8	116
7.5	76	8	106
7.6	76	8	116
7.7	76	8	116
7.8	76	8	116
7.9	76	8	116
8.0	76	8	116
8.1	95	10	139
8.2	95	10	139
8.3	95	10	139

刃徑d	槽長L2	柄徑D	全長L
8.4	95	10	139
8.5	95	10	139
8.6	95	10	139
8.7	95	10	139
8.8	95	10	139
8.9	95	10	139
9	95	10	139
9.1	95	10	139
9.2	95	10	139
9.3	95	10	139
9.4	95	10	139
9.5	95	10	139
9.6	95	10	139
9.7	95	10	139
9.8	95	10	139
9.9	95	10	139
10	95	10	139
10.1	114	12	163
10.2	114	12	163
10.3	114	12	163
10.4	114	12	163
10.5	114	12	163
10.6	114	12	163
10.7	114	12	163
10.8	114	12	163
10.9	114	12	163
11	114	12	163
11.1	114	12	163
11.2	114	12	163
11.3	114	12	163
11.4	114	12	163
11.5	114	12	163
11.6	114	12	163
11.7	114	12	163
11.8	114	12	163
11.9	114	12	163
12	114	12	163
12.5	133	14	182
13	133	14	182
13.5	133	14	182
14	133	14	182
14.5	152	16	204
15	152	16	204
15.5	152	16	204
16	152	16	204
16.5	171	18	223
17	171	18	223
17.5	171	18	223
18	171	18	223
18.5	190	20	244
19	190	20	244
19.5	190	20	244
20	190	20	244

12D內冷鑽頭
12D Internal Cooling Aiguille







刃徑d	槽長L2	柄徑D	全長L
3.0	54	6	92
3.1	54	6	92
3.2	54	6	92
3.3	54	6	92
3.4	54	6	92
3.5	54	6	92
3.6	54	6	92
3.7	54	6	92
3.8	64	6	102
3.9	64	6	102
4.0	64	6	102
4.1	64	6	102
4.2	64	6	102
4.3	64	6	102
4.4	64	6	102
4.5	64	6	102
4.6	64	6	102
4.7	64	6	102
4.8	83	6	121
4.9	83	6	121
5.0	83	6	121
5.1	83	6	121
5.2	83	6	121
5.3	83	6	121
5.4	83	6	121
5.5	83	6	121
5.55	83	6	121
5.6	83	6	121
5.7	83	6	121
5.8	83	6	121
5.9	83	6	121
6.0	83	6	121
6.1	110	8	148
6.2	110	8	148
6.3	110	8	148
6.4	110	8	148
6.5	110	8	148
6.6	110	8	148
6.7	110	8	148
6.8	110	8	148
6.9	110	8	148
7.0	110	8	148
7.1	110	8	148
7.2	110	8	148
7.3	110	8	148
7.4	110	8	148
7.5	110	8	148
7.8	110	8	148
7.9	110	8	148
8.0	110	8	148

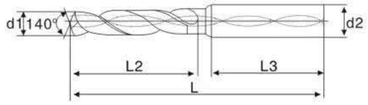
刃徑d	槽長L2	柄徑D	全長L
8.1	138	10	180
8.2	138	10	180
8.3	138	10	180
8.4	138	10	180
8.5	138	10	180
8.6	138	10	180
8.7	138	10	180
8.8	138	10	180
9	138	10	180
9.2	138	10	180
9.3	138	10	180
9.5	138	10	180
9.6	138	10	180
9.7	138	10	180
9.8	138	10	180
10	138	10	180
10.1	158	12	206
10.2	158	12	206
10.3	158	12	206
10.4	158	12	206
10.5	158	12	206
10.8	158	12	206
11	158	12	206
11.1	158	12	206
11.2	158	12	206
11.5	158	12	206
11.7	158	12	206
11.8	158	12	206
12	158	12	206
12.1	182	14	230
12.2	182	14	230
12.3	182	14	230
12.5	182	14	230
12.6	182	14	230
13	182	14	230
13.5	182	14	230
14	182	14	230
14.5	208	16	260
15	208	16	260
15.5	208	16	260
16	208	16	260
16.5	234	18	285
17	234	18	285
17.5	234	18	285
18	234	18	285
18.5	258	20	310
19	258	20	310
19.5	258	20	310
20	258	20	310

BWIN

16D內冷鑽頭
16D Internal Cooling Aiguille



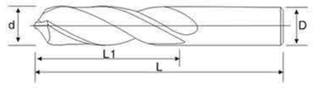




刃徑d	槽長L2	柄徑D	全長L
3	57	6	100
3.5	78	6	120
4	78	6	120
4.5	100	6	140
4.8	100	6	140
5	100	6	140
5.5	110	6	150
5.8	120	6	160
6	120	6	160
6.1	135	8	175
6.5	135	8	175
6.8	135	8	175
7	135	8	175
7.4	152	8	192
7.5	152	8	192
8	152	8	192
8.3	162	10	206
8.5	162	10	206
9	162	10	206
9.8	180	10	224
10	180	10	224
10.2	198	12	247
11	198	12	247
11.5	216	12	265
11.8	216	12	265
12	216	12	265
13	252	14	301
14	252	14	301
15	288	16	340
16	288	16	340

55° 整體硬質合金鑽頭
55° WHOLE CEMENTED CARBIDE BIT

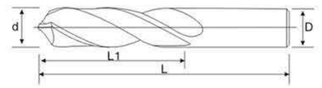




刃徑d	槽長L1	柄徑D	柄長	全長L
1-1.1	15	1-1.1	25	40
1.2-1.3	18	1.2-1.3	22	40
1.4-3.1	20	1.4-3.1	20	40
3.2-4.1	25	3.2-3.6	20	45
4.2-5.6	28	4.2-5.6	22	50
5.7-6.5	30	5.7-6.5	25	55
6.6-8.6	35	6.6-8.6	25	60
8.7-10.5	38	8.7-10.5	27	65
10.6-12.9	40	10.6-12.9	30	70
13	40	13	30	75
13.5	40	13.5	30	75
14	40	14	30	75
14.5	40	14.5	30	75
15	45	15	35	80
15.5	45	15.5	35	80
16	45	16	35	80
16.5	45	16.5	35	80
17	45	17	35	80
17.5	45	17.5	35	80
18	50	18	40	90
18.5	50	18.5	40	90
19	50	19	40	90
19.5	60	19.5	40	100
20	60	20	40	100

55° 整體硬質合金鑽頭
55° WHOLE CEMENTED CARBIDE BIT

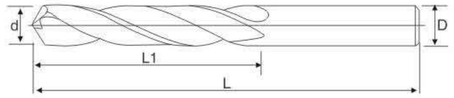




刃徑d	槽長L1	柄徑D	柄長	全長L
1-1.1	15	1-1.1	25	40
1.2-1.3	18	1.2-1.3	22	40
1.4-3.1	20	1.4-3.1	20	40
3.2-3.6	22	3.2-3.6	20	42
3.7-4.1	25	3.7-4.1	20	45
4.2-5.6	28	4.2-5.6	22	50
5.7-7.1	30	5.7-7.1	25	55
7.2-8.6	35	7.2-8.6	25	60
8.7-10.5	38	8.7-10.5	27	65
10.6-12.8	40	10.6-12.8	30	70
12.9-13	60	12.9-13	40	100
13.1-14.0	60	13.1-14.0	40	100
14.1-15.0	60	14.1-15.0	40	100
15.1-16.0	60	15.1-16.0	40	100
16.1-17.0	60	16.1-17.0	40	100
17.1-18.0	60	17.1-18.0	40	100
18.1-19.0	60	18.1-19.0	40	100
19.1-20.0	60	19.1-20.0	40	100

加长整体硬质合金钻头
EXTENDED SOLID CARBIDE BIT





刃徑d	槽長L1	柄徑D	柄長	全長L
1.0-1.3	25	1.0-1.3	30	55
1.4-1.6	30	1.4-1.6	25	55
1.7-2.0	30	1.7-2.0	30	60
2.1-3.0	30	3	30	60
3.1-4.0	30	3.1-4.0	30	60
4.1-5.0	30	4.1-5.0	30	60
5.1-6.0	30	5.1-6.0	30	60
6.1-6.8	30	6.1-6.8	30	60
1.5-2.0	40	1.5-2.0	40	80
2.1-3.0	40	2.1-3.0	40	80
3.1-4.0	45	3.1-4.0	35	80
4.1-5.0	45	4.1-5.0	35	80
5.1-6.0	45	5.1-6.0	35	80
6.1-7.0	45	6.1-7.0	35	80
7.1-8.0	45	7.1-8.0	35	80
8.1-9.0	45	8.1-9.0	35	80
9.1-10.0	45	9.1-10.0	35	80
10.1-11.0	45	10.1-11.0	35	80
12	45	12	35	80
12.5	45	12.5	35	80
13	45	13	35	80
2.0-3.0	50	2.0-3.0	50	100
3.1-4.0	60	3.1-4.0	40	100
4.1-5.0	60	4.1-5.0	40	100
5.1-6.0	60	5.1-6.0	40	100
6.1-7.0	60	6.1-7.0	40	100
7.1-8.0	60	7.1-8.0	40	100
8.1-9.0	60	8.1-9.0	40	100
9.1-10.0	60	9.1-10.0	40	100
10.1-11.0	60	10.1-11.0	40	100
11.1-12.0	60	11.1-12.0	40	100
12.1-13.0	60	12.1-13.0	40	100
13.1-14.0	60	13.1-14.0	40	100
14.1-15.0	60	14.1-15.0	40	100
15.1-16.0	60	15.1-16.0	40	100
16.1-17.0	60	16.1-17.0	40	100
17.1-18.0	60	17.1-18.0	40	100
18.1-19.0	60	18.1-19.0	40	100
19.1-20.0	60	19.1-20.0	40	100
20.5	60	20.5	40	100
21	60	21	40	100
22	60	22	40	100

特長整體硬質合金鑽頭
Special solid carbide drill

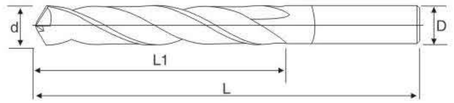




刃徑d	槽長L1	柄徑D	柄長	全長L
3.0-4.0	70	4	50	120
4.1-4.9	70	5	50	120
5.0-6.0	80	6	40	120
6.1-7.0	80	7	40	120
7.1-8.0	80	8	40	120
8.1-9.0	80	9	40	120
9.1-10.0	80	10	40	120
10.1-11.0	80	11	40	120
11.1-12.0	80	12	40	120
12.1-13.0	80	13	40	120
13.1-14.0	80	14	40	120
14.1-15.0	80	15	40	120
15.1-16.0	80	16	40	120
16.1-17.0	80	17	40	120
17.1-18.0	80	18	40	120
18.1-19.0	80	19	40	120
19.1-20.0	80	20	40	120
4.0-5.0	100	5	50	150
5.1-5.6	100	6	50	150
5.7-6.0	110	6	40	150
6.1-7.0	110	7	40	150
7.1-8.0	110	8	40	150
8.1-9.0	110	9	40	150
9.1-10.0	110	10	40	150
10.1-11.0	110	11	40	150
11.1-12.0	110	12	40	150
12.1-13.0	110	13	40	150
13.1-14.0	110	14	40	150
14.1-15.0	110	15	40	150
15.1-16.0	110	16	40	150
16.1-17.0	110	17	40	150
17.1-18.0	110	18	40	150
18.1-19.0	110	19	40	150
19.1-20.0	110	20	40	150
5.5	150	6	50	200
6.0	150	6	50	200
6.5	150	6	50	200
7.0	150	7	50	200
7.5	150	8	50	200
8.0	150	8	50	200
8.5	150	8	50	200
9.0	150	9	50	200
9.5	150	10	50	200
10	150	10	50	200
10.5	150	10	50	200
11	150	11	50	200
11.5	150	12	50	200
12	150	12	50	200
12.5	150	12	50	200
13	150	13	50	200
13.5	150	14	50	200
14	150	14	50	200
14.5	150	14	50	200
15	150	15	50	200
15.5	150	16	50	200
16	150	16	50	200
16.5	150	16	50	200
17	150	17	50	200
17.5	150	18	50	200
18	150	18	50	200
18.5	150	18	50	200
19	150	19	50	200
19.5	150	20	50	200
20	150	20	50	200

加長整體硬質合金塗層鑽頭
Extended solid carbide coated drill

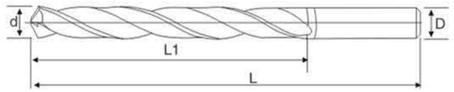




刃徑d	槽長L1	柄徑D	柄長	全長L
1.0-1.1	25	1.0-1.1	30	55
1.2-2.0	30	1.2-2.0	30	60
2.1-3.0	30	3	30	60
3.1-4.0	30	3.1-4.0	30	60
4.1-5.0	30	4.1-5.0	30	60
5.1-6.0	30	5.1-6.0	30	60
2.0-3.0	40	2.0-3.0	40	80
3.1-4.0	45	3.1-4.0	35	80
4.1-5.0	45	4.1-5.0	35	80
5.1-6.0	45	5.1-6.0	35	80
6.1-7.0	45	6.1-7.0	35	80
7.1-8.0	45	7.1-8.0	35	80
8.1-9.0	45	8.1-9.0	35	80
9.1-10.0	45	9.1-10.0	35	80
10.1-11	45	10.1-11	35	80
2.0-2.9	50	2.0-2.9	50	100
3.0-4.0	60	3.0-4.0	40	100
4.1-5.0	60	4.1-5.0	40	100
5.1-6.0	60	5.1-6.0	40	100
6.1-7.0	60	6.1-7.0	40	100
7.1-8.0	60	7.1-8.0	40	100
8.1-9.0	60	8.1-9.0	40	100
9.1-10.0	60	9.1-10.0	40	100
10.1-11.0	60	10.1-11.0	40	100
11.1-12.0	60	11.1-12.0	40	100
12.1-13.0	60	12.1-13.0	40	100
13.1-14.0	60	13.1-14.0	40	100
14.1-15.0	60	14.1-15.0	40	100
15.1-16.0	60	15.1-16.0	40	100
16.1-17.0	60	16.1-17.0	40	100
17.1-18.0	60	17.1-18.0	40	100
18.1-19.0	60	18.1-19.0	40	100
19.1-20.0	60	19.1-20.0	40	100
20.5	60	20.5	40	100
21	60	21	40	100
22	60	22	40	100

特長整體硬質合金塗層鑽頭
Special integral hard alloy coated drill bit

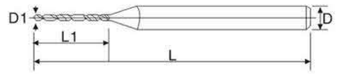




刃徑d	槽長L1	柄徑D	柄長	全長L
3.0-3.9	70	4	50	120
4.0-5.0	80	5	40	120
5.1-6.0	80	6	40	120
6.1-7.0	80	7	40	120
7.1-8.0	80	8	40	120
8.1-9.0	80	9	40	120
9.1-10.0	80	10	40	120
10.1-11.0	80	11	40	120
11.1-12.0	80	12	40	120
12.1-13.0	80	13	40	120
13.1-14.0	80	14	40	120
14.1-15.0	80	15	40	120
15.1-16.0	80	16	40	120
16.1-17.0	80	17	40	120
17.1-18.0	80	18	40	120
18.1-19.0	80	19	40	120
19.1-20.0	80	20	40	120
4.0-5.0	110	5	40	150
5.1-6.0	110	6	40	150
6.1-7.0	110	7	40	150
7.1-8.0	110	8	40	150
8.1-9.0	110	9	40	150
9.1-10.0	110	10	40	150
10.1-11.0	110	11	40	150
11.1-12.0	110	12	40	150
12.1-13.0	110	13	40	150
13.1-14.0	110	14	40	150
14.1-15.0	110	15	40	150
15.1-16.0	110	16	40	150
16.1-17.0	110	17	40	150
17.1-18.0	110	18	40	150
18.1-19.0	110	19	40	150
19.1-20.0	110	20	40	150

整体合金微钻
MONOLITHIC ALLOY MICRODRILL



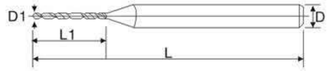


刃徑 D1	刃長 L1	柄徑 D	總長L
0.15	3	3	38
0.18	3	3	38
0.2	3.5	3	38
0.25	4	3	38
0.3	5.5	3	38
0.35	6.5	3	38
0.4	7	3	38
0.45	7	3	38
0.5	8.5	3	38
0.55	8.5	3	38
0.6	9.5	3	38
0.65	9.5	3	38
0.7	10	3	38
0.75	10	3	38
0.8	10	3	38
0.85	10	3	38
0.9	10	3	38
0.95	10	3	38
1	10.5	3	38
1.05	10.5	3	38
1.1	10.5	3	38
1.15	10.5	3	38
1.2	12	3	38
1.25	12	3	38
1.3	12	3	38
1.35	12	3	38
1.4	12	3	38
1.45	12	3	38
1.5	12	3	38
1.55	12	3	38

刃徑 D1	刃長 L1	柄徑 D	總長L
1.6	12	3	38
1.65	12	3	38
1.7	12	3	38
1.75	12	3	38
1.8	12	3	38
1.85	12	3	38
1.9	12	3	38
1.95	15	3	38
2	15	3	38
2.05	15	3	50
2.1	15	3	50
2.15	15	3	50
2.2	15	3	50
2.25	15	3	50
2.3	15	3	50
2.35	15	3	50
2.4	15	3	50
2.45	15	3	50
2.5	15	3	50
2.55	15	3	50
2.6	15	3	50
2.65	15	3	50
2.7	15	3	50
2.75	15	3	50
2.8	15	3	50
2.85	15	3	50
2.9	15	3	50
2.95	15	3	50
3	15	3	50

整体合金涂层微钻
MONOLITHIC ALLOY MICRODRILL





刃徑 D1	刃長 L1	柄徑 D	總長L
0.15	3	3	38
0.18	3	3	38
0.2	3.5	3	38
0.25	4	3	38
0.3	5.5	3	38
0.35	6.5	3	38
0.4	7	3	38
0.45	7	3	38
0.5	8.5	3	38
0.55	8.5	3	38
0.6	9.5	3	38
0.65	9.5	3	38
0.7	10	3	38
0.75	10	3	38
0.8	10	3	38
0.85	10	3	38
0.9	10	3	38
0.95	10	3	38
1	10.5	3	38
1.05	10.5	3	38
1.1	10.5	3	38
1.15	10.5	3	38
1.2	12	3	38
1.25	12	3	38
1.3	12	3	38
1.35	12	3	38
1.4	12	3	38
1.45	12	3	38
1.5	12	3	38
1.55	12	3	38

刃徑 D1	刃長 L1	柄徑 D	總長L
1.6	12	3	38
1.65	12	3	38
1.7	12	3	38
1.75	12	3	38
1.8	12	3	38
1.85	12	3	38
1.9	12	3	38
1.95	15	3	38
2	15	3	38
2.05	15	3	50
2.1	15	3	50
2.15	15	3	50
2.2	15	3	50
2.25	15	3	50
2.3	15	3	50
2.35	15	3	50
2.4	15	3	50
2.45	15	3	50
2.5	15	3	50
2.55	15	3	50
2.6	15	3	50
2.65	15	3	50
2.7	15	3	50
2.75	15	3	50
2.8	15	3	50
2.85	15	3	50
2.9	15	3	50
2.95	15	3	50
3	15	3	50

3D/5D外冷卻型切削參數
3D/5D External Cooling Type Cutting Parameters

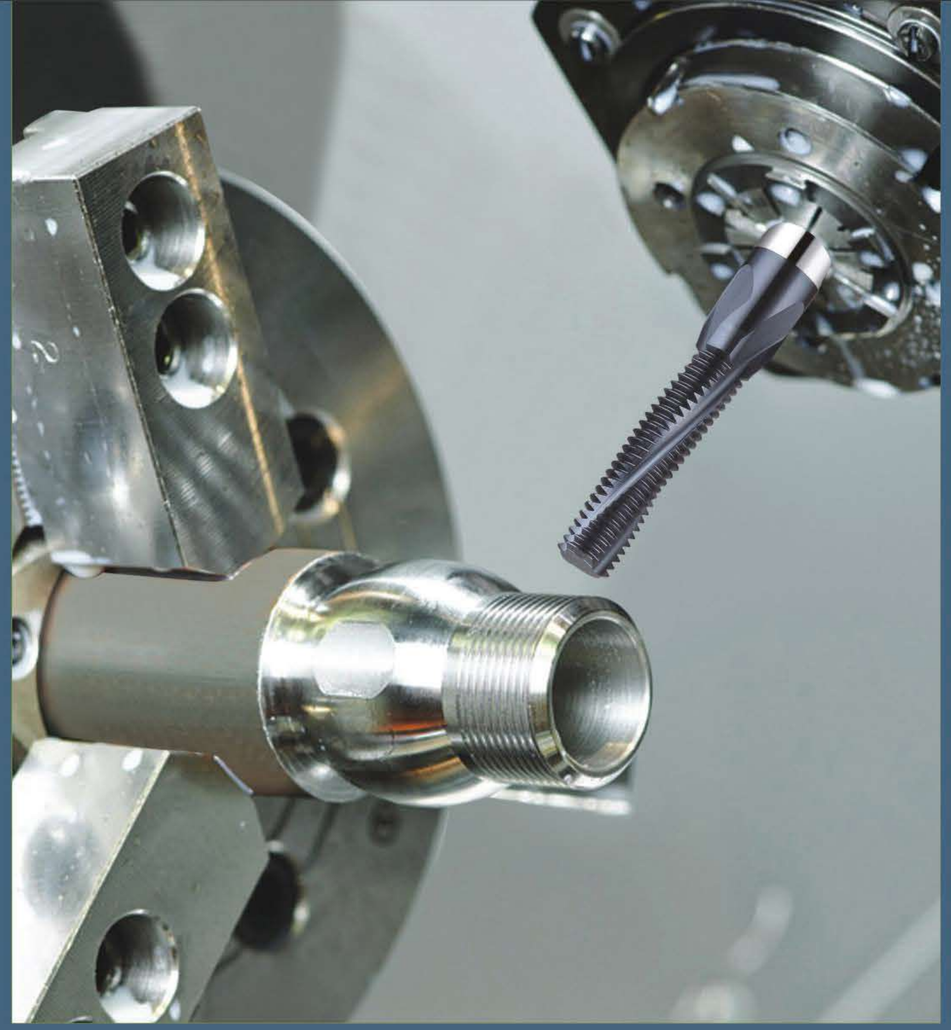
被加工材料	軟鋼HB ≤180		碳鋼、合金鋼 ~30HRC		預硬鋼 ~40HRC		不銹鋼		鑄鐵		球墨鑄鐵		鋁合金		耐熱合金	
切削速度	60~120m/min		60~120m/min		40~70m/min		25~40m/min		60~120m/min		50~100m/min		60~140m/min		15~25m/min	
直徑(mm)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)
2	14000	0.06~0.08	14000	0.06~0.08	9500	0.06~0.08	5500	0.02~0.05	14000	0.06~0.08	11000	0.06~0.08	16000	0.06~0.08	3200	0.02~0.04
3	9500	0.09~0.12	9500	0.09~0.12	6300	0.09~0.12	3700	0.03~0.07	9500	0.09~0.12	7400	0.09~0.12	10600	0.09~0.12	1200	0.03~0.06
4	7000	0.10~0.15	7000	0.10~0.15	4700	0.10~0.15	2700	0.04~0.08	7000	0.10~0.15	5600	0.10~0.15	8000	0.10~0.15	1600	0.04~0.07
5	5700	0.12~0.18	5700	0.12~0.18	3800	0.12~0.18	2200	0.05~0.10	5700	0.12~0.18	4500	0.12~0.18	6400	0.12~0.18	1250	0.05~0.09
6	4700	0.14~0.20	4700	0.14~0.20	3100	0.14~0.20	1850	0.06~0.12	4700	0.14~0.20	3700	0.14~0.20	5300	0.14~0.20	1050	0.06~0.11
8	3600	0.16~0.24	3600	0.16~0.24	2400	0.16~0.24	1400	0.08~0.16	3600	0.16~0.24	2800	0.16~0.24	4000	0.16~0.24	800	0.08~0.14
10	2800	0.18~0.27	2800	0.18~0.27	1900	0.18~0.27	1100	0.10~0.18	2800	0.18~0.27	2200	0.18~0.27	3200	0.18~0.27	600	0.10~0.16
12	2400	0.20~0.30	2400	0.20~0.30	1600	0.20~0.30	930	0.12~0.20	2400	0.20~0.30	1900	0.20~0.30	2700	0.20~0.30	500	0.12~0.18
14	2100	0.22~0.35	2100	0.22~0.35	1400	0.22~0.35	800	0.13~0.22	2100	0.22~0.35	1600	0.22~0.35	2300	0.22~0.35	450	0.13~0.20
16	1800	0.25~0.36	1800	0.25~0.36	1200	0.25~0.36	700	0.25~0.36	1800	0.25~0.36	1400	0.25~0.36	2000	0.25~0.36	400	0.14~0.23
18	1600	0.28~0.38	1600	0.28~0.38	1100	0.28~0.38	620	0.28~0.38	1600	0.28~0.38	1200	0.28~0.38	1800	0.28~0.38	350	0.15~0.25
20	1400	0.30~0.40	1400	0.30~0.40	950	0.30~0.40	550	0.30~0.40	1400	0.30~0.40	1100	0.30~0.40	1600	0.30~0.40	320	0.16~0.28

1.初次使用本刀具時，依上述數據切削速度的90%或進給速度的85%試切削，到切削狀況穩定後再將切削速度和進給量逐一提高。
2.此標準切削條件表適用于水溶性切削液。
3.安裝刀具時請使用去缺陷幹净的夾頭，并將鑽頭徑向跳動控制在0.02mm以内。
4.此表切削條件適用于孔深5D以下的場合。

3D/5D內冷卻型切削參數
3D/5D Internal Cooling Type Cutting Parameters

被加工材料	軟鋼HB ≤180		碳鋼、合金鋼 ~30HRC		預硬鋼 ~40HRC		不銹鋼		鑄鐵		球墨鑄鐵		鋁合金		耐熱合金	
切削速度	80~150m/min		80~150m/min		50~80m/min		50~80m/min		80~150m/min		60~120m/min		100~180m/min		15~25m/min	
直徑(mm)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)	轉速 (min^{-1})	進給量 (mm/r)
3	12700	0.09~0.12	12700	0.09~0.12	7400	0.09~0.12	6300	0.03~0.07	12700	0.09~0.12	9500	0.09~0.12	15000	0.09~0.12	2100	0.03~0.06
4	9600	0.10~0.15	9600	0.10~0.15	5600	0.10~0.15	4700	0.04~0.08	9600	0.10~0.15	7000	0.10~0.15	11100	0.10~0.15	1600	0.04~0.07
5	7600	0.12~0.18	7600	0.12~0.18	4500	0.12~0.18	3800	0.05~0.10	7600	0.12~0.18	5700	0.12~0.18	9000	0.12~0.18	1250	0.05~0.09
6	6400	0.14~0.20	6400	0.14~0.20	3700	0.14~0.20	3200	0.06~0.12	6400	0.14~0.20	4700	0.14~0.20	7400	0.14~0.20	1050	0.06~0.11
8	4800	0.16~0.24	4800	0.16~0.24	2800	0.16~0.24	2400	0.08~0.16	4800	0.16~0.24	3600	0.16~0.24	5600	0.16~0.24	800	0.08~0.14
10	3800	0.18~0.27	3800	0.18~0.27	2200	0.18~0.27	1900	0.10~0.18	3800	0.18~0.27	2800	0.18~0.27	4500	0.18~0.27	600	0.10~0.16
12	3200	0.20~0.30	3200	0.20~0.30	1900	0.20~0.30	1600	0.12~0.20	3200	0.20~0.30	2400	0.20~0.30	3700	0.20~0.30	500	0.12~0.18
14	2700	0.22~0.35	2700	0.22~0.35	1600	0.22~0.35	1350	0.13~0.22	2700	0.22~0.35	2100	0.22~0.35	3200	0.22~0.35	450	0.13~0.20
16	2400	0.25~0.36	2400	0.25~0.36	1400	0.25~0.36	1200	0.14~0.25	2400	0.25~0.36	1800	0.25~0.36	2800	0.25~0.36	400	0.14~0.23
18	2100	0.28~0.38	2100	0.28~0.38	1200	0.28~0.38	1050	0.15~0.28	2100	0.28~0.38	1600	0.28~0.38	2500	0.28~0.38	350	0.15~0.25
20	1900	0.30~0.40	1900	0.30~0.40	1100	0.30~0.40	950	0.16~0.30	1900	0.30~0.40	1400	0.30~0.40	2300	0.30~0.40	320	0.16~0.28

1.初次使用本刀具時，依上述數據切削速度的90%或進給速度的85%試切削,到切削狀況穩定後再將切削速度和進給量逐一提高。
2.此標準切削條件表適用于水溶性切削液。
3.安裝刀具時請使用去缺陷幹净的夾頭，并將鑽頭徑向跳動控制在0.02mm以内。
4.此表切削條件適用于孔深5D以下的場合。



Solid carbide thread cutter
整體硬質合金螺紋刀具

1.螺纹铣刀的制造材料为硬质合金，加工线速度可达80~200m/min，而高速钢丝锥的加工线速度仅为10~30m/min，故螺纹铣刀适合高速切削，加工螺纹的表面光洁度也大幅度提高。高速钢丝锥加工上在难加工材料及高硬度材料螺纹时，刀具寿命较短，而采用硬质合金螺纹铣刀对硬材料螺纹加工则是效果比较理想的解决方案。可加工硬度为HRC58~62。对于相同螺距、不同直径的螺纹孔，采用丝锥加工需要多把刀具才能完成，但如采用螺纹铣刀加工，使用一把刀具即可。在丝锥磨损、加工螺纹尺寸小于公差后则无法继续使用，只能报废；而当螺纹铣刀磨损、加工螺纹孔尺寸小于公差时，可通过数控系统进行必要的刀具半径补偿调整后，就可继续加工出尺寸合格的螺纹。

2.同样，为了获得高精度的螺纹孔，采用螺纹铣刀调整刀具半径的方法，比生产高精度丝锥要容易得多。对于小直径螺纹加工，特别是高硬度材料和高温材料的螺纹加工中，丝锥有时会折断，堵塞螺纹孔，甚至使零件报废；采用螺纹铣刀，由于刀具直径比加工的孔小，即使折断也不会堵塞螺纹孔，非常容易取出，不会导致零件报废。

3.采用螺纹铣削，和丝攻相比，刀具切削力大幅降低，这一点对大直径螺纹加工时,尤为重要，解决了机床负荷太大，无法驱动丝攻正常加工的问题。机夹刀片式螺纹铣刀十年前就已问世，人们也认识到，在加工中心上加工M20以上的螺纹孔，采用戎工螺纹铣刀与采用丝锥相比，能大幅度降低加工成本。

螺紋銑削全套解決方案 Thread Milling Complete Solution

全牙螺纹铣刀
FULL THREAD MILLING CUTTER



单牙螺纹铣刀
SINGLE THREAD MILLING CUTTER



三牙螺纹铣刀
THREE-THREAD MILLING CUTTER



美制三牙螺纹铣刀
AMERICAN THREE-THREAD MILLING CUTTER



美制NPT螺纹铣刀
NPT THREAD MILLING CUTTER MADE IN USA



美制UNC/UNF/UNEF螺纹铣刀
AMERICAN UNC/UNF/UNEF THREAD MILLING CUTTERS



英制RC螺纹铣刀（RC=PT=ZG）
INCH RC THREAD MILLING CUTTER (RC = PT = ZG)



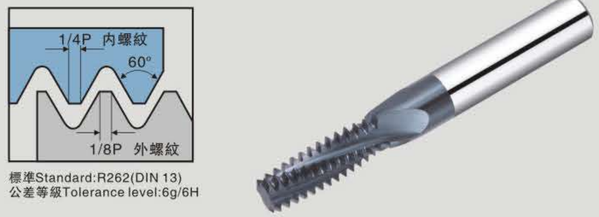
英制BSP(G)螺纹铣刀
BRITISH BSP (G) THREAD MILLING CUTTER



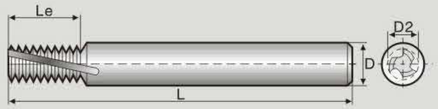
ISO公制螺紋 (钢用、铝用、铝用涂层) ISO Metric Thread

螺旋槽 spiral groove

外螺紋/内螺紋
External/Internal threads



標準Standard:R262(DIN 13)
公差等級Tolerance level:6g/6H



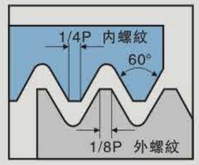
螺旋槽銑刀 Spiral groove milling cutter–internal thread

2×Do(L1≤2×螺紋直徑 thread diameter)

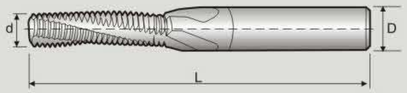
螺紋 Thread		螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
M粗牙 M coarse teeth	細牙 Fine teeth	mm	D	D2	L	Le	Z	Zt	mm
M3×0.5	M3.5–M16×0.5	0.5	4	2.2	50	6.0	3	12	2.5
	M4×0.5	0.5	4	3.0	50	8.0	3	16	3.5
	M5×0.5	0.5	4	3.9	50	10.0	3	20	4.5
M4×0.7		0.7	4	2.8	50	8.4	3	12	3.3
	M6×0.75	0.75	4	3.9	50	12.0	3	16	5.3
M5×0.8		0.8	4	3.5	50	10.4	3	13	4.2
M6×1.0	M8×M40×1.0	1.0	4	3.9	50	12.0	3	12	5.0
	M8×1.0	1.0	6	5.9	57	16.0	3	16	7.0
	M10×1.0	1.0	8	7.9	60	20.0	3	20	9.0
	M12×1.0	1.0	10	9.9	73	24.0	4	24	11.0
M8×1.25		1.25	6	5.8	57	16.25	3	13	6.8
	M10×1.25	1.25	8	7.7	60	20.0	3	16	8.8
M10×1.5	M12–M48×1.5	1.5	8	7.7	60	21.0	3	14	8.5
	M12×1.5	1.5	10	9.4	73	24.0	4	16	10.5
	M14×1.5	1.5	12	11.2	83	28.5	4	19	12.5
	M16×1.5	1.5	12	11.9	83	33.0	4	22	14.5
M12×1.75		1.75	10	8.7	73	24.5	4	14	10.2
M14×2.0		2.0	10	9.9	73	28.0	4	14	12.0
M16×2.0	M17–M80×2.0	2.0	12	11.9	83	32.0	4	16	14.0
M18–M22×2.5	M17–M80×2.0	2.5	14	13.9	92	40.0	5	16	15.5
M24×3.0		3.0	16	15.9	92	42.0	4	14	21.0

*底孔直徑適用于最小螺紋直徑Bottom hole diameter is suitable for minimum thread diameter

ISO公制加長螺紋 (钢用、铝用、铝用涂层) ISO Metric Thread





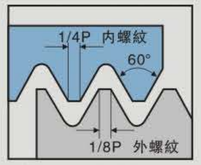


M coarse	螺距P	M Fine	外徑d	刃徑D	齒數 Flute	刃長ap	全長L
M5*0.8	0.8	>5	6	3.9	3	16.4	60
M6*1	1	>6	6	4.5	3	15.5	60
M8*1.25	1.25	>8	8	6.2	3	25.7	70
M8*1	1	>8	8	6.5	3	22.5	70
M10*1	1	>10	8	7.9	3	30.5	80
M10*1.5	1.5	>10	8	8	3	30.8	80
M10*1.25	1.25	>10	10	8.2	3	32.5	80
M12*1.75	1.75	>12	10	9.5	3	35.9	80
M12*1.5	1.5	>12	10	9.8	3	30.8	80
M12*1	1	>12	10	9.9	3	25.5	80
M14*2	2	>14	12	11.5	3	41	100
M16*2	2	>16	12	11.5	3	41	100
M20*2.5	2.5	>20	16	15	4	48.8	105

美制UN (钢用、铝用、铝用涂层) American UN

螺旋槽 spiral groove

外螺紋/内螺紋
External/Internal threads







標準Standard:ANSI B1.1.74
公差等級Tolerance level:2A/2B

螺旋槽–外部的 Spiral groove – external

2×Do(L1≤2×螺紋直徑 thread diameter)

螺紋 Thread		螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number
UNC	UNF	tpi	D	D2	L	Le	Z	Zt
No.8–32		32	4	3.9	50	8.7	3	11
	No.12–28	28	4	3.9	50	11.8	3	13
No.12–24		24	4	3.9	50	11.6	3	11
1/4"×20		20	4	3.9	50	12.7	3	10
5/16"×18		18	6	5.9	57	16.9	3	12
3/8"×16		16	8	7.9	60	19.1	3	12
9/16"×12		12	12	11.9	83	29.6	4	14

螺旋槽–内槽 Spiral groove – inner groove

2×Do(L1≤2×螺紋直徑 thread diameter)

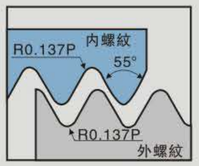
螺紋 Thread			螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
UNC	UNF	UNEF	tpi	D	D2	L	Le	Z	Zt	mm
	No.8–36		36	4	3.0	50	8.5	3	12	3.5
	No.10–32	No.12–3/8"×32	32	4	3.3	50	11.1	3	14	4.0
	No.12–28,1/4"×28	7/16",1/2"×28	28	4	3.8	50	11.8	3	13	4.6
	1/4"×28	7/16",1/2"×28	28	6	4.6	57	12.7	3	14	5.5
		7/16",1/2"×28	28	10	9.2	73	22.7	4	25	10.2
No.10–24	5/16",3/8"×24	9/16"–11/16"×24	24	4	2.9	50	10.6	3	10	3.8
No.12–24	5/16",3/8"×24	9/16"–11/16"×24	24	4	3.5	50	11.6	3	11	4.5
	5/16",3/8"×24	9/16"–11/16"×24	24	6	5.7	57	15.9	3	15	6.8
	3/8"×24	9/16"–11/16"×24	24	8	7.4	60	19.1	3	18	8.5
		9/16"–11/16"×24	24	12	11.9	83	28.6	4	27	13.2
1/4"×20	7/16",1/2"×20	3/4"–1"×20	20	4	3.9	50	12.7	3	10	5.2
	7/16",1/2"×20	3/4"–1"×20	20	10	8.5	73	22.9	4	18	9.8
	1/2"×20	3/4"–1"×20	20	10	9.9	73	25.4	4	20	11.5
		3/4"–1"×20	20	16	15.9	92	38.1	5	30	17.8
5/16"×18	9/16",5/8"×18	11/16"–1 11/16"×18	18	6	5.2	57	16.9	3	12	6.5
	9/16",5/8"×18	11/16"–1 11/16"×18	18	12	11.3	83	29.6	4	21	12.8
	5/8"×18	11/16"–1 11/16"×18	18	12	11.9	83	32.5	4	23	14.5
3/8"×16	3/4"×16		16	8	6.7	60	19.1	3	12	8.0
	3/4"×16		16	16	15.9	92	38.1	4	24	17.5
7/16"×14	7/8"×14		14	8	7.6	60	23.6	4	13	9.3
	7/8"×14		14	20	18.7	104	44.4	4	24	20.5
1/2"×13			13	10	8.9	73	25.4	4	13	10.8
9/16"×12	1"–1 1/2"×12		12	12	10.3	83	29.6	4	14	12.3
	1"–1 1/2"×12		12	20	19.9	104	50.8	5	24	23.5
5/8"×11			11	12	11.0	83	32.3	4	14	13.5
3/4"×10			10	14	13.5	92	38.1	5	15	16.5
7/8"×9			9	16	15.2	92	45.2	4	16	19.5
1"×8			8	18	17.0	104	50.8	4	16	22.0

*底孔直徑適用于最小螺紋直徑Bottom hole diameter is suitable for minimum thread diameter

BSP(G)(钢用、铝用、铝用涂层)

螺旋槽 spiral groove

外螺紋/内螺紋
External/Internal threads







標準Standard:B.S.2779:1956
公差等級Tolerance level:
中等 級別等級Medium level

螺旋槽 Spiral groove

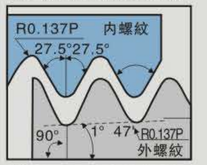
2×Do(L1≤2×螺紋直徑 thread diameter)

螺紋 Thread	螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
標準型 Standard form	tpi	D	D2	L	Le	Z	Zt	mm
1/16"×28,1/8"×28	28	6	5.8	57	16.3	3	18	6.7
1/8"×28	28	8	7.7	60	20.0	3	22	8.7
1/4"×19,3/8"×19	19	10	9.9	73	26.7	4	20	11.8
3/8"×19	19	14	13.4	92	33.4	4	25	15.2
1/2",3/4"×14	14	16	15.7	92	43.5	5	24	19.0
1",1 1/2",2",2 1/2"×11	11	20	19.9	104	41.6	5	18	30.7

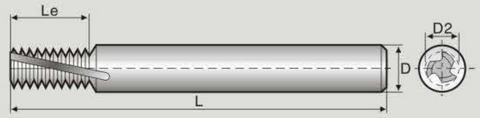
英制BSPT (钢用、铝用、铝用涂层) British BSPT

螺旋槽 spiral groove

外螺紋/内螺紋
External/Internal threads







標準Standard:B.S.21:1985
公差等級標準BSPT
Tolerance grade standard BSPT

螺旋槽Spiral groove

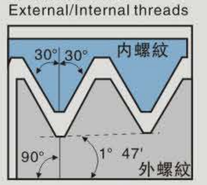
螺紋 Thread	螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
標準型 Standard form	tpi	D	D2	L	Le	Z	Zt	mm
1/16"×28	28	6	5.8	57	16.3	3	18	6.7
1/8"×28	28	8	7.7	60	20.0	3	22	8.7
1/4"×19	19	10	9.9	73	26.7	4	20	11.8
3/8"×19	19	14	13.4	92	33.4	4	25	15.2
1/2",3/4"×14	14	16	15.7	92	43.5	5	24	19.0
1",1 1/2",2",2 1/2"×11	11	20	19.9	104	41.6	5	18	30.7

*底孔直徑適用于最小螺紋直徑Bottom hole diameter is suitable for minimum thread diameter

美制NPT (钢用、铝用、铝用涂层) American NPT

螺旋槽 spiral groove

外螺紋/内螺紋
External/Internal threads







標準Standard:USAS B2.1:1968
公差等級Tolerance level:
標準NPT standard NPT

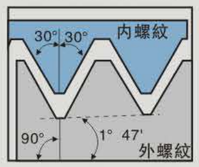
螺旋槽 Spiral groove

螺紋 Thread	螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
標準型 Standard form	tpi	D	D2	L	Le	Z	Zt	mm
1/16"×27	27	6	5.3	57	9.4	3	10	6.3
1/8"×27	27	8	7.5	60	9.4	4	10	8.5
1/4"×18	18	10	9.4	73	14.1	4	10	11.1
3/8"×18	18	12	11.9	83	14.1	4	10	14.5
1/2",3/4"×14	14	16	15.5	92	25.4	5	14	17.7,23.0
1"-2"×11.5	11.5	20	19.9	104	33.1	5	15	29.0-56.0
2 1/2",3"×8	8	20	19.9	104	38.1	4	12	66.5

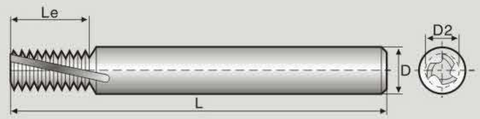
美制NPTF (钢用、铝用、铝用涂层) American NPTF

螺旋槽 spiral groove

外螺紋/内螺紋
External/Internal threads







決定于Decided to:ANSI 1.20.3-1976
公差等級Tolerance level:
標準NPTFstandard NPTF

螺旋槽Spiral groove

螺紋Thread	螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
標準型 Standard form	tpi	D	D2	L	Le	Z	Zt	mm
1/16"×27	27	6	5.3	57	9.4	3	10	6.3
1/8"×27	27	8	7.5	60	9.4	4	10	8.4
1/4"×18	18	10	9.4	73	14.1	4	10	11.1
3/8"×18	18	12	11.9	83	14.1	4	10	14.7
1/2",3/4"×14	14	16	15.5	92	25.4	5	14	17.9,23.4
1"-2"×11.5	11.5	20	19.9	104	33.1	5	15	29.4-56.2
2 1/2",3"×8	8	20	19.9	104	38.1	4	12	67.0

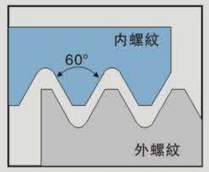
*底孔直徑適用于最小螺紋直徑Bottom hole diameter is suitable for minimum thread diameter

(钢用、铝用、铝用涂层)

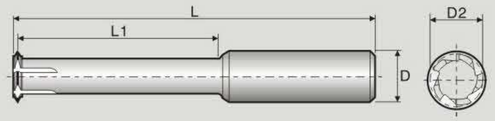
單齒深孔螺紋銑刀

深孔螺紋銑刀 Deep-hole thread milling cutter

內螺紋Internal threads







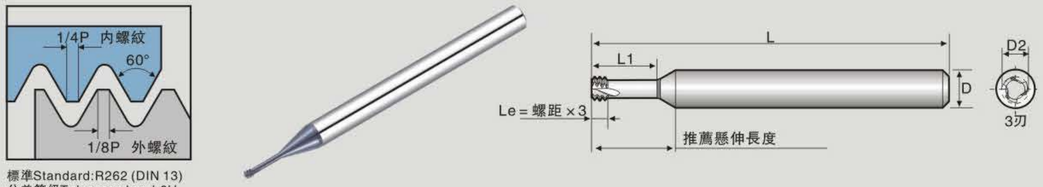
深孔螺紋銑刀 Deep-hole thread milling cutter

小型螺紋 Miniature thread			螺距 Pitch		尺寸規格 Size specification					
M粗牙 M coarse teeth	細牙 Fine teeth	UN,UNS,UNF,UNEF	mm	tpi	D	D2	L	L1	Z	Zt
M1.2X0.25			0.25		4	0.85	50	3.6	3	1
M1.4X0.3			0.3		4	1.05	50	4.2	3	1
M1.6X0.35			0.35		4	1.15	50	4.8	3	1
M2X0.4			0.4		4	1.45	50	6	3	1
M2.5X0.45			0.45		4	1.9	50	7.5	3	1
M3X0.5			0.5		4	2.35	50	9	3	1
M4X0.7			0.7		4	3.15	50	12	3	1
M5×0.8	M5×0.5 M5×0.75	No.10-56UNS,No.10-48UNS, No.10-40UNS,No.10-36UNS, No.10-32UNF,	0.5-0.8	32-56	4	3.90	45	16	4	1
M6×1.0	M6×0.5 M6×0.75	No.12-56UNS,No.12-48UNS, 1/4-40UNS,1/4-36UNS,1/4-32UNS, 1/4-28UNF,1/4-27UNS,1/4-24UNS,	0.5-1.0	24-56	6	4.85	51	20	5	1
M8×1.25	M7×0.5 M7×0.75 M7.5×1.0	5/16-48UNS,5/16-40UNS,5/16-36UNS, 5/16-32UNEF,5/16-28UN,5/16-27UNS, 5/16-24UNS,5/16-48UN,	0.5-1.25	20-48	6	5.90	64	25	5	1
	M10.5×0.5 M11×0.75 M11×1.0	7/16-32UN,7/16-28UNEF, 7/16-27UNS,7/16-24UNS,	0.5-1.0	24-56	10	9.90	73	35	6	1
M10×1.5	M10×1.0 M10×1.25	3/8-24UNF,3/8-20UN, 7/16-18UNS,7/16-16UN,	1.0-1.50	16-24	8	7.90	63	32	6	1
M12×1.75	M12×1.0 M12×1.25 M12×1.5	1/2-24UNS,1/2-20UNS, 1/2-18UNS,1/2-16UNS, 1/2-14UNS,	1.0-1.75	14-24	10	9.90	73	38	6	1
	M13.5×1.0 M14×1.25 M14×1.5	9/16-24UNEF	1.0-1.75	14-24	12	11.90	83	45	6	1
M14×2			2.0		12	10.2	92	44	4	1
M16×2			2.0		14	12.2	100	50	4	1
M18×2.5			2.50		14	12.9	108	57	5	1
M20×2.5			2.50		16	14.8	114	63	5	1

ISO公制螺紋 (钢用、铝用、铝用涂层) ISO Metric Thread

Millipro

内螺紋Internal threads



標準Standard:R262 (DIN 13)
公差等級Tolerance level:6H

MilliPro 小型螺紋銑刀Small threaded milling cutter

2 × Do(L1≤2 × 螺紋直徑 thread diameter)

螺紋 Thread		螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
M粗牙 M coarse teeth	細牙 Fine teeth	mm	D	D2	L	L1	Z	Zt	mm
M1.2X0.25		0.25	4	0.85	50	3.4	3	3	0.95
M1.4X0.3		0.3	4	1.05	50	3.4	3	3	1.1
M1.6 × 0.35		0.35	4	1.20	50	3.4	3	3	1.25
M2 × 0.4		0.4	4	1.55	50	4.2	3	3	1.6
M2.2 × 0.45		0.45	4	1.65	50	4.6	3	3	1.75
M2.5 × 0.45		0.45	4	1.95	50	5.2	3	3	2.05
M3 × 0.5	M3.5–M16 × 0.5	0.5	4	2.40	50	6.2	3	3	2.5
M3.5 × 0.6		0.6	4	2.75	50	7.3	3	3	2.9
M4 × 0.7		0.7	4	3.15	50	8.3	3	3	3.3
M5 × 0.8		0.8	6	4.05	57	10.4	3	3	4.2
M6 × 1.0	M8–M40 × 1.0	1.0	6	4.80	57	12.5	3	3	5.0
M8 × 1.25		1.25	8	6.50	63	16.6	3	3	6.8
M10 × 1.5	M12–M48 × 1.50	1.50	10	8.20	73	20.8	3	3	8.5
M12 × 1.75		1.75	10	9.90	73	25.0	3	3	10.3
M16 × 2.0		2.0	12	11.90	83	33.0	3	3	14.0
M20 × 2.5		2.50	16	15.90	92	41.3	3	3	17.5

MilliPro 小型螺紋銑刀Small threaded milling cutter

2 × Do(L1≤3 × 螺紋直徑 thread diameter)

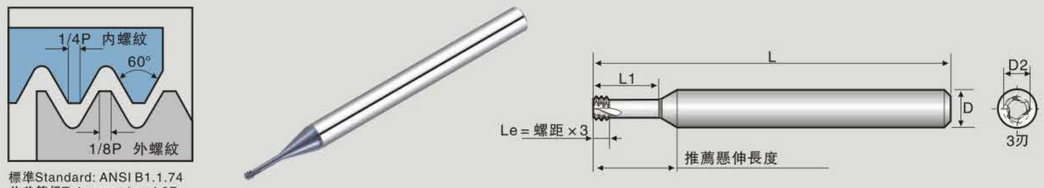
螺紋 Thread		螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
M粗牙 M coarse teeth	細牙 Fine teeth	mm	D	D2	L	L1	Z	Zt	mm
M1.6 × 0.35		0.35	4	1.20	50	5.0	3	3	1.25
M2 × 0.4		0.4	4	1.55	50	6.2	3	3	1.6
M2.5 × 0.45		0.45	4	1.95	50	7.7	3	3	2.05
M3 × 0.5	M3.5–M16 × 0.5	0.5	4	2.40	50	9.2	3	3	2.5
M4 × 0.7		0.7	4	3.15	50	12.3	3	3	3.3
M5 × 0.8		0.8	6	4.05	57	15.4	3	3	4.2
M6 × 1.0	M8–M10 × 1.0	1.00	6	4.80	57	18.6	3	3	5.0
M8 × 1.25		1.25	8	6.50	63	24.6	3	3	6.8

*底孔直徑適用于最小螺紋直徑Bottom hole diameter is suitable for minimum thread diameter

美制UN (钢用、铝用、铝用涂层) American UN

Millipro

内螺紋Internal threads



標準Standard: ANSI B1.1.74
公差等級Tolerance level:2B

MilliPro 小型螺紋銑刀 Small threaded milling cutter

2 × Do(L1≤2 × 螺紋直徑 thread diameter)

螺紋 Thread		螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
UNC	UNF	tpi	D	D2	L	L1	Z	Zt	mm
	No.1–72	72	4	1.45	50	3.9	3	3	1.6
No.1–64	No.2–64	64	4	1.40	50	4.2	3	3	1.5
No.2–56	No.3–56	56	4	165	50	5.0	3	3	1.8
No.3–48	No.4–48	48	4	1.90	50	6.0	3	3	2.1
No.4,No.5–40	No.6–40	40	4	2.10	50	6.0	3	3	2.3
No.5–40	No.6–40	40	4	2.45	50	7.2	3	3	2.6
	No.8–36	36	4	3.30	50	8.7	3	3	3.5
No.6,No.8–32	No.10–32	32	4	2.55	50	7.4	3	3	2.8
No.8–32	No.10–32	32	4	3.20	50	10.0	3	3	3.5
	1/4" × 28	28	6	5.25	57	13.2	3	3	5.5
No.10–24	5/16" × 24	24	6	3.58	57	10.2	3	3	3.9
	5/16" × 24	24	8	6.68	63	16.5	3	3	6.9
1/4" × 16	7/16" × 20	20	6	4.88	57	13.4	3	3	5.2
	7/16" × 20	20	10	9.55	73	23.0	3	3	9.9
3/8" × 16		16	8	6.70	63	19.1	3	3	8.0
7/16" × 14		14	10	9.00	73	23.3	3	3	9.4

MilliPro 小型螺紋銑刀 Small threaded milling cutter

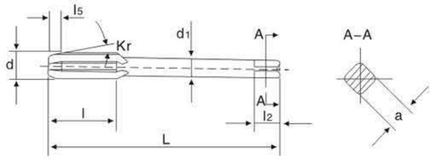
3 × Do(L1≤3 × 螺紋直徑 thread diameter)

螺紋 Thread		螺距 Pitch	尺寸規格 Size specification				槽數 Slot number	齒數 Tooth number	底孔直徑* Bottom hole diameter*
UNC	UNF	tpi	D	D2	L	L1	Z	Zt	mm
	No.1–72	72	4	1.45	50	5.75	3	3	1.6
No.2–56	No.3–56	56	4	1.65	50	7.0	3	3	1.8
No.4,No.5–40	No.6–40	40	4	2.10	50	9.0	3	3	2.3
No.5–40	No.6–40	40	4	2.45	50	10.0	3	3	2.6
No.6,No.8–32	No.10–32	32	4	2.55	50	11.0	3	3	2.8
No.8–32	No.10–32	32	4	3.20	50	13.0	3	3	3.4
	1/4" × 28	28	6	5.25	57	19.6	3	3	5.5
	5/16" × 24	24	8	6.68	63	24.5	3	3	6.9
1/4" × 20	7/16" × 20	20	6	4.88	57	19.8	3	3	5.1

*底孔直徑適用于最小螺紋直徑Bottom hole diameter is suitable for minimum thread diameter

直槽絲錐
Straight Fluted Tap



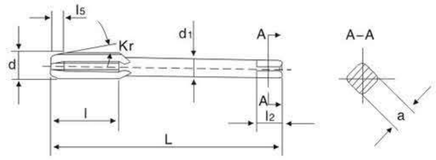


mm

代號	公稱直徑d	螺距p	d1	l	L	方頭	
						a	l2
M2	2	0.4	3	9	50	2.5	5
M2.5	2.5	0.45	3	10	50	2.5	5
M3	3	0.5	3	11	50	2.5	5
M3.5	3.5	0.6	3.55	13	50	2.8	5
M4	4.0	0.7	4	13	50	3.15	6
M4	4.0	0.5	4	13	50	3.15	6
M5	5.0	0.8	5	16	55	3.15	7
M5	5.0	0.5	5	16	55	3.15	7
M6	6.0	1.0	6	19	65	3.55	8
M6	6.0	0.75	6	19	65	3.55	8
M6	6.0	0.5	6	19	65	3.55	8
M8	8	1.25	6.3	22	70	5	8
M8	8	1.0	6.3	22	70	5	8
M8	8	0.75	6.3	22	70	5	8
M8	8	0.5	6.3	22	70	5	8
M10	10	1.5	8.0	24	75	6.3	9
M10	10	1.25	8.0	24	75	6.3	9
M10	10	1.0	8.0	24	75	6.3	9
M12	12	1.75	9	29	80	7.1	10
M12	12	1.5	9	29	80	7.1	10
M12	12	1.25	9	29	80	7.1	10
M12	12	1.0	9	29	80	7.1	10
M12	12	0.75	9	29	80	7.1	10
M14	14	2.0	11	30	95	9	12
M14	14	1.5	11	30	95	9	12
M14	14	1.25	11	30	95	9	12
M14	14	1.0	11	30	95	9	12
M16	16	2.0	12.5	32	100	10	13
M16	16	1.5	12.5	32	100	10	13
M16	16	1.0	12.5	32	100	10	13
M18	18	2.5	14	37	110	11.2	14
M18	18	1.5	14	37	110	11.2	14
M18	18	1.0	14	37	110	11.2	14
M20	20	2.5	15	37	110	11.2	14
M20	20	2.0	15	37	110	11.2	14
M20	20	1.5	15	37	110	11.2	14
M20	20	1.0	15	37	110	11.2	14

塗層直槽絲錐
COATED STRAIGHT FLUTED TAP



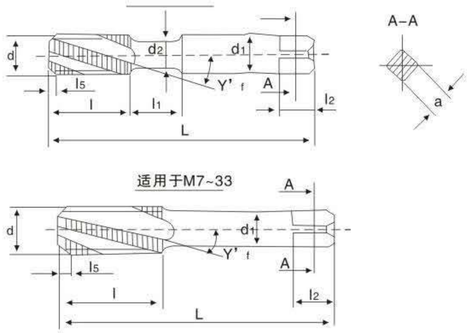


mm

代號	公稱直徑d	螺距p	d1	l	L	方頭	
						a	l2
M2	2	0.4	3	9	50	2.5	5
M2.5	2.5	0.45	3	10	50	2.5	5
M3	3	0.5	3	11	50	2.5	5
M3.5	3.5	0.6	3.55	13	50	2.8	5
M4	4.0	0.7	4	13	50	3.15	6
M4	4.0	0.5	4	13	50	3.15	6
M5	5.0	0.8	5	16	55	3.15	7
M5	5.0	0.5	5	16	55	3.15	7
M6	6.0	1.0	6	19	65	3.55	8
M6	6.0	0.75	6	19	65	3.55	8
M6	6.0	0.5	6	19	65	3.55	8
M8	8	1.25	6.3	22	70	5	8
M8	8	1.0	6.3	22	70	5	8
M8	8	0.75	6.3	22	70	5	8
M8	8	0.5	6.3	22	70	5	8
M10	10	1.5	8.0	24	75	6.3	9
M10	10	1.25	8.0	24	75	6.3	9
M10	10	1.0	8.0	24	75	6.3	9
M12	12	1.75	9	29	80	7.1	10
M12	12	1.5	9	29	80	7.1	10
M12	12	1.25	9	29	80	7.1	10
M12	12	1.0	9	29	80	7.1	10
M12	12	0.75	9	29	80	7.1	10
M14	14	2.0	11	30	95	9	12
M14	14	1.5	11	30	95	9	12
M14	14	1.25	11	30	95	9	12
M14	14	1.0	11	30	95	9	12
M16	16	2.0	12.5	32	100	10	13
M16	16	1.5	12.5	32	100	10	13
M16	16	1.0	12.5	32	100	10	13
M18	18	2.5	14	37	110	11.2	14
M18	18	1.5	14	37	110	11.2	14
M18	18	1.0	14	37	110	11.2	14
M20	20	2.5	15	37	110	11.2	14
M20	20	2.0	15	37	110	11.2	14
M20	20	1.5	15	37	110	11.2	14
M20	20	1.0	15	37	110	11.2	14

螺旋槽絲錐
Spiral Fluted Tap



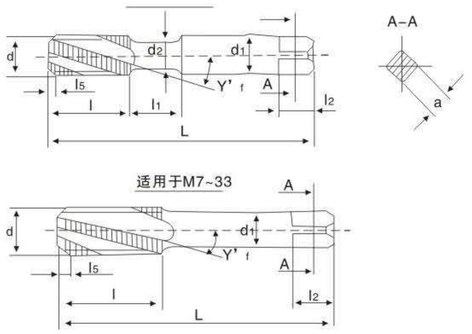


mm

代號	公稱直徑d	螺距p	d1	l	l1	L	d2 min	a	l2
M2	2	0.4	3	9	-	50	-	2.5	5
M2.5	2.5	0.45	3	10	-	50	-	2.5	5
M3	3	0.5	3	11	7	50	2.12	2.5	5
M3.5	3.5	0.6	3.55	13	7	50	2.5	2.8	5
M4	4.0	0.7	4	13	8	50	2.8	3.15	6
M4	4.0	0.5	4	13	8	50	2.8	3.15	6
M5	5.0	0.8	5	16	9	55	3.55	3.15	7
M5	5.0	0.5	5	16	9	55	3.55	3.15	7
M6	6.0	1.0	6	19	11	65	4.5	3.55	8
M6	6.0	0.75	6	19	11	65	4.5	3.55	8
M6	6.0	0.5	6	19	11	65	4.5	3.55	8
M8	8	1.25	6.3	22	-	70		5	8
M8	8	1.0	6.3	22	-	70		5	8
M8	8	0.75	6.3	22	-	70		5	8
M8	8	0.5	6.3	22	-	70		5	8
M10	10	1.5	8.0	24	-	75		6.3	9
M10	10	1.25	8.0	24	-	75		6.3	9
M10	10	1.0	8.0	24	-	75		6.3	9
M12	12	1.75	9	29	-	80		7.1	10
M12	12	1.5	9	29	-	80		7.1	10
M12	12	1.25	9	29	-	80		7.1	10
M12	12	1.0	9	29	-	80		7.1	10
M12	12	0.75	9	29	-	80		7.1	10
M14	14	2.0	11	30	-	95		9	12
M14	14	1.5	11	30	-	95		9	12
M14	14	1.25	11	30	-	95		9	12
M14	14	1.0	11	30	-	95		9	12
M16	16	2.0	12.5	32	-	100		10	13
M16	16	1.5	12.5	32	-	100		10	13
M16	16	1.0	12.5	32	-	100		10	13
M18	18	2.5	14	37	-	110		11.2	14
M18	18	1.5	14	37	-	110		11.2	14
M18	18	1.0	14	37	-	110		11.2	14
M20	20	2.5	15	37	-	110		11.2	14
M20	20	2.0	15	37	-	110		11.2	14
M20	20	1.5	15	37	-	110		11.2	14
M20	20	1.0	15	37	-	110		11.2	14

塗層螺旋絲錐
COATED SCREW TAP



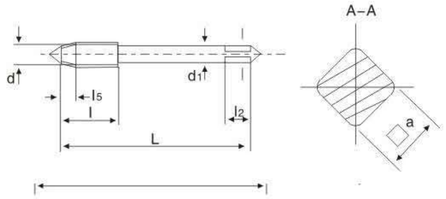


mm

代號	公稱直徑d	螺距p	d1	l	l1	L	d2 min	a	l2
M2	2	0.4	3	9	-	50	-	2.5	5
M2.5	2.5	0.45	3	10	-	50	-	2.5	5
M3	3	0.5	3	11	7	50	2.12	2.5	5
M3.5	3.5	0.6	3.55	13	7	50	2.5	2.8	5
M4	4.0	0.7	4	13	8	50	2.8	3.15	6
M4	4.0	0.5	4	13	8	50	2.8	3.15	6
M5	5.0	0.8	5	16	9	55	3.55	3.15	7
M5	5.0	0.5	5	16	9	55	3.55	3.15	7
M6	6.0	1.0	6	19	11	65	4.5	3.55	8
M6	6.0	0.75	6	19	11	65	4.5	3.55	8
M6	6.0	0.5	6	19	11	65	4.5	3.55	8
M8	8	1.25	6.3	22	-	70		5	8
M8	8	1.0	6.3	22	-	70		5	8
M8	8	0.75	6.3	22	-	70		5	8
M8	8	0.5	6.3	22	-	70		5	8
M10	10	1.5	8.0	24	-	75		6.3	9
M10	10	1.25	8.0	24	-	75		6.3	9
M10	10	1.0	8.0	24	-	75		6.3	9
M12	12	1.75	9	29	-	80		7.1	10
M12	12	1.5	9	29	-	80		7.1	10
M12	12	1.25	9	29	-	80		7.1	10
M12	12	1.0	9	29	-	80		7.1	10
M12	12	0.75	9	29	-	80		7.1	10
M14	14	2.0	11	30	-	95		9	12
M14	14	1.5	11	30	-	95		9	12
M14	14	1.25	11	30	-	95		9	12
M14	14	1.0	11	30	-	95		9	12
M16	16	2.0	12.5	32	-	100		10	13
M16	16	1.5	12.5	32	-	100		10	13
M16	16	1.0	12.5	32	-	100		10	13
M18	18	2.5	14	37	-	110		11.2	14
M18	18	1.5	14	37	-	110		11.2	14
M18	18	1.0	14	37	-	110		11.2	14
M20	20	2.5	15	37	-	110		11.2	14
M20	20	2.0	15	37	-	110		11.2	14
M20	20	1.5	15	37	-	110		11.2	14
M20	20	1.0	15	37	-	110		11.2	14

擠壓絲錐
Extrusion Taps



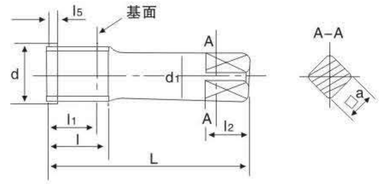


mm

代號	公稱直徑d	螺距p	d_1	l	L	方頭	
						a	l_2
M2	2	0.4	3	9	50	2.5	5
M2.5	2.5	0.45	3	10	50	2.5	5
M3	3	0.5	3	11	50	2.5	5
M4	4.0	0.7	4	13	50	3.15	6
M5	5.0	0.8	5	16	55	3.15	7
M6	6.0	1.0	6	17	65	4.5	8
M8	8	1.25	6.2	18	70	5	8
M10	10	1.5	8.0	21	75	6	9
M12	12	1.75	9	29	80	7.1	10

G55° 圓錐管螺紋絲錐
G55 Deg Taper Pipe Thread Tap





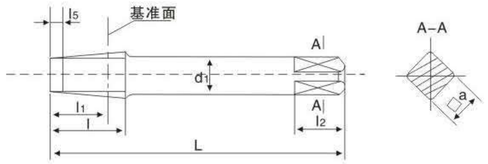
mm

代號			基本直徑 d	25.4mm 牙數	螺距p	d_1	l	L	a	l_2
G1/16	G1/16D	Rp1/16	7.723	28	0.970	5.6	14	52	4.5	7
G1/8	G1/8D	Rp1/8	9.728	28	0.970	8.0	15	59	6.3	9
G1/4	G1/4D	Rp1/4	13.157	19	1.337	10.0	19	67	8.0	11
G3/8	G3/8D	Rp3/8	16.662	19	1.337	12.5	21	75	10.0	13
G1/2	G1/2D	Rp1/2	20.955	14	1.814	16.0	26	87	12.5	16
(G5/8)	(G5/8D)	–	22.911	14	1.814	18.0	26	91	14.0	18
G3/4	G3/4D	Rp3/4	26.441	14	1.814	20.0	28	96	16.0	20
(G7/8)	(G7/8D)	–	30.201	11	2.309	22.4	29	102	18.0	22
G1	G1D	Rp1	33.249	11	2.309	25.0	33	109	20.0	24
(G11/8)	(G11/8D)	–	37.897	11	2.309	28.0	34	116	22.4	26
G11/4	G11/4D	Rp11/4	41.910	11	2.309	31.5	36	119	25.0	28
G11/2	G11/2D	Rp11/2	47.803	11	2.309	35.5	37	125	28.0	31
(G13/4)	(G13/4D)	–	53.746	11	2.309	35.5	39	132	28.0	31
G2	G2D	Rp2	59.614	11	2.309	40.0	41	140	31.5	34
(G21/4)	(G21/4D)	–	65.710	11	2.309	40.0	42	142	31.5	34
G21/2	G21/2D	Rp21/2	75.184	11	2.309	45.0	45	153	35.5	38
(G23/4)	(G23/4D)	–	81.534	11	2.309	50.0	46	163	40.0	42
G3	G3D	Rp3	87.884	11	2.309	50.0	48	164	40.0	42
G31/2	G31/2D	Rp31/2	100.330	11	2.309	63.0	50	173	50.0	51
G4	G4D	Rp4	113.030	11	2.309	71.0	53	185	50.0	56

注:l5爲參考尺寸

NPT60° 圓錐管螺紋絲錐
NPT60 Deg Taper Pipe Thread Tap



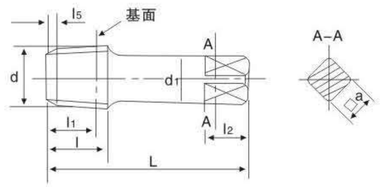


mm

代號	每25.4mm内的牙數	螺距p	d1	l1	l	L	a	l2	(l5)
1/16	27	0.941	8.0	11	17	54	6.3	9	2.8
1/8	27	0.941	8.0	11	19	54	6.3	9	2.8
1/4	18	1.411	11.2	16	27	62	9	12	4.3
3/8	18	1.411	14	16	27	65	11.2	14	4.3
1/2	14	1.814	18	21	35	79	14	18	5.5
3/4	14	1.814	22.4	21	35	83	18	22	5.5
1	11.5	2.209	28	26	44	95	22.4	26	6.7
11/4	11.5	2.209	35.5	27	44	102	28	31	6.7
11/2	11.5	2.209	40	27	44	108	31.5	34	6.7
2	11.5	2.209	50	28	44	114	40	42	6.7

Rc55° 圓錐管螺紋絲錐
Rc55 Deg Taper Pipe Thread Tap





mm

代號	每25.4mm内的牙數	螺距p	d1	l	L	l1max	l5	a	l2
Rc1/16	28	0.907	5.6	14	52	10.1	2.7	4.5	7
Rc1/8	28	0.907	8.0	15	59	10.1	2.7	6.3	9
Rc1/4	19	1.337	10.0	19	67	15.0	4.0	8.0	11
Rc3/8	19	1.337	12.5	21	75	15.4	4.0	10.0	13
Rc1/2	14	1.814	16.0	26	87	20.5	5.5	12.5	15
Rc3/4	14	1.814	20.0	28	96	21.8	5.5	16.0	20
Rc1	11	2.309	25.0	33	109	26.0	7	20.0	24
Rc11/4	11	2.309	31.5	36	119	28.3	7	25.0	28
Rc11/2	11	2.309	35.5	37	125	28.3	7	28.0	31
Rc2	11	2.309	40.0	41	140	32.7	7	31.5	34
Rc21/2	11	2.309	45.0	45	153	37.1	7	35.5	38
Rc3	11	2.309	50.0	48	164	40.2	7	40.0	42
Rc31/2	11	2.309	63.0	50	173	41.9	7	50.0	51
Rc4	11	2.309	71.0	53	185	46.2	7	56.0	56

注:l5爲參考尺寸

螺紋底孔直徑表
Recommended Tapping Speeds And Lubricants

公制螺紋

螺紋尺寸	推薦底孔徑	最小底孔徑	最大底孔徑			
		各精度通用	最JIS 2級用	4H用	5H用	6H用
M1×0.25	0.75	0.73	0.78	0.77	0.78	–
1×0.2	0.8	0.79	–	0.82	–	–
1.1×0.25	0.85	0.83	0.88	0.87	0.88	–
1.1×0.2	0.9	0.89	–	0.92	–	–
1.2×0.25	0.95	0.93	0.98	0.97	0.98	–
1.2×0.2	1	0.99	–	1.02	–	–
1.4×0.3	1.1	1.08	1.14	1.12	1.14	11.16
1.4×0.2	1.2	1.19	–	1.22	–	–
1.6×0.35	1.25	1.23	1.32	1.28	1.3	1.32
1.6×0.2	1.4	1.39	–	1.42	–	–
1.7×0.3	1.4	–	–	–	–	–
1.7×0.25	1.45	–	–	–	–	–
1.7×0.2	1.5	–	–	–	–	–
1.8×0.35	1.45	1.43	1.52	1.48	1.5	1.52
1.8×0.2	1.6	1.59	–	1.62	–	–
2×0.4	1.6	1.57	1.67	1.63	1.65	1.67
2×0.25	1.75	1.73	–	1.77	–	–
2.2×0.45	1.75	1.72	1.83	1.79	1.81	1.83
2.2×0.25	1.95	1.93	–	1.97	–	–
2.3×0.4	1.9	–	–	–	–	–
2.3×0.35	1.95	–	–	–	–	–
2.3×0.25	2.05	–	–	–	–	–
2.5×0.45	2.05	2.02	2.13	2.09	2.11	2.13
2.5×0.35	2.15	2.13	2.22	2.18	2.2	2.22
2.6×0.45	2.15	–	–	–	–	–
2.6×0.35	2.25	–	–	–	–	–
3×0.5	2.5	2.46	2.59	2.54	2.57	2.59
3×0.35	2..65	2.63	2.27	2.68	2.7	2.72
3.5×0.6	2.9	2.85	3.01	2.95	2.97	3.01
3.5×0.35	3.15	3.13	3.22	3.18	3.2	3.22
4×0.7	3.3	3.25	3.42	3.35	3.38	3.42
4×0.5	3.5	3.46	3.59	3.54	3.57	3.59
4.5×0.75	3.75	3.69	3.87	3.8	3.83	3.87
4.5×0.5	4	3.96	4.09	4.04	4.07	4.09
5×0.8	4.2	4.14	4.33	4.25	4.29	4.33
5×0.5	4.5	4.46	4.59	4.54	4.57	4.59
5.5×0.9	4.6	–	–	–		
5.5×0.75	4.75	–	–	–	–	–
5.5×0.5	5	4.96	5.09	5.04	5.07	5.09
6×1	5	4.92	5.15	5.06	5.1	5.15
6×0.75	5.25	5.19	5.37	5.3	5.33	5.37
6×0.5	5.5	–	–	–	–	–
7×1	6	5.92	6.15	6.06	6.1	6.15
7×0.75	6.25	6.19	6.37	6.3	6.33	6.37
7×0.5	6.5	–	–	–	–	–
8×1.25	6.75	6.65	6.91	6.81	6.853	6.91
8×1	7	6.92	7.15	7.06	7.1	7.15
8×0.75	7.25	7.19	7.37	7.3	7.33	7.37
8×0.5	7.5	–	–	–	–	–
9×1.25	7.75	7.65	7.91	7.81	7.85	7.91
9×1	8	7.92	8.15	8.06	8.1	8.15
9×0.75	8.25	8.19	8.37	8.3	8.33	8.37
9×0.5	8.5	–	–	–	–	–
10×1.5	8.5	8.38	8.67	8.56	8.61	8.67
10×1.25	8.75	8.65	8.91	8.81	8.85	8.91
10×1	9	8.92	9.15	9.06	9.1	9.15
10×0.75	9.25	9.19	9.37	9.3	9.33	9.37
10×0.5	9.5	–	–	–	–	–
11×1.5	9.5	9.38	9.67	9.61	9.61	9.67
11×1	10	9.92	10.15	10.06	10.1	10.15
11×0.75	10.25	10.19	10.37	10.33	10.33	10.37
11×0.5	10.5	–	–	–	–	–
12×1.75	10.25	10.11	10.44	10.31	10.37	10.44
12×1.5	10.5	10.38	10.67	10.56	10.61	10.67
12×1.25	10.75	10.65	10.91	10.81	10.85	10.91
12×1	11	10.92	11.15	11.06	11.	11.15
12×0.75	11.25	–	–	–	–	–
12×0.5	11.5	–	–	–	–	–

螺紋尺寸	推薦底孔徑	最小底孔徑	最大底孔徑			
		各精度通用	最JIS 2級用	4H用	5H用	6H用
13×1.75	11.25	–	–	–	–	–
13×1.5	11.5	–	–	–	–	–
13×1.25	11.75	–	–	–	–	–
13×1	12	–	–	–	–	–
13×0.75	12.3	–	–	–	–	–
13×0.5	12.5	–	–	–	–	–
14×2	12	11.84	12.21	12	12.1	12.2
14×1.5	12.5	12.38	12.67	12.56	12.61	12.67
14×1	13	12.92	13.15	13.06	13.1	13.15
14×0.75	13.3	–	–	–	–	–
14×0.5	13.5	–	–	–	–	–
15×2	13	–	–	–	–	–
15×1.5	13.5	13.4	13.6	13.5	13.6	13.6
15×1.25	13.8	13.7	13.9	–	–	–
15×1	14	13.95	14.15	14.06	14.1	14.15
15×0.75	14.3	–	–	–	–	–
15×0.5	14.5	–	–	–	–	–
16×2	14	13.9	14.2	14	14.4	14.2
16×1.5	14.5	14.4	14.6	14.5	14.6	14.6
16×1	15	14.95	15.15	15.06	15.1	15.15
17×2	15	–	–	–	–	–
17×1.5	15.5	15.4	15.68	15.5	–15.6	15.6
17×1.25	15.8	–	–	–	–	–
17×1	16	15.95	16.15	16.06	16.1	16.15
17×0.75	16.3		–	–	–	–
17×0.5	16.5	–	–	–	–	–
18×2.5	15.5	15.3	15.7	15.5	15.6	15.7
18×2	16	15.9	16.2	16	16.1	16.2
18×1.5	16.5	16.4	16.6	16.5	16.6	16.6
18×1	17	16.95	17.15	17.06	17.1	17.15
19×2.5	16.5	–	–	–	–	–
19×2	17	–	–	–	–	–
19×1.5	16.5	–	–	–	–	–
19×1.25	17.8	–	–	–	–	–
19×1	18	–	–	–	–	–
19×0.75	18.3	–	–	–	–	–
19×0.5	18.5	–	–	–	–	–
20×2.5	17.5	17.3	17.7	17.5	17.6	17.7
20×2	18	17.9	18.2	18	18.1	18.2
20×1.5	18.5	18.4	18.6	18.5	18.6	18.6
20×1	19	18.95	19.15	19.06	19.1	19.15
21×2.5	18.5	–	–	–	–	–
21×1.5	19.5	–	–	–	–	–
21×1	20	–	–	–	–	–
22×2.5	19.5	19.3	19.7	19.5	19.6	19.7
22×2	20	19.9	20.2	20	20.1	20.2
22×1.5	20.5	20.4	20.6	20.5	20.6	20.6
22×1	21	20.95	21.15	21.06	21.1	21.15
23×2.5	20.5	–	–	–	–	–
23×2	21	–	–	–	–	–
23×1.5	21.5	–	–	–	–	–
23×1	22	–	–	–	–	–
24×3	21	20.8	21.2	21	21.1	21.2
24×2	22	21.9	22.2	22	22.1	22.2
24×1.5	22.5	22.4	22.6	22.5	22.6	22.6
24×1	23	22.95	23.15	23.06	23.1	23.15
25×3	22	–	–	–	–	–
25×2	23	22.9	23.2	23	23.1	23.2
25×1.5	23.5	23.4	23.6	23.5	23.6	23.6
25×1	24	23.95	24.15	24.06	24.1	24.15
26×3	23	–	–	–	–	–
26×2	24	–	–	–	–	–
26×1.5	24.5	24.4	24.6	24.5	24.6	24.6
27×3	24	23.8	24.2	24	24.1	24.2
27×2.5	24.5	–	–	–	–	–
27×2	25	24.9	25.2	25	25.1	25.2
27×1.5	25.5	25.4	25.6	25.5	25.6	25.6
27×1	26	25.95	26.15	26.06	26.1	26.15
28×3	25	–	–	–	–	–

★推薦底孔爲錢JIS2級内螺紋用。(有的規格除外)
★JIS規格中没有的内螺紋底孔爲參考值。

BWiN

螺紋底孔直徑表
Recommended Tapping Speeds And Lubricants

美制螺紋

螺紋尺寸	推薦底孔徑	JIS2B級用	
		最小底孔徑	最大底孔徑
No.0–80UNF	1.25	1.19	1.3
1–66UNC	1.51	1.43	1.58
1–72UNF	1.55	1.48	1.61
2–56UNC	1.79	1.7	1.87
2–64UNF	1.84	1.76	1.91
3–48UNF	2.05	1.95	2.14
3–56UNF	2.11	2.03	2.19
4–40NUC	2.27	2.16	2.38
4–48UNF	2.37	2.28	2.45
5–40UNC	2.59	2.49	2.69
5–44UNF	2.65	2.56	2.74
6–32UNC	2.77	2.65	2.89
6–40UNF	2.92	2.82	3.02
8–32UNC	3.42	3.31	3.53
8–36UNF	3.51	3.41	3.6
10–24UNC	3.83	3.69	3.96
10–32UNF	4.07	3.97	4.16
12–24UNC	4.47	4.35	4.59
12–28UNF	4.61	4.5	4.72
1/4–20UNC	5.12	4.98	5.25
1/4–28UNF	5.47	5.36	5.58
1/4–32UNEF	5.59	5.49	5.68
5/16–18UNC	6.57	6.41	6.73
5/16–24UNF	6.91	6.79	7.03
5/16–32UNEF	7.18	7.09	7.26
3/8–16UNC	7.98	7.8	8.15
3/8–20UN	8.3	8.16	8.43
3/8–24UNF	8.51	8.39	8.63
3/8–32UNEF	8.77	8.67	8.86
7/16–14UNC	9.35	9.15	9.55
7/16–20UNF	9.88	9.73	10.03
1/2–13UNC	10.81	10.6	11.02
1/2–20UNF	11.47	11.33	11.6
9/16–12UNC	12.2	11.99	12.4
9/16–18UNF	12.9	12.8	13
5/8–11UNC	13.6	13.4	13.8
5/8–18UNF	14.5	14.4	14.6
5/8–24UNEF	14.9	14.8	14.9

螺紋尺寸	推薦底孔徑	JIS2B級用	
		最小底孔徑	最大底孔徑
No.3/4–10UNC	16.6	16.4	16.8
3/4–16UNF	17.5	17.4	17.6
7/8–9UNC	17.8	17.7	17.9
7/8–9UNC	19.5	19.2	19.7
7/8–14UNF	20.5	20.3	20.6
7/8–20UNEF	21	20.9	21.1
1–8UNC	22.3	22	22.6
1–12UNF	23.4	23.2	23.5
1–14UNS	23.6	–	–
11/16–12UN	24.9	24.7	25.1
11/8–7UNC	25	24.7	25.3
11/8–12UNF	26.5	26.3	26.7
11/4–7UNC	28.2	27.9	28.5
11/4–8UN	28.7	28.4	28.9
11/4–12UNF	29.7	29.5	29.9
13/8–6UNC	30.8	30.4	31.1
13/8–12UNF	32.9	32.7	33
11/2–6UNC	33.9	33.6	34.2
11/2–8UN	35	34.7	35.3
15/8–5UNS	36.2	–	–
13/4–5UNC	39.4	39	39.8
13/4–8UN	41.4	41.1	41.6
13/4–12UN	42.4	42.2	42.6
2–4.5UNC	45.1	44.7	45.5
2–8UN	47.7	47.4	48
2–12UN	48.8	48.6	48.9
21/4–4.5UNC	51.5	51.1	51.9
21/2–4UNC	57.1	56.7	57.5
21/2–8UN	60.4	60.1	60.7
23/4–4UNC	63.5	63	63.9
23/4–8UN	66.8	66.5	67
3–4UNC	69.8	69.3	70.2
3–8UN	73.1	72.8	73.4
31/4–4UNC	76.2	75.7	76.6
31/2–8UN	85.8	85.5	86.1
33/4–4UNC	88.9	88.4	89.3
4–4UNC	95.2	94.8	95.6
4–8UN	98.5	98.2	98.8

★JIS規格中没有的内螺紋底孔爲參考值。

螺紋底孔直徑表
Recommended Tapping Speeds And Lubricants

單位:mm

螺紋尺寸	1級螺紋用底孔直徑		2級螺紋用底孔直徑	
	RH精度	最小~最大(嵌合率%)	RH精度	最小~最大(嵌合率%)
M1×0.25	2	0.87~0.89(100~85)	4	0.90~0.92(100~80)
1.1×0.25	2	0.97~0.99(100~85)	4	1.00~1.02(100~80)
1.2×0.25	2	1.07~1.09(100~85)	4	1.10~1.12(100~80)
1.4×0.3	2	1.244~1.263(100~85)	4	1.270~1.294(100~80)
1.6×0.34	2	1.41~1.44(100~80)	4	1.44~1.48(100~80)
1.7×0.35	2	1.51~1.54(100~80)	4	1.54~1.58(100~75)
1.8×0.35	2	1.61~1.64(100~80)	4	1.64~1.68(100~75)
2×0.25	2	1.88~1.89(100~80)	–	–
2×0.4	2	1.78~1.82(100~80)	4	1.81~1.85(100~75)
2.2×0.45	2	1.95~1.99(100~80)	4	1.98~2.03(100~80)
2.3×0.4	2	2.08~2.12(100~80)	4	2.11~2.15(100~75)
2.5×0.45	2	2.25~2.29(100~80)	4	2.28~2.33(100~75)
2.6×0.45	2	2.35~2.39(100~80)	4	2.38~2.42(100~75)
3×0.5	3	2.74~2.78(100~80)	5	2.76~2.81(100~75)
3.5×0.6	3	3.18~3.21(100~85)	5	3.20~3.26(100~75)
4×0.7	4	3.63~3.67(100~85)	6	3.65~3.70(100~85)
5×0.8	4	4.57~4.62100~85)	6	4.59~4.66(100~80)
6×1	4	5.45~5.51(100~85)	7	5.48~5.57(100~80)
7×1	4	6.45~6.51(100~85)	7	6.48~6.57(100~80)
8×1.25	5	7.31~7.38(100~85)	7	7.34~7.41(100~85)
8×1	4	7.45~7.51(100~85)	7	7.48~7.57(100~85)
10×1.5	5	9.16~9.22(100~90)	7	9.18~9.28(100~85)
10×1.25	5	9.31~9.38(100~85)	7	9.34~9.41(100~85)
10×1	5	9.46~9.52(100~85)	7	9.48~9.57(100~80)
12×1.75	5	11.01~11.08(100~90)	8	11.05~11.15(100~85)
12×1.5	5	11.16~11.22(100~90)	7	11.18~11.28(100~85)
12×1.25	5	11.31~11.38(100~85)	7	11.34~11.41(100~85)
12×1	5	11.46~11.53(100~85)	7	11.48~11.57(100~80)
14×2	6	12.83~12.95(100~90)	10	12.92~13.04(100~85)
14×1.5	5	13.16~13.22(100~90)	9	13.21~13.30(100~85)
16×2	6	14.87~14.95(100~90)	10	14.92~15.04(100~85)
16×1.5	5	15.16~15.22(100~90)	9	15.21~15.30(100~80)
18×2.5	6	16.57~16.67(100~90)	11	16.63~16.78(100~85)
18×1.5	6	17.17~17.23(100~90)	10	17.22~17.31(100~85)
20×2.5	6	18.57~18.67(100~90)	11	18.63~18.78(100~85)
20×1.5	6	19.17~19.23(100~90)	10	19.22~19.31(100~85)

螺紋尺寸	1級螺紋用底孔直徑		2級螺紋用底孔直徑	
	RH精度	最小~最大(嵌合率%)	RH精度	最小~最大(嵌合率%)
No.1–64UNC	3	1.66~1.70(100~65)	2	1.65~1.69(100~65)
No.2–56	4	1.96~2.20(100~65)	3	1.95~2.01(100~65)
No.3–48	4	2.25~2.32(100~65)	3	2.23~2.31(100~65)
No.4–40	5	2.52~2.60(100~70)	3	2.50~2.58(100~70)
No.5–40	5	2.86~2.93(100~70)	3	2.83~2.91(100~70)
No.6–32	5	3.09~3.17(100~75)	3	3.06~3.14(100~75)
No.8–32	6	3.75~3.83(100~75)	4	3.74~3.82(100~75)
No.10–24	6	4.26~4.35(100~80)	4	4.24~4.32(100~80)
No.12–24	6	4.92~5.01(100~80)	4	4.90~4.96(100~85)
1/4–20	6	5.66~5.76(100~80)	4	5.64~5.74(100~80)
5/16–18	7	7.18~7.29(100~80)	5	7.15~7.24(100~85)
3/8–16	7	8.66~8.78(100~80)	5	8.63~8.73(100~85)
7/16–14	7	10.11~10.25(100~80)	5	10.08~10.19(100~85)
1/2–13	8	11.62~11.78(100~80)	6	11.60~11.68(100~90)
9/16–12	10	13.14~13.27(100~85)	8	13.11~13.24(100~85)
5/8–11	11	14.62~14.76(100~85)	8	14.58~14.67(100~90)
3/4–10	12	17.67~17.88100~80)	9	17.63~17.74100~90)
7/8–9	12	20.68~20.85(100~85)	9	20.64~20.75(100~90)
1–8	13	23.65~23.84(100~85)	10	23.61~23.74(100~90)
No.0–80UNF	3	1.38~1.41(100~65)	2	1.36~1.40(100~65)
No.1–72	3	1.68~1.72(100~65)	2	1.67~1.71(100~65)
No.2–64	3	1.98~2.04(100~65)	2	1.97~2.03(100~65)
No.3–56	4	2.29~2.35(100~65)	3	2.28~2.34(100~65)
No.4–48	4	2.57~2.64(100~70)	3	2.56~2.63(100~70)
No.5–44	4	2.89~2.96(100~70)	3	2.87~2.94(100~70)
No.6–40	5	3.19~3.26(100~70)	3	3.16~3.22(100~75)
No.8–36	5	3.80~3.88(100~75)	4	3.79~3.86(100~80)
No.10–32	5	4.41~4.48(100~80)	4	4.40~4.46(100~80)
No.12–28	5	5.00~5.08(100~80)	4	4.99~5.06(100~80)
1/4–28	5	5.86~5.93(100~80)	4	5.85~5.92(100~80)
5/16–24	6	7.38~7.46(100~80)	5	7.36~7.43(100~85)
3/8–24	6	8.96~9.05(100~80)	5	8.95~9.02(100~85)
7/16–20	7	10.44~10.54(100~80)	5	10.41~10.49(100~85)
1/2–20	7	12.02~12.12(100~80)	5	12.00~12.05(100~90)
9/16–18	9	13.55~13.66(100~80)	7	13.53~13.58(100~90)
5/8–18	9	15.14~15.25(100~80)	7	15.11~15.17(100~90)
3/4–16	10	18.22~18.32(100~85)	7	18.18~18.25(100~90)
7/8–14	11	21.27~21.38(100~85)	8	21.23~21.27(100~95)
1–12	12	24.28~24.41(100~85)	9	24.24~24.32(100~90)

★上表的低孔徑會因工件材料不同而變化，僅供參考。
★底孔徑會因材質、硬質、形狀尺寸等要素而變化，請事先進行試加工。
★底孔稍大會有利于延長壽命，請根據加工目的合理選擇。
★底孔的變形、錯位會導致加工問題，請注意

BWiN

螺紋刀具切削參數
Cutting Parameters Of Thread Cutting Tool

選定切削速度時必須考慮絲錐的材料，種類，牙數，底孔形狀，加工材料及切削液等加工條件。另外切削液具有潤滑，冷却，抗粘刀3種作用，攻絲加工是一種復雜加工，必須選擇適當的切削度。

加工材料		切削速度(m/min)								切削液		
		直槽絲錐	螺旋槽絲錐	刃傾角絲錐	硬質合金絲錐	擠壓絲錐	高速同步絲錐	管用絲錐	油性	水溶性(乳化液)	半幹式	幹式
低碳素鋼	CO.25%以下	8~13	8~13	15~25	–	8~13	27~32	3~6	◎	○	△	△
中碳素鋼	CO.25~0.45%	7~12	7~12	10~15	–	7~10	27~32	3~6	◎	○	△	△
高碳素鋼	CO.45%以上	6~9	6~9	8~13	–	5~8	22~27	2~5	◎	○	△	△
合金鋼	SCM	7~12	7~12	10~15	–	5~8	22~27	2~5	◎	△	△	△
調質鋼	25~45 HRC	3~5(4~8)	3~5(4~8)	4~6(6~10)	–	–	–	2~5	◎	△	–	–
不銹鋼	SUS	4~7	5~8	8~13	–	5~10	–	3~6	◎	○	–	–
不銹鋼	SUS630 SCS631	3~5	3~5	4~6	–	–	–	2~5	◎	–	–	–
工具鋼	SKD	6~9	6~9	7~10	–	–	–	2~5	◎	–	–	–
鑄鋼	SC	6~11	6~11	10~15		–	17~22	2~5	◎	○	–	–
鑄鐵	FC	10~15	–	–	30~45	–	–	2~5	◎	○	○	○
球墨鑄鐵	FCD	7~12	7~12	10~20	30~45	–	–	4~8	◎	○	○	–
銅	Cu	6~9	6~11	7~12	30~45	7~12	27~32	2~5	○	○	–	–
黃銅、黃銅鑄件	Bs.BsC	10~15	10~12	15~25	30~45	7~12	27~32	5~10	○	○	○	○
青銅、青銅鑄件	PB.PBC	6~11	6~11	10~20	30~45	7~12	–	6~11	○	○	–	–
變形鋁合金	AL	10~20	10~20	15~25	–	10~20	100~300	5~10	◎	○	△	–
鋁合金鑄件	AC,ADC	10~15	10~15	15~20	30~45	10~15	80~300	10~15	◎	○	△	–
鎂合金	MC	7~12	7~12	10~15	30~45	–	–	10~15	◎	○	○	–
鋅合金	ZDC	7~12	7~12	10~15	30~45	7~12	27~100	10~15	◎	○	△	–
熱硬塑料		10~20	–	–	40~50	–	–	5~10	–	○	○	○
熱可塑性塑料		10~20	10~15	10~20	30~45	–	27~32	5~10	–	○	○	○

1.此表爲一般性的選定基準,根據使用條件有所變更。
2.選型時參照各用途絲錐選型基準表。
3.調質鋼()內爲CPM系列絲錐的切削速度。

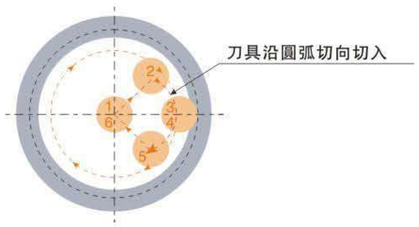
◎ 最適 ○適用 △可使用 –不可使用

切削速度Vc(m/min)和進給量f(mm/齒)推薦表
Cutting Speed Vc(m/min) And Feed f(mm/ tooth) Recommended Form

材料類別	編號	材料		布氏硬度HB	Vc(m/min)			進給量f(mm/tooth)				
					Helicool, HCR, HCC, Helical, Straight Deep Threading		Milli Pro	Helical	Straight	Deep Threading	Helicool HCC HCR	MilliPro
					VTH	VTS	VTH					
P 鋼	1	非合金鋼	低碳(C＝0.1–0.25%)	125	80–250	50–180	60–120	0.03–0.15	0.01–0.1	0.10–0.35	0.025–0.3	0.02–0.16
	2		中碳(C＝0.25–0.55%)	150	80–230	50–140	60–120	0.03–0.1	0.01–0.08	0.08–0.30	0.02–0.26	0.02–0.16
	3		高碳(C＝0.55–0.85%)	170	80–200	50–120	60–90	0.03–0.08	0.01–0.06	0.08–0.30	0.02–0.23	0.02–0.16
	4	低合金鋼 (合金含量≤5%)	非硬化	180	60–180	60–170	60–90	0.03–0.1	0.03–0.07	0.08–0.30	0.02–0.22	0.015–0.16
	5		淬硬	275	60–170	60–160	50–80	0.03–0.07	0.03–0.07	0.08–0.30	0.01–0.15	0.015–0.07
	6		淬硬	350	60–160	60–150	50–80	0.01–0.03	0.005–0.01	0.05–0.15	0.01–0.1	0.015–0.03
	7	高合金成鋼 (合金含量＞5%)	退火	200	40–100	40–90	50–80	0.03–0.05	0.01–0.03	0.10–0.24	0.01–0.13	0.015–0.09
	8		淬硬	325	30–80	30–70	50–80	0.01–0.03	0.005–0.01	0.05–0.15	0.01–0.12	0.015–0.03
	9	鑄鋼	低合金(合金含量＜5%)	200	80–250	70–200	70–90	0.03–0.1	0.01–0.03	0.08–0.30	0.01–0.15	0.015–0.16
	10		高合金(合金含量＞5%)	225	60–170	60–150	60–80	0.01–0.03	0.005–0.01	0.05–0.15	0.01–0.1	0.015–0.03
M 不銹鋼	11	不銹鋼 鐵素體	非硬化	200	60–150	50–140	60–90	0.04–0.1	0.01–0.05	0.11–0.35	0.01–0.13	0.015–0.16
	12		淬硬	330	60–120	50–110	50–80	0.01–0.05	0.005–0.01	0.05–0.24	0.01–0.12	0.015–0.03
	13	不銹鋼 奧氏體	奧氏體	180	60–140	60–130	60–90	0.04–0.1	0.007–0.02	0.11–0.35	0.01–0.12	0.015–0.16
	14		超級奧氏體	200	60–130	50–120	50–80	0.04–0.1	0.007–0.02	0.11–0.35	0.01–0.1	0.015–0.16
	15	不銹鋼 鐵素體鑄件	非硬化	200	60–160	50–150	60–90	0.04–0.1	0.01–0.03	0.11–0.35	0.01–0.15	0.015–0.16
	16		硬化	330	60–110	50–100	50–80	0.03–0.05	0.005–0.01	0.10–0.24	0.01–0.1	0.015–0.03
	17	不銹鋼 奧氏體鑄件	奧氏體	200	60–150	50–140	60–90	0.04–0.01	0.01–0.03	0.11–0.35	0.01–0.12	0.015–0.16
	18		淬硬	330	60–100	50–90	50–80	0.03–0.05	0.005–0.01	0.10–0.24	0.01–0.1	0.015–0.03
K 鑄鐵	28	可鍛 鑄鐵	鐵素體(短屑)	130	60–70	60–150	50–80	0.01–0.03	0.007–0.02	0.05–0.15	0.01–0.15	0.015–0.03
	29		珠光體(長屑)	230	60–150	80–100	60–90	0.03–0.05	0.005–0.01	0.10–0.24	0.01–0.12	0.02–0.12
	30	灰鑄鐵	低拉伸强度	180	70–160	50–140	70–100	0.025–0.1	0.007–0.02	0.09–0.25	0.01–0.13	0.02–0.16
	31		高拉伸强度	260	40–120	40–110	60–90	0.03–0.05	0.005–0.01	0.10–0.24	0.01–0.12	0.02–0.12
	32	球墨鑄鐵	鐵素體	160	40–110	40–100	70–100	0.05–0.1	0.007–0.02	0.09–0.25	0.01–0.13	0.02–0.16
	33		珠光體	260	40–100	40–90	60–90	0.03–0.05	0.005–0.01	0.10–0.24	0.01–0.12	0.02–0.12
N(K) Non– 非鐵金屬	34	鋁合金–鍛造件	未時效	60	200–300	150–250	60–250	0.1–0.25	0.05–0.15	0.12–0.40	0.04–0.4	0.025–0.15
	35		時效	100	150–250	100–220	60–150	0.1–0.2	0.03–0.1	0.10–0.32	0.03–0.36	0.025–0.16
	36	鋁合金	鑄件	75	100–200	80–150	60–250	0.1–0.2	0.05–0.15	0.10–0.32	0.03–0.36	0.025–0.16
	37		鑄件和時效的	90	120–220	90–160	60–150	0.1–0.15	0.03–0.1	0.10–0.30	0.1–0.3	0.015–0.16
	38	鋁合金	鑄件 硅含量13–22%	130	200–300	150–250	250	0.1–0.2	0.05–0.15	0.10–0.32	0.03–0.36	0.03–0.15
	39	銅和 銅合金	黃銅	90	200–300	150–250	60–250	0.1–0.25	0.05–0.15	0.12–0.40	0.04–0.43	0.025–0.16
	40		青銅和不含鉛銅	100	150–250	100–220	60–150	0.1–0.2	0.03–0.1	0.10–0.32	0.03–0.36	0.03–0.15
S(M) 抗熱,耐熱材料	19	高温 合金	退火的(鐵基)	200	30–60	30–50	60	0.04–0.1	0.007–0.02	0.11–0.35	0.007–0.09	0.015–0.16
	20		時效(鐵基)	280	20–50	20–40	50	0.01–0.03	0.005–0.01	0.05–0.15	0.006–0.07	0.015–0.03
	21		退火的(鎳或鈷基)	250	15–35	15–30	35	0.01–0.03	0.005–0.01	0.05–0.15	0.005–0.06	0.015–0.03
	22		時效(鎳或鈷基)	350	15–30	15–25	30	0.01–0.03	0.005–0.01	0.05–0.15	0.005–0.06	0.015–0.03
	23	鈦合金	純度99.5鈦99.5 Ti	400 Rm	40–80	30–70	30–50	0.03–0.05	0.007–0.02	0.10–0.24	0.006–0.07	0.015–0.07
	24		a+b合金	1050 Rm	20–50	20–45	25–35	0.03–0.05	0.007–0.02	0.10–0.24	0.006–0.07	0.015–0.7
H(K) 淬硬材料	25	高硬鋼	淬硬和退火	45–50 HRc	15–45	15–35	45	0.005–0.01	0.003–0.006	0.025–0.06	0.004–0.04	–
	26			51–55 HRc	15–40	15–30	30	0.005–0.01	0.003–0.006	0.025–0.06	0.004–0.04	–

建議:
刀具剛切入時的進給量f(mm/tooth)比正常螺紋切削時的進給量低70%。

例如:
螺紋切削進給量:0.3(mm/tooth)
刀具切入進給量:0.09(mm/tooth)



THREAD SERIES
螺紋系列

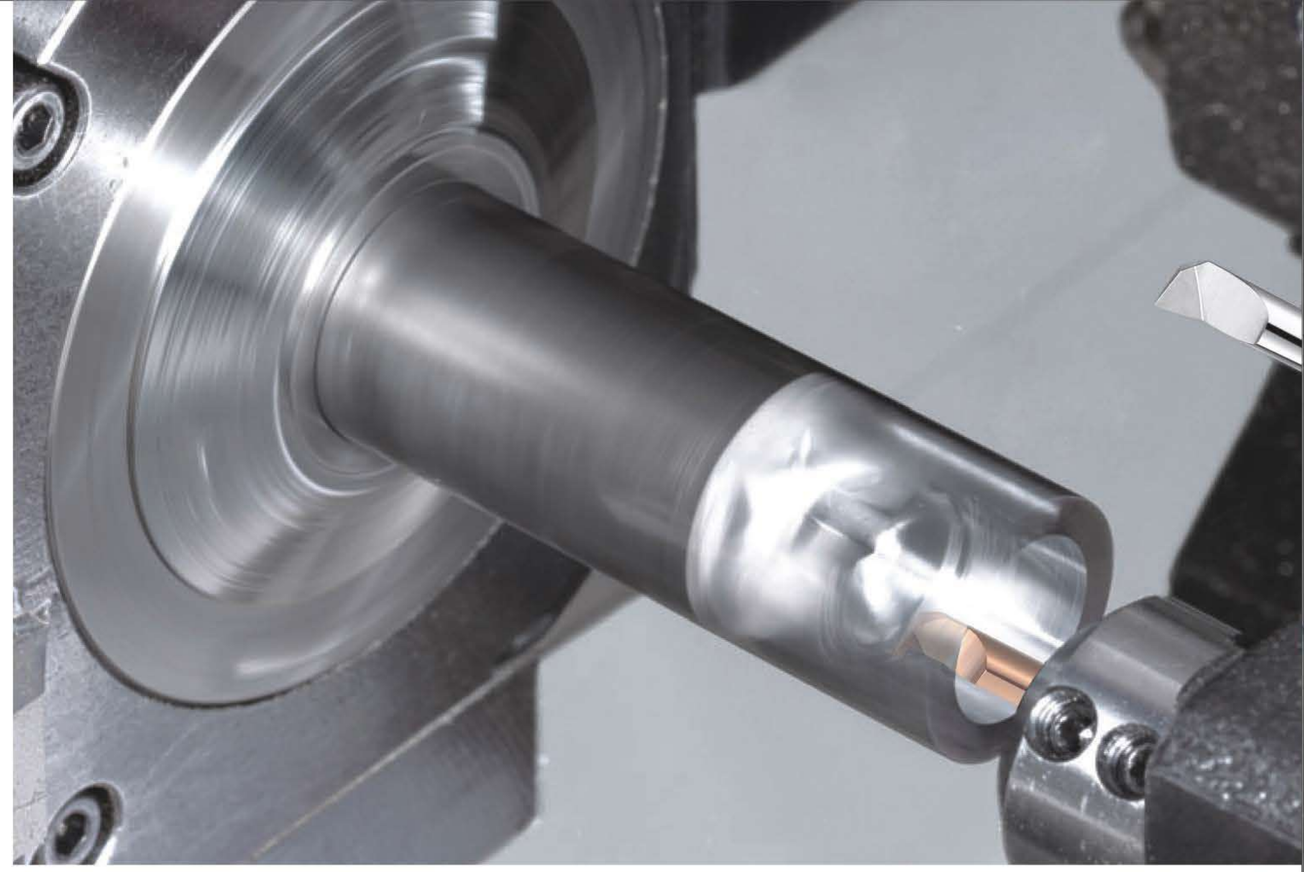
MilliPro HD
切削速度Vc(m/min)和進給(mm/tooth)
Cutting Speed Vc (m/min) And Feed (mm/tooth)

材料類別	編號	材料		布氏硬度 HB	Vc(m/min)	進給量f(mm/tooth) by 切削直徑 = D2				
					VTH	1.5–2.5	2.5–5	5–7	7–9	9–11
P 鋼	6	低合金鋼 (合金元素≤5%)	淬硬化處理	350	25–160	0.04	0.05	0.06	0.07	0.08
	8	高合金鋼 (合金元素＞5%)	淬硬化處理	325	25–180					
M 不銹鋼	12	鐵素體不銹鋼	淬硬化處理	330	25–120	0.04	0.05	0.06	0.07	0.08
	16	鐵素體鑄造不銹鋼	淬硬化處理	330	25–110					
	18	奧氏體鑄造不銹鋼	淬硬化處理	330	25–100					
K 鑄鐵	28	可鍛鑄造鐵	鐵素體(短屑)	130	25–160	0.05	0.06	0.07	0.08	0.1
	29		珠光體(長屑)	230	25–150	0.04	0.05	0.06	0.07	0.08
	30	灰鑄鐵	低抗拉强度	180	25–130	0.05	0.06	0.07	0.08	0.1
	31		高抗拉强度	260	25–100	0.04	0.05	0.06	0.07	0.08
	32	球墨鑄鐵	鐵素體(短屑)	160	25–125	0.04	0.05	0.06	0.07	0.09
	33		珠光體(長屑)	260	25–90	0.03	0.04	0.05	0.06	0.07
S(M) 抗熱,耐熱材料	21	高温合金	退火的(鎳或鈷基合金)	250	15–35	0.03	0.04	0.05	0.06	0.07
	22		時效(鎳或鈷基合金)	350	15–30					
	23	鈦合金	純度99.5Ti	400Rm	25–70					
	24		α+β 合金	1050Rm	25–50					
H(K) 淬硬材料	25	超硬鋼	淬硬化處理&熱處理	45–50HRc	25–70	0.04	0.05	0.06	0.07	0.08
	26			51–55HRc	25–60	0.03	0.04	0.05	0.06	0.07
	27			56–62HRc	25–50	0.02	0.03	0.04	0.05	0.06

HTC推薦材質，切削速度和進給
HTC Recommended Material, Cutting Speed And Feed

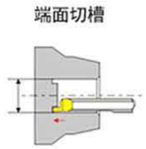
材料類別	材料		布氏硬度 HB	强度 (N–mm²)	Vc(m/min)		fb(mm/rev)		fz(mm/tooth)	
					VTH	VTS	≤6mm	≤12mm	≤6mm	≤12mm
K 鑄鐵	鑄鐵	灰鑄鐵	≤150	≤500	50–80	80–120	0.10–0.15	0.15–0.22	0.02–0.05	0.05–0.10
		灰鑄鐵,熱處理過	150–300	500–1000	50–80	80–120	0.10–0.15	0.15–0.22	0.02–0.05	0.05–0.10
		球墨鑄鐵	≤200	≤700	50–80	80–120	0.10–0.15	0.15–0.22	0.02–0.05	0.05–0.10
	銅	短屑,黃銅,青銅,紅銅	≤200	≤700	100–300	–	0.10–0.30	0.06–0.10	0.03–0.06	0.06–0.10
N(K) Non–非鐵金屬	鋁/鎂	鋁,純鎂	≤100	≤350	100–400	100–400	0.10–0.25	0.25–0.30	0.03–0.06	0.06–0.10
		鍛造鋁合金,延伸率(A5)＜14%	≤180	≤600	100–400	100–400	0.10–0.25	0.25–0.30	0.03–0.06	0.06–0.10
		鍛造鋁合金,延伸率(A5)≥14%	≤180	≤600	100–400	100–400	0.03–0.06	0.06–0.12	0.03–0.06	0.06–0.10
		鑄造鋁合金,硅含量＜10%	≤180	≤600	100–300	100–400	0.10–0.25	0.25–0.30	0.03–0.06	0.06–0.10
		鍛造鋁合金,硅含量≥10%	≤180	≤600	–	100–300	0.10–0.25	0.25–0.30	0.03–0.06	0.06–0.10
K	塑料	熱塑性塑料	–	–	60–120	60–120	0.10–0.25	0.25–0.30	0.03–0.06	0.06–0.10
		熱硬性塑料	–	–	60–100	60–100	0.10–0.25	0.25–0.30	0.03–0.06	0.06–0.10
		纖維塑料	–	–	60–80	60–80	0.10–0.15	0.15–0.22	0.02–0.05	0.05–0.10

Vc 切削速度(m/min)
fb (鑽孔)–每轉進給(mm/rev)
fz (銑削)–每齒進給(mm/tooth)

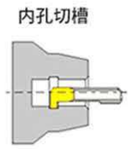


微小孔刀具系列
小孔切槽、镗孔、车螺纹解决方案，最小加工孔径1.6mm

切槽

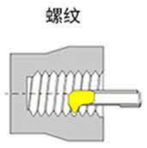

端面切槽 MFR


端面圆弧切槽 MZR

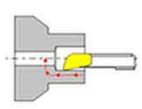

内孔切槽 MGR

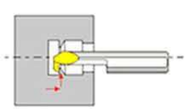

圆弧切槽 MKR

车螺纹

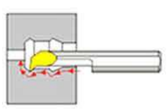

螺纹 MIR

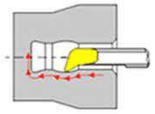
镗孔


车削内圆 MTR/MUR

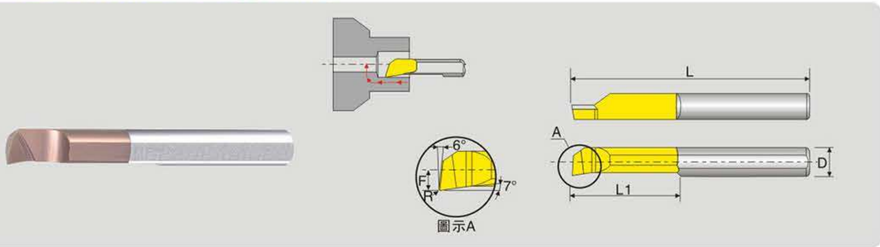

反向镗削/车削内圆 MXR

仿形加工


仿形车削 MQR


仿形车削 MPR

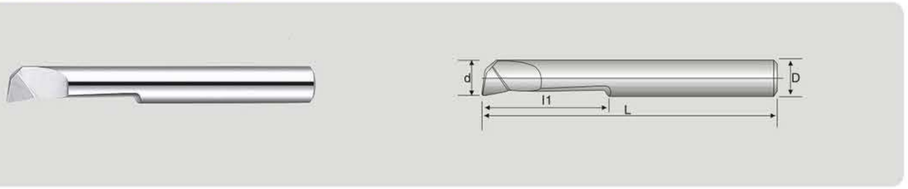
MUR型鏜孔加工 MUR type boring



訂貨型號 Order model	刃徑d Blade diameter d	有效長l1 Effective length l1	柄徑D Shank diameter D	總長L Total length L	R角 R angle	最小加工直徑 Minimum processing diameter
MUR1.5R0.1L10	1.5	10	4	50	0.1	1.6
MUR2R0.15L12	2	12	4	50	0.15	2.1
MUR2.5R0.15L15	2.5	15	4	50	0.15	2.6
MUR3R0.2L15	3	15	3	50	0.2	3.1
MUR3R0.2L15	3	15	4	50	0.2	3.1
MUR3.5R0.2L15	3.5	15	4	50	0.2	3.6
MUR4R0.2L15	4	15	4	50	0.2	4.1
MUR4R0.2L22	4	22	4	50	0.2	4.1
MUR5R0.2L22	5	22	5	50	0.2	5.1
MUR6R0.2L22	6	22	6	50	0.2	6.1
MUR6R0.2L25	6	25	6	50	0.2	6.1
MUR7R0.2L25	7	25	7	60	0.2	7.1
MUR8R0.2L25	8	25	8	60	0.2	8.1
MUR9R0.2L30	9	30	9	75	0.2	9.1
MUR10R0.2L30	10	30	10	75	0.2	10.1
MUR11R0.2L35	11	35	11	75	0.2	11.1
MUR12R0.2L35	12	35	12	75	0.2	12.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

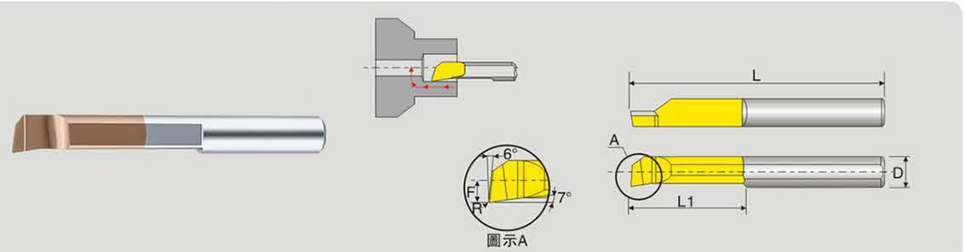
MUR型铝用镗刀
MUR Type Aluminium Boring Cutter



訂貨型號 Order model	刃徑d Blade diameter d	有效長l1 Effective length l1	柄徑D Shank diameter D	總長L Total length L	R角 R angle	最小加工直徑 Minimum processing diameter
MUR1.5R0.1L10	1.5	10	4	50	0.1	1.6
MUR2R0.15L12	2	12	4	50	0.15	2.1
MUR2.5R0.15L15	2.5	15	4	50	0.15	2.6
MUR3R0.2L15	3	15	3	50	0.2	3.1
MUR3R0.2L15	3	15	4	50	0.2	3.1
MUR3.5R0.2L15	3.5	15	4	50	0.2	3.6
MUR4R0.2L15	4	15	4	50	0.2	4.1
MUR4R0.2L22	4	22	4	50	0.2	4.1
MUR5R0.2L22	5	22	5	50	0.2	5.1
MUR6R0.2L22	6	22	6	50	0.2	6.1
MUR6R0.2L25	6	25	6	50	0.2	6.1
MUR7R0.2L25	7	25	7	60	0.2	7.1
MUR8R0.2L25	8	25	8	60	0.2	8.1
MUR9R0.2L30	9	30	9	75	0.2	9.1
MUR10R0.2L30	10	30	10	75	0.2	10.1
MUR11R0.2L35	11	35	11	75	0.2	11.1
MUR12R0.2L35	12	35	12	75	0.2	12.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

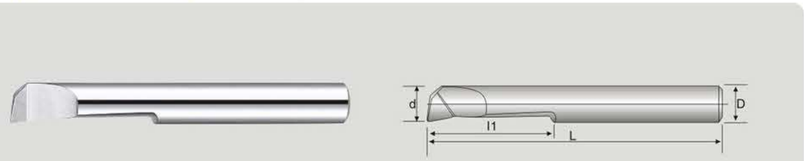
MTR型鏜孔加工 MTR type boring



訂貨型號 Order model	刃徑d Blade diameter d	有效長l1 Effective length l1	柄徑D Shank diameter D	總長L Total length L	R角 R angle	最小加工直徑 Minimum processing diameter
MTR1.5R0.1L10	1.5	10	4	50	0.1	1.6
MTR2R0.15L12	2	12	4	50	0.15	2.1
MTR2.5R0.15L15	2.5	15	4	50	0.15	2.6
MTR3R0.2L15	3	15	3	50	0.2	3.1
MTR3R0.2L15	3	15	4	50	0.2	3.1
MTR3.5R0.2L15	3.5	15	4	50	0.2	3.6
MTR4R0.2L15	4	15	4	50	0.2	4.1
MTR4R0.2L22	4	22	4	50	0.2	4.1
MTR5R0.2L22	5	22	5	50	0.2	5.1
MTR6R0.2L22	6	22	6	50	0.2	6.1
MTR6R0.2L25	6	25	6	50	0.2	6.1
MTR7R0.2L25	7	25	7	60	0.2	7.1
MTR8R0.2L25	8	25	8	60	0.2	8.1
MTR9R0.2L30	9	30	9	75	0.2	9.1
MTR10R0.2L30	10	30	10	75	0.2	10.1
MTR11R0.2L35	11	35	11	75	0.2	11.1
MTR12R0.2L35	12	35	12	75	0.2	12.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MTR型铝用镗刀
MTR Type Aluminium Boring Cutter

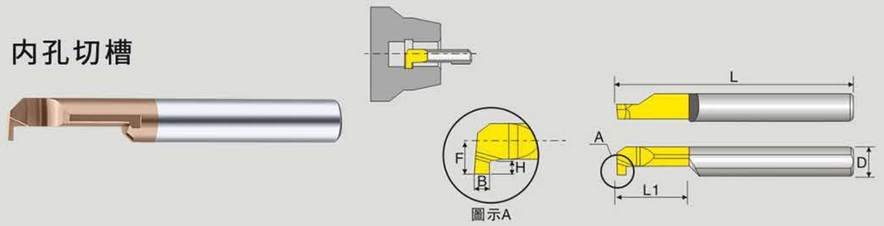


訂貨型號 Order model	刃徑d Blade diameter d	有效長l1 Effective length l1	柄徑D Shank diameter D	總長L Total length L	R角 R angle	最小加工直徑 Minimum processing diameter
MTR1.5R0.1L10	1.5	10	4	50	0.1	1.6
MTR2R0.15L12	2	12	4	50	0.15	2.1
MTR2.5R0.15L15	2.5	15	4	50	0.15	2.6
MTR3R0.2L15	3	15	3	50	0.2	3.1
MTR3R0.2L15	3	15	4	50	0.2	3.1
MTR3.5R0.2L15	3.5	15	4	50	0.2	3.6
MTR4R0.2L15	4	15	4	50	0.2	4.1
MTR4R0.2L22	4	22	4	50	0.2	4.1
MTR5R0.2L22	5	22	5	50	0.2	5.1
MTR6R0.2L22	6	22	6	50	0.2	6.1
MTR6R0.2L25	6	25	6	50	0.2	6.1
MTR7R0.2L25	7	25	7	60	0.2	7.1
MTR8R0.2L25	8	25	8	60	0.2	8.1
MTR9R0.2L30	9	30	9	75	0.2	9.1
MTR10R0.2L30	10	30	10	75	0.2	10.1
MTR11R0.2L35	11	35	11	75	0.2	11.1
MTR12R0.2L35	12	35	12	75	0.2	12.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MGR型鏜孔加工 MGR type boring

内孔切槽

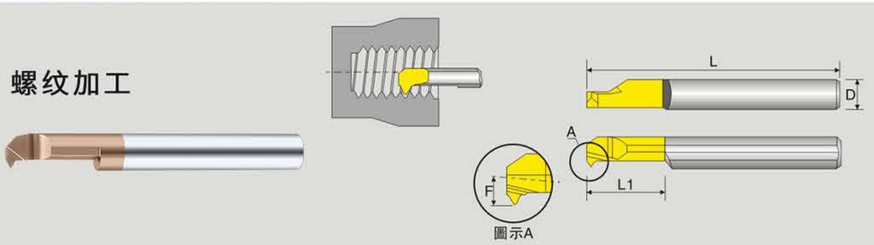


型号	刃径	有效长L1	柄径D	总长L	B	最小加工直径
MGR3B1.0L10	3	10	3	50	1.0	3.1
MGR3B1.5L10	3	10	3	50	1.5	3.1
MGR3B2.0L10	3	10	3	50	2.0	3.1
MGR4B1.0L10	4	10	4	50	1.0	4.1
MGR4B1.5L10	4	10	4	50	1.5	4.1
MGR4B2.0L10	4	10	4	50	2.0	4.1
MGR5B1.0L15	5	15	5	50	1.0	5.1
MGR5B1.5L15	5	15	5	50	1.5	5.1
MGR5B2.0L15	5	15	5	50	2.0	5.1
MGR6B1.0L15	6	15	6	50	1.0	6.1
MGR6B1.5L15	6	15	6	50	1.5	6.1
MGR6B2.0L15	6	15	6	50	2.0	6.1
MGR8B1.0L22	8	22	8	60	1.0	8.1
MGR8B1.5L22	8	22	8	60	1.5	8.1
MGR8B2.0L22	8	22	8	60	2.0	8.1
MGR8B3.0L22	8	22	8	60	3.0	8.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MIR型鏜孔加工 MIR type boring

螺纹加工

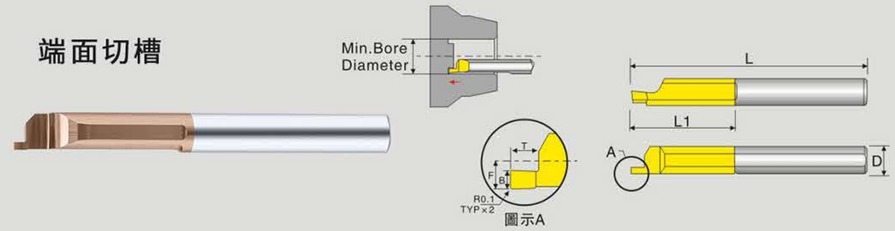


型号	刃径	有效长L1	柄径D	总长L	F	适用范围		最小加工直径
						mm	TPI	
MIR2L15A60	2	15	4	50	1.0	0.45-0.7	56-32	2.1
MIR3L15A55	3	15	3	50	1.4	0.5-1.0	48-24	3.2
MIR3L15A60	3	15	3	50	1.4	0.7-1.0	32-24	3.2
MIR4L15A55	4	15	4	50	1.8	0.5-1.0	48-24	4.1
MIR4L15A60	4	15	4	50	1.8	0.8-1.0	32-24	4.1
MIR5L15A55	5	15	5	50	2.3	0.5-1.25	48-20	5.1
MIR5L15A60	5	15	5	50	2.3	1.0-1.25	24-20	5.1
MIR6L15A55	6	15	6	50	2.8	0.5-1.5	48-16	6.1
MIR6L15A60	6	15	6	50	2.8	1.0-1.5	24-16	6.1
MIR8L15A55	8	22	8	60	3.6	1.5-2.0	48-14	8.1
MIR8L15A60	8	22	8	60	3.6	1.0-2.0	24-13	8.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MFR型鏜孔加工 MFR type boring

端面切槽

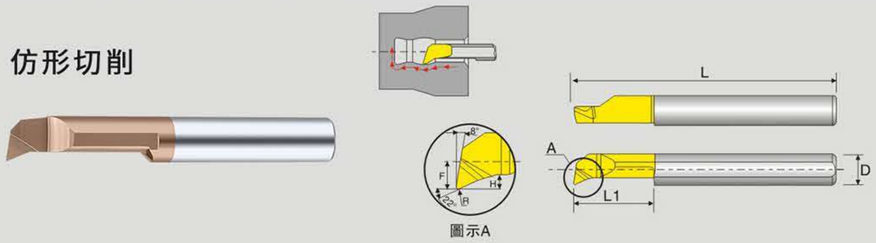


型号	刃径	有效长L1	柄径D	总长L	H/T	F	最小加工直径
MFR4B1.0L15	4	15	4	50	1.5	1.75	5.0
MFR5B1.0L22	5	22	5	50	1.5	2.25	6.0
MFR5B1.5L22	5	22	5	50	2.5	2.25	6.0
MFR5B2.0L22	5	22	5	50	3.0	2.25	6.0
MFR6B1.0L22	6	22	6	50	1.5	2.75	8.0
MFR6B1.5L22	6	22	6	50	2.5	2.75	8.0
MFR6B2.0L22	6	22	6	50	3.0	2.75	8.0

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MPR型鏜孔加工 MPR type boring

仿形切削



型号	刃径	有效长L1	柄径D	总长L	R角	H	F	最小加工直径
MPR2R0.15L10	3	10	4	50	0.15	0.5	0.8	2.1
MPR3R0.2L15	3	15	3	50	0.2	0.7	1.3	3.1
MPR4R0.2L15	4	15	4	50	0.2	0.8	1.7	4.1
MPR5R0.2L22	5	22	5	50	0.2	1.2	2.3	5.1
MPR6R0.2L22	6	22	6	50	0.2	1.4	2.8	6.1
MPR8R0.2L25	8	25	8	60	0.2	1.9	3.8	8.1

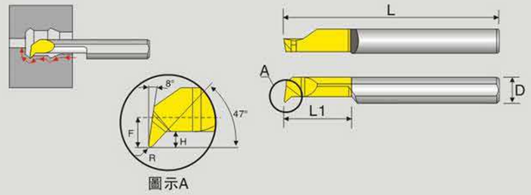
發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

BWiN

MQR型鐝孔加工 MQR type boring

仿形切削





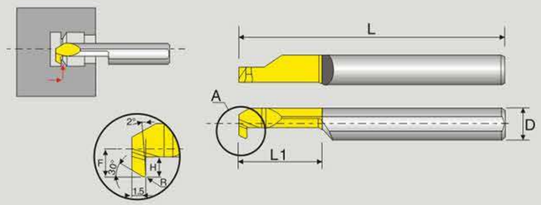
型号	刃径	有效长L1	柄径D	总长L	R角	H	F	最小加工直径
MQR4R0.2L15	4	15	4	50	0.2	0.8	1.8	4.1
MQR5R0.2L22	5	22	5	50	0.2	1.2	2.3	5.1
MQR6R0.2L22	6	22	6	50	0.2	1.4	2.8	6.1
MQR8R0.2L27	8	27	8	60	0.2	2.0	2.8	8.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MXR型鐝孔加工 MXR type boring

反向镗削/车削内圆





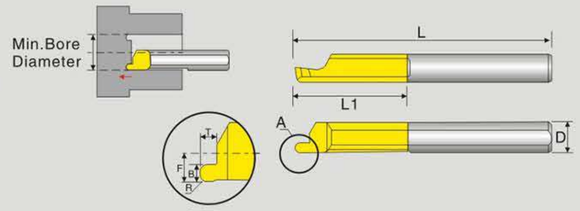
型号	刃径	有效长L1	柄径D	总长L	R角	H/T	F	最小加工直径
MXR4R0.1 L10	4	10	4	50	0.1	0.5	1.3	3.1
MXR4R0.15L15	4	15	4	50	0.15	0.8	1.6	4.1
MXR5R0.2 L22	5	22	5	50	0.2	1.0	2.2	5.1
MXR6R0.2 L22	6	22	6	50	0.2	1.8	2.8	6.1

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MZR型鐝孔加工 MZR type boring

端面圆弧切槽/仿形加工





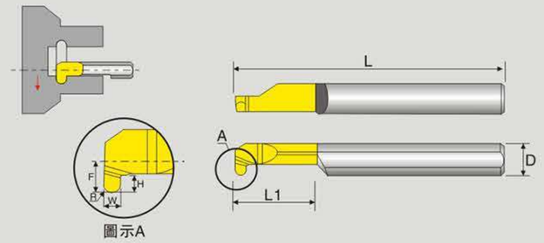
型号	柄径D	有效长L1	总长L	R角	W	H/T	F	最小加工直径
MZR4R0.5 L15	4	15	50	0.5	1.0	1.2	1.95	5.0
MZR4R0.75L15	4	15	50	0.75	1.5	1.5	1.95	5.0
MZR5R0.5 L22	5	22	50	0.5	1.2	1.2	2.45	6.0
MZR5R0.75L22	5	22	50	0.75	1.5	1.5	2.45	6.0
MZR5R1.0 L22	5	22	50	1.0	2.5	2.5	2.45	6.0
MZR6R0.5 L22	6	22	50	0.5	1.2	1.2	2.95	8.0
MZR6R0.75L22	6	22	50	0.75	1.5	1.5	2.95	8.0
MZR6R1.0 L22	6	22	50	1.0	2.5	2.5	2.95	8.0

發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

MKR型鐝孔加工 MKR type boring

圆弧切槽/仿形加工

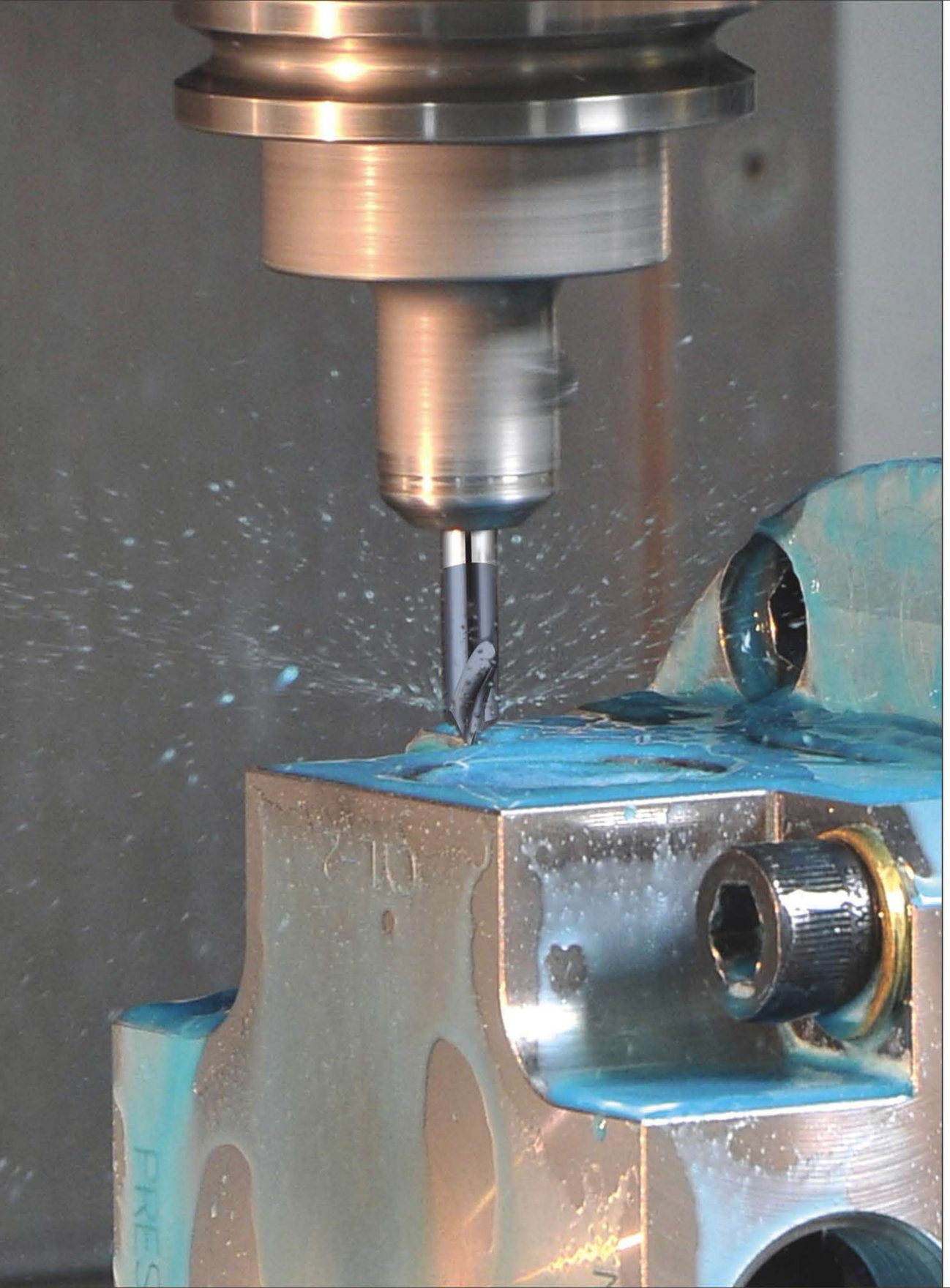




型号	柄径D	有效长L1	总长L	R角	W	H/T	F	最小加工直径
MKR4R0.5 L10	4	10	50	0.5	1.0	1.0	1.7	4.1
MKR4R0.75L10	4	10	50	0.75	1.5	1.0	1.7	4.1
MKR5R0.5 L15	5	15	50	0.5	1.0	1.2	2.3	5.1
MXR5R0.75L15	5	15	50	0.75	1.5	1.2	2.3	5.1
MKR5R1.0 L15	5	15	50	1.0	2.0	1.2	2.3	6.1
MXR6R0.5 L15	6	15	50	0.5	1.0	1.6	2.8	6.1
MKR6R0.75L15	6	15	50	0.75	1.5	1.6	2.8	6.1
MXR6R1.0 L15	6	15	50	1.0	2.0	1.6	2.8	6.1

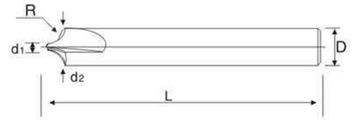
發貨默認圓柄,如需平柄請標明 Default round handle for shipment. If flat handle is needed, please mark it.

BWiN



2刃/4刃內R銑刀
2 Edge R Edge /4 Milling Cutter

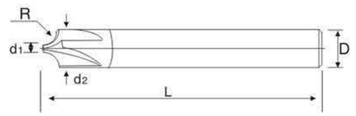




R徑	刃徑d2	底刃直徑d1	柄徑D	全長L	刃數Z
R0.5	4	3	4	50	2/4
R0.75	4	2.5	4	50	2/4
R1.0	4	2	4	50	2/4
R1.25	6	3.5	6	50	2/4
R1.5	6	3	6	50	2/4
R1.75	6	2.5	6	50	2/4
R2.0	6	2	6	50	2/4
R2.5	8	3	8	60	2/4
R3.0	8	2	8	60	2/4
R3.5	10	3	10	75	2/4
R4.0	10	2	10	75	2/4
R5.0	12	2	12	75	2/4
R6.0	14	2	14	75	2/4

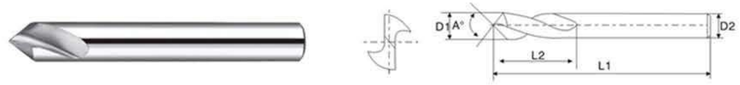
2刃/4刃塗層內R銑刀
2 Edge /4 Blade Coated R Milling Cutter





R徑	刃徑d2	底刃直徑d1	柄徑D	全長L	刃數Z
R0.5	4	3	4	50	2/4
R0.75	4	2.5	4	50	2/4
R1.0	4	2	4	50	2/4
R1.25	6	3.5	6	50	2/4
R1.5	6	3	6	50	2/4
R1.75	6	2.5	6	50	2/4
R2.0	6	2	6	50	2/4
R2.5	8	3	8	60	2/4
R3.0	8	2	8	60	2/4
R3.5	10	3	10	75	2/4
R4.0	10	2	10	75	2/4
R5.0	12	2	12	75	2/4
R6.0	14	2	14	75	2/4

定心鑽
Centering Drill



刃徑D1	頂角(A°)	槽長L2	柄徑D2	總長L1
1	60°90°120°	3	4	50
1.5	60°90°120°	4.5	4	50
2	60°90°120°	6	2	50
2	60°90°120°	6	4	50
2.5	60°90°120°	8	4	50
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	10	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
13	60°90°120°	30	13	100
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100
3	60°90°120°	8	3	100
4	60°90°120°	10	4	100
5	60°90°120°	10	5	100
6	60°90°120°	15	6	100
7	60°90°120°	16	7	100
8	60°90°120°	17	8	100
9	60°90°120°	19	9	100
10	60°90°120°	20	10	100
11	60°90°120°	23	11	100
12	60°90°120°	25	12	100
5	60°90°120°	15	5	150
6	60°90°120°	18	6	150
8	60°90°120°	24	8	150
10	60°90°120°	30	10	150
12	60°90°120°	36	12	150
14	60°90°120°	42	14	150
16	60°90°120°	48	16	150
20	60°90°120°	60	20	150

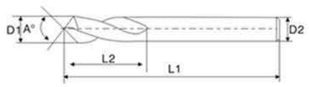
塗層定心鑽
Coating Centering Drill



刃徑D1	頂角(A°)	槽長L2	柄徑D2	總長L1
1	60°90°120°	3	4	50
1.5	60°90°120°	4.5	4	50
2	60°90°120°	6	2	50
2	60°90°120°	6	4	50
2.5	60°90°120°	8	4	50
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	10	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
13	60°90°120°	30	13	100
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100
3	60°90°120°	8	3	100
4	60°90°120°	10	4	100
5	60°90°120°	10	5	100
6	60°90°120°	15	6	100
7	60°90°120°	16	7	100
8	60°90°120°	17	8	100
9	60°90°120°	19	9	100
10	60°90°120°	20	10	100
11	60°90°120°	23	11	100
12	60°90°120°	25	12	100
5	60°90°120°	15	5	150
6	60°90°120°	18	6	150
8	60°90°120°	24	8	150
10	60°90°120°	30	10	150
12	60°90°120°	36	12	150
14	60°90°120°	42	14	150
16	60°90°120°	48	16	150
20	60°90°120°	60	20	150

塗層定心鑽
Coating Centering Drill

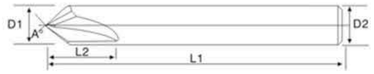




刃徑D1	頂角(A°)	槽長L2	柄徑D2	總長L1
1	60°90°120°	3	4	50
1.5	60°90°120°	4.5	4	50
2	60°90°120°	6	2	50
2	60°90°120°	6	4	50
2.5	60°90°120°	8	4	50
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	10	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
13	60°90°120°	30	13	100
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100
3	60°90°120°	8	3	100
4	60°90°120°	10	4	100
5	60°90°120°	10	5	100
6	60°90°120°	15	6	100
7	60°90°120°	16	7	100
8	60°90°120°	17	8	100
9	60°90°120°	19	9	100
10	60°90°120°	20	10	100
11	60°90°120°	23	11	100
12	60°90°120°	25	12	100
5	60°90°120°	15	5	150
6	60°90°120°	18	6	150
8	60°90°120°	24	8	150
10	60°90°120°	30	10	150
12	60°90°120°	36	12	150
14	60°90°120°	42	14	150
16	60°90°120°	48	16	150
20	60°90°120°	60	20	150

2刃/3刃倒角刀
2 /3 edge chamfering cutter blade

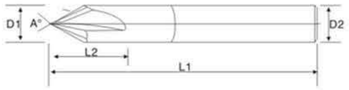




刃徑D1	頂角(A°)	槽長L2	柄徑D2	總長L1
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	12	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100

2刃/3刃塗層倒角刀
2 Edge /3 Edge Chamfering Knife Coating

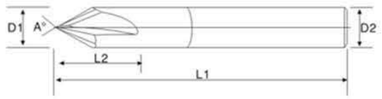




刃徑D1	頂角(A°)	槽長L2	柄徑D2	總長L1
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	12	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100

2刃/3刃铝用涂层倒角刀
2/3 EDGE ALUMINIUM COATED CHAMFERING TOOL

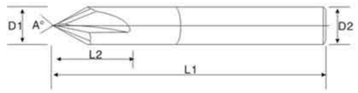




刃径D1	顶角(A°)	槽长L2	柄径D2	總長L1
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	12	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100

2刃/3刃塗層倒角刀
2 Edge /3 Edge Chamfering Knife Coating

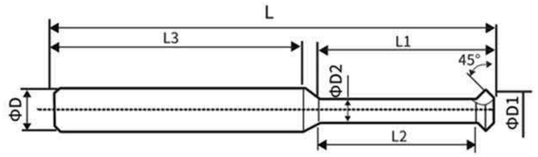


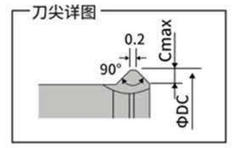


刃径D1	顶角(A°)	槽长L2	柄径D2	總長L1
3	60°90°120°	8	3	50
4	60°90°120°	10	4	50
5	60°90°120°	12	5	50
6	60°90°120°	15	6	50
7	60°90°120°	16	7	60
8	60°90°120°	17	8	60
9	60°90°120°	19	9	75
10	60°90°120°	20	10	75
11	60°90°120°	23	11	75
12	60°90°120°	25	12	75
14	60°90°120°	30	14	100
16	60°90°120°	35	16	100
18	60°90°120°	38	18	100
20	60°90°120°	40	20	100

钨钢上下倒角刀
TUNGSTEN STEEL UPPER AND LOWER CHAMFERING CUTTER

Wc = 87 Co = 12 HV30 = 1700 抗折 = 4000N/mm²m 硬度 = 92.5 粒徑 = 0.6 η m



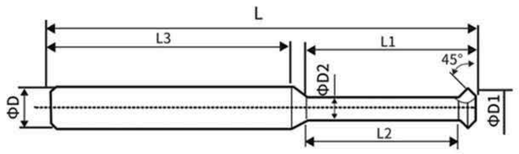


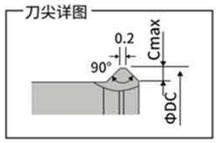


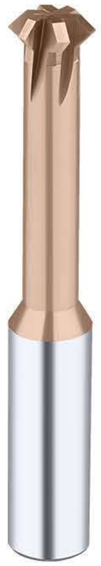
刃径D1	避空直径	柄径D	总长L	有效长L1	L2	L3	Cmax	角度	刃数
3	1.8	3	50	12	11.4	27.0	0.6	60°/90°	3
4	2.4	4	50	16	15.2	27.5	0.8	60°/90°	3
5	2.8	5	50	20	18.9	28.0	1.1	60°/90°	3
6	3.0	6	58	24	22.5	33.5	1.5	60°/90°	3
8	4.8	8	64	28	24.6	35.0	1.6	60°/90°	4
10	6.4	10	73	35	31.2	38.0	1.8	60°/90°	5
12	7.8	12	84	42	37.6	40.0	2.1	60°/90°	6

钨钢涂层上下倒角刀
TOP AND BOTTOM CHAMFERING KNIVES COATED WITH TUNGSTEN STEEL

Wc = 87 Co = 12 HV30 = 1700 抗折 = 4000N/mm²m 硬度 = 92.5 粒徑 = 0.6 η m



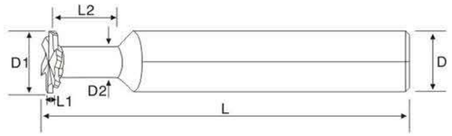




刃径D1	避空直径	柄径D	总长L	有效长L1	L2	L3	Cmax	角度	刃数
3	1.8	3	50	12	11.4	27.0	0.6	60°/90°	3
4	2.4	4	50	16	15.2	27.5	0.8	60°/90°	3
5	2.8	5	50	20	18.9	28.0	1.1	60°/90°	3
6	3.0	6	58	24	22.5	33.5	1.5	60°/90°	3
8	4.8	8	64	28	24.6	35.0	1.6	60°/90°	4
10	6.4	10	73	35	31.2	38.0	1.8	60°/90°	5
12	7.8	12	84	42	37.6	40.0	2.1	60°/90°	6

T型銑刀
Extrusion Taps

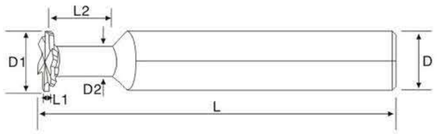




刃徑d1	厚度L1	頸徑d2	頸長L2	全長L	刃數
2	0.5/1/2.5	1	6	50	4
3	1/1.5/2/2.5/3	1.5	6	50	4
4	1/1.5/2/2.5/3	2	6	50	4
5	1/1.5/2/2.5/3	2.5	10	50	4
6	1/1.5/2/2.5/3	3	10	50	4
7	1/1.5/2/2.5/3	3.5	12	60	4
8	1/1.5/2/2.5/3	4	12	60	6
9	1/1.5/2/2.5/3	4.5	15	60	6
10	1/1.5/2/2.5/3	5	15	60	6
11	1/1.5/2/2.5/3	5.5	15	60	6
12	1/1.5/2/2.5/3/4	6	15	60	6
14	1/1.5/2/2.5/3/4/5	7	20	65	6
16	1/1.5/2/2.5/3/4/5	8	20	65	6
20	1/1.5/2/2.5/3/4/5/6	10	25	65	6

涂层T型铣刀
COATED T-TYPE MILLING CUTTER

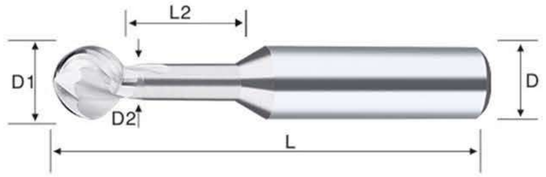




刃徑d1	厚度L1	頸徑d2	頸長L2	全長L	刃數
2	1	1	6	50	4
3	1/1.5/2/2.5/3	1.5	6	50	4
4	1/1.5/2/2.5/3	2	6	50	4
5	1/1.5/2/2.5/3	2.5	10	50	4
6	1/1.5/2/2.5/3	3	10	50	4
7	1/1.5/2/2.5/3	3.5	12	60	4
8	1/1.5/2/2.5/3	4	12	60	6
9	1/1.5/2/2.5/3	4.5	15	60	6
10	1/1.5/2/2.5/3	5	15	60	6
11	1/1.5/2/2.5/3	5.5	15	60	6
12	1/1.5/2/2.5/3/4	6	15	60	6
14	1/1.5/2/2.5/3/4/5	7	20	65	6
16	1/1.5/2/2.5/3/4/5	8	20	65	6
20	1/1.5/2/2.5/3/4/5/6	10	25	65	6

钨钢拱形铣刀
TUNGSTEN STEEL ARCH MILLING CUTTER

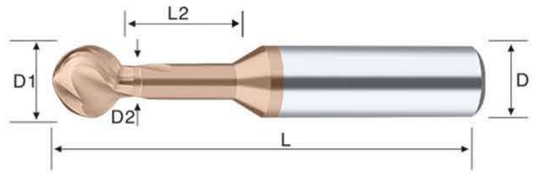
Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6 η m



刃径D1	避空长度	柄径D	全长L	避空径	R径	刃数
4	6	4	50	2	R2	2
6	10	6	50	3	R3	2
8	12	8	60	4	R4	2
10	15	10	60	5	R5	2
12	15	12	60	6	R6	2

钨钢涂层拱形铣刀
ARC MILLING CUTTER COATED WITH TUNGSTEN STEEL

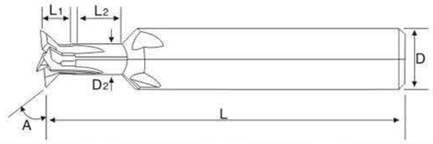
Wc=87 Co=12 HV30=1700 抗折=4000N/mm²m 硬度=92.5 粒徑=0.6 η m



刃径D1	避空长度	柄径D	全长L	避空径	R径	刃数
4	6	4	50	2	R2	2
6	10	6	50	3	R3	2
8	12	8	60	4	R4	2
10	15	10	60	5	R5	2
12	15	12	60	6	R6	2

燕尾銑刀
Dovetail Cutter

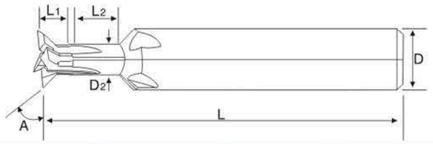




刃徑d1	角度(A°)	頸徑d2	頸長L2	刃高L1	柄徑D	全長L	刃數
2	45°	1	3	0.5	4	50	4
3	45°	1.5	5	0.7	3	50	4
4	45°	2	6	1	4	50	4
5	45°	2.5	8	1.2	5	50	4
6	45°	3	8	1.5	6	50	4
7	45°	3.5	10	1.7	7	60	4
8	45°	4	10	2	8	60	4
9	45°	4.5	15	2.2	9	60	4
10	45°	5	15	2.5	10	60	4
11	45°	5.5	15	2.7	11	60	4
12	45°	6	15	3	12	60	4
14	45°	7	20	3.5	14	65	4
16	45°	8	20	4	16	65	4
20	45°	10	25	5	20	65	4
2	60°	1	3	0.9	4	50	4
3	60°	1.5	5	1.4	3	50	4
4	60°	2	6	1.7	4	50	4
5	60°	2.5	8	2.1	5	50	4
6	60°	3	8	2.6	6	50	4
7	60°	3.5	10	3	7	60	4
8	60°	4	10	3.4	8	60	4
9	60°	4.5	15	3.8	9	60	4
10	60°	5	15	4.3	10	60	4
11	60°	5.5	15	4.7	11	60	4
12	60°	6	15	5.2	12	60	4
14	60°	7	20	6.1	14	65	4
16	60°	8	20	6.9	16	65	4
20	60°	10	25	8.6	20	65	4
2	75°	1	3	2	4	50	4
3	75°	1.5	5	2.7	3	50	4
4	75°	2	6	3.7	4	50	4
5	75°	2.5	8	4.6	5	50	4
6	75°	3	8	5.5	6	50	4
7	75°	3.5	10	6.5	7	60	4
8	75°	4	10	7.4	8	60	4
9	75°	4.5	15	8.3	9	60	4
10	75°	5	15	9.3	10	60	4
11	75°	5.5	15	10.2	11	60	4
12	75°	6	15	11.1	12	60	4
14	75°	7	20	13	14	65	4
16	75°	8	20	14.9	16	65	4
20	75°	10	25	18.6	20	65	4

涂层燕尾铣刀
COATED DOVETAIL CUTTER

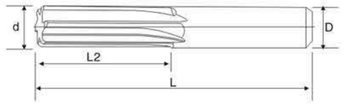




刃徑d1	角度(A°)	頸徑d2	頸長L2	刃高L1	柄徑D	全長L	刃數
2	45°	1	3	0.5	4	50	4
3	45°	1.5	5	0.7	3	50	4
4	45°	2	6	1	4	50	4
5	45°	2.5	8	1.2	5	50	4
6	45°	3	8	1.5	6	50	4
7	45°	3.5	10	1.7	7	60	4
8	45°	4	10	2	8	60	4
9	45°	4.5	15	2.2	9	60	4
10	45°	5	15	2.5	10	60	4
11	45°	5.5	15	2.7	11	60	4
12	45°	6	15	3	12	60	4
14	45°	7	20	3.5	14	65	4
16	45°	8	20	4	16	65	4
20	45°	10	25	5	20	65	4
2	60°	1	3	0.9	4	50	4
3	60°	1.5	5	1.4	3	50	4
4	60°	2	6	1.7	4	50	4
5	60°	2.5	8	2.1	5	50	4
6	60°	3	8	2.6	6	50	4
7	60°	3.5	10	3	7	60	4
8	60°	4	10	3.4	8	60	4
9	60°	4.5	15	3.8	9	60	4
10	60°	5	15	4.3	10	60	4
11	60°	5.5	15	4.7	11	60	4
12	60°	6	15	5.2	12	60	4
14	60°	7	20	6.1	14	65	4
16	60°	8	20	6.9	16	65	4
20	60°	10	25	8.6	20	65	4
2	75°	1	3	2	4	50	4
3	75°	1.5	5	2.7	3	50	4
4	75°	2	6	3.7	4	50	4
5	75°	2.5	8	4.6	5	50	4
6	75°	3	8	5.5	6	50	4
7	75°	3.5	10	6.5	7	60	4
8	75°	4	10	7.4	8	60	4
9	75°	4.5	15	8.3	9	60	4
10	75°	5	15	9.3	10	60	4
11	75°	5.5	15	10.2	11	60	4
12	75°	6	15	11.1	12	60	4
14	75°	7	20	13	14	65	4
16	75°	8	20	14.9	16	65	4
20	75°	10	25	18.6	20	65	4

直槽鉸刀
Straight Fluted Reamer

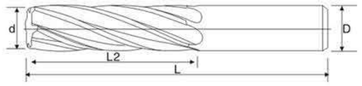




直徑d	槽長L2	柄徑D	總長L	直槽齒數	螺旋齒數
1.0-2.0	20	1.0-2.0	50	4	4
2.1-3.0	25	2.1-3.0	50	4	4
3.1-4.0	25	3.1-4.0	50	4	4
4.1-5.0	30	4.1-5.0	60	4	4
5.1-6.0	30	5.1-6.0	60	6	6
6.1-7.0	35	6.1-7.0	70	6	6
7.1-8.0	35	7.1-8.0	70	6	6
8.5	35	8.5	70	6	6
9.0	35	9.0	70	6	6
9.5	35	9.5	70	6	6
10	35	10	70	6	6
10.5	35	10.5	70	6	6
11	35	11	70	6	6
11.5	40	11.5	80	6	6
12	40	12	80	6	6
12.5	40	12.5	80	4	6
2	50	2	100	4	4
2.5	50	2.5	100	4	4
3	50	3	100	4	4
4	50	4	100	4	4
5	60	5	100	4	4
5.5	60	5.5	100	6	4
6	60	6	100	6	6
7	60	7	100	6	6
8	60	8	100	6	6
9	60	9	100	6	6
10	60	10	100	6	6
11	60	11	100	6	6
12	60	12	100	6	6
12.5	60	12.5	100	6	6
13	60	13	100	6	6
14	60	14	100	6	6
15	60	15	100	6	6
16	60	16	100	6	6
17	60	17	100	6	6
18	60	18	100	6	6
19	60	19	100	6	6
20	60	20	100	6	6
6	110	6	150	6	6
7	110	7	150	6	6
8	110	8	150	6	6
10	110	10	150	6	6
12	110	12	150	6	6
12.5	110	12.5	150	6	6
13	110	13	150	6	6
14	110	14	150	6	6
15	110	15	150	6	6
16	110	16	150	6	6
17	110	17	150	6	6
18	110	18	150	6	6
19	110	19	150	6	6
20	110	20	150	6	6

螺旋鉸刀
Spiral Reamer

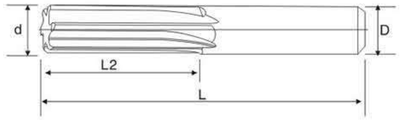




直徑d	槽長L2	柄徑D	總長L	直槽齒數	螺旋齒數
1.0-2.0	20	1.0-2.0	50	4	4
2.1-3.0	25	2.1-3.0	50	4	4
3.1-4.0	25	3.1-4.0	50	4	4
4.1-5.0	30	4.1-5.0	60	4	4
5.1-6.0	30	5.1-6.0	60	6	6
6.1-7.0	35	6.1-7.0	70	6	6
7.1-8.0	35	7.1-8.0	70	6	6
8.5	35	8.5	70	6	6
9.0	35	9.0	70	6	6
9.5	35	9.5	70	6	6
10	35	10	70	6	6
10.5	35	10.5	70	6	6
11	35	11	70	6	6
11.5	40	11.5	80	6	6
12	40	12	80	6	6
12.5	40	12.5	80	4	6
2	50	2	100	4	4
2.5	50	2.5	100	4	4
3	50	3	100	4	4
4	50	4	100	4	4
5	60	5	100	4	4
5.5	60	5.5	100	6	4
6	60	6	100	6	6
7	60	7	100	6	6
8	60	8	100	6	6
9	60	9	100	6	6
10	60	10	100	6	6
11	60	11	100	6	6
12	60	12	100	6	6
12.5	60	12.5	100	6	6
13	60	13	100	6	6
14	60	14	100	6	6
15	60	15	100	6	6
16	60	16	100	6	6
17	60	17	100	6	6
18	60	18	100	6	6
19	60	19	100	6	6
20	60	20	100	6	6
6	110	6	150	6	6
7	110	7	150	6	6
8	110	8	150	6	6
10	110	10	150	6	6
12	110	12	150	6	6
12.5	110	12.5	150	6	6
13	110	13	150	6	6
14	110	14	150	6	6
15	110	15	150	6	6
16	110	16	150	6	6
17	110	17	150	6	6
18	110	18	150	6	6
19	110	19	150	6	6
20	110	20	150	6	6

涂层直槽铰刀
COATED STRAIGHT CHANNEL REAMER

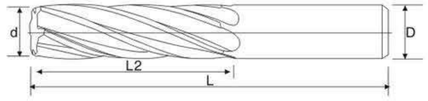




直徑d	槽長L2	柄徑D	總長L	直槽齒數	螺旋齒數
1.0	20	1.0	50	4	4
1.5	20	1.5	50	4	4
2.0	20	2.0	50	4	4
2.5	25	2.5	50	4	4
3.0	25	3.0	50	4	4
3.5	25	3.5	50	4	4
4.0	25	4.0	50	4	4
4.5	30	4.5	60	4	4
5.0	30	5.0	60	4	4
5.5	30	5.5	60	4	4
6.0	30	6.0	60	6	6
6.5	35	6.5	70	6	6
7.0	35	7.0	70	6	6
7.5	35	7.5	70	6	6
8.0	35	8.0	70	6	6
8.5	35	8.5	70	6	6
9.0	35	9.0	70	6	6
9.5	35	9.5	70	6	6
10	35	10	70	6	6
10.5	35	10.5	70	6	6
11	35	11	70	6	6
12	40	12	80	6	6
12.5	40	12.5	80	6	6
3	50	3	100	4	4
4	50	4	100	4	4
5	60	5	100	4	4
6	60	6	100	6	6
7	60	7	100	6	6
8	60	8	100	6	6
9	60	9	100	6	6
10	60	10	100	6	6
11	60	11	100	6	6
12	60	12	100	6	6
12.5	60	12.5	100	6	6
13	60	13	100	6	6
14	60	14	100	6	6
15	60	15	100	6	6
16	60	16	100	6	6
17	60	17	100	6	6
18	60	18	100	6	6
19	60	19	100	6	6
20	60	20	100	6	6

涂层螺旋铰刀
COATED SPIRAL REAMER

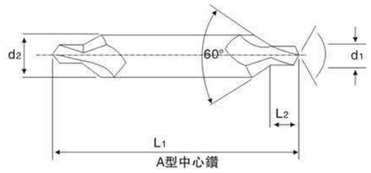




直徑d	槽長L2	柄徑D	總長L	直槽齒數	螺旋齒數
1.0	20	1.0	50	4	4
1.5	20	1.5	50	4	4
2.0	20	2.0	50	4	4
2.5	25	2.5	50	4	4
3.0	25	3.0	50	4	4
3.5	25	3.5	50	4	4
4.0	25	4.0	50	4	4
4.5	30	4.5	60	4	4
5.0	30	5.0	60	4	4
5.5	30	5.5	60	4	4
6.0	30	6.0	60	6	6
6.5	35	6.5	70	6	6
7.0	35	7.0	70	6	6
7.5	35	7.5	70	6	6
8.0	35	8.0	70	6	6
8.5	35	8.5	70	6	6
9.0	35	9.0	70	6	6
9.5	35	9.5	70	6	6
10	35	10	70	6	6
10.5	35	10.5	70	6	6
11	35	11	70	6	6
12	40	12	80	6	6
12.5	40	12.5	80	6	6
3	50	3	100	4	4
4	50	4	100	4	4
5	60	5	100	4	4
6	60	6	100	6	6
7	60	7	100	6	6
8	60	8	100	6	6
9	60	9	100	6	6
10	60	10	100	6	6
11	60	11	100	6	6
12	60	12	100	6	6
12.5	60	12.5	100	6	6
13	60	13	100	6	6
14	60	14	100	6	6
15	60	15	100	6	6
16	60	16	100	6	6
17	60	17	100	6	6
18	60	18	100	6	6
19	60	19	100	6	6
20	60	20	100	6	6

A型中心鑽
A Type Center Drill

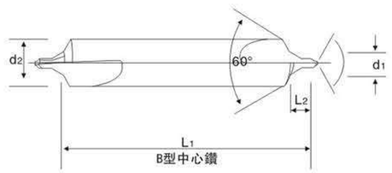




規格			
d1	d2	L1	L2
0.5	4	40	1.1
0.8	4	40	1.4
1	4	40	1.6
1.5	4	40	2.1
2	6	55	2.6
2.5	6	50	3.1
3	8	55	4
3.15	8	55	4
4	10	60	5
5	10	60	6
6	12	75	8
6.3	12	75	8
1	4	100	1.6
1.5	4	100	2.1
2	6	100	2.6
2.5	6	100	3.1
3	8	100	4
4	10	100	5
5	10	100	6
6	12	100	8

B型中心鑽
B Type Center Drill

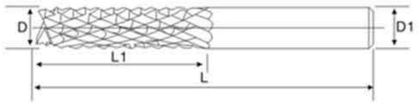




規格			
d1	d2	L1	L2
1	4	40	1.6
1.5	6	50	2.1
2	8	50	2.6
2.5	10	60	3.1
3	12	60	4
3.15	12	60	4
4	14	70	5
5	18	75	6
6	20	80	8
6.3	20	80	8

玉米銑刀
Corn Milling Cutter

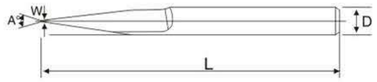




刃徑 D1	刃長 L1	柄徑 D	總長L
0.5	3	3.175	38
0.6	4	3.175	38
0.7	5	3.175	38
0.8	5.5	3.175	38
0.9	7	3.175	38
1.0	7	3.175	38
1.1	7	3.175	38
1.2	7	3.175	38
1.3	8	3.175	38
1.4	8.5	3.175	38
1.5	8.5	3.175	38
1.6	8.5	3.175	38
1.7	8.5	3.175	38
1.8	10.5	3.175	38
1.9	10.5	3.175	38
2.0	10.5	3.175	38
2.1	10.5	3.175	38
2.2	10.5	3.175	38
2.3	10.5	3.175	38
2.4	10.5	3.175	38
2.5	10.5	3.175	38
3.0	12	3.175	38
3.175	12	3.175	38
4	17	4	50
4	22	4	50
6	22	6	50
8	25	8	60
10	32	10	75
12	32	12	75

整體硬質合金雕刻刀
The Whole Hard Alloy Knife

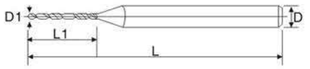




規格			
角度（A°）	刀尖（W）	柄径（D）	总长（L）
20°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	3.175	40
30°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	3.175	40
45°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	3.175	40
60°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	3.175	40
90°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	3.175	40
120°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	3.175	40
20°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	4	45
30°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	4	45
45°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	4	45
60°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	4	45
90°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	4	45
20°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	6	50
30°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	6	50
45°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	6	50
60°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	6	50
90°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	6	50
120°	0.1/0.2/0.3/0.4/0.5/0.6/0.7/0.8/1.0	6	50

微鑽
Micro Drill





刃徑 D1	刃長 L1	柄徑 D	總長L
0.1	2	3.175	38
0.15	2.5	3.175	38
0.2	4	3.175	38
0.25	4	3.175	38
0.3	5.5	3.175	38
0.35	6.5	3.175	38
0.4	7	3.175	38
0.45	7	3.175	38
0.5	8.5	3.175	38
0.55	8.5	3.175	38
0.6	9.5	3.175	38
0.65	9.5	3.175	38
0.7	10	3.175	38
0.75	10	3.175	38
0.8	10	3.175	38
0.85	10	3.175	38
0.9	10	3.175	38
0.95	10	3.175	38
1	10.5	3.175	38
1.05	10.5	3.175	38
1.1	10.5	3.175	38
1.15	10.5	3.175	38
1.2	10.5	3.175	38
1.25	12	3.175	38
1.3	12	3.175	38
1.35	12	3.175	38
1.4	12	3.175	38
1.45	12	3.175	38
1.5	12	3.175	38
1.55	12	3.175	38
1.6	12	3.175	38
1.65	12	3.175	38
1.7	12	3.175	38
1.75	12	3.175	38
1.8	12	3.175	38

刃徑 D1	刃長 L1	柄徑 D	總長L
1.85	12	3.175	38
1.9	12	3.175	38
1.95	12	3.175	38
2	12	3.175	38
2.05	12	3.175	38
2.1	12	3.175	38
2.15	12	3.175	38
2.2	12	3.175	38
2.25	12	3.175	38
2.3	12	3.175	38
2.35	12	3.175	38
2.4	12	3.175	38
2.45	12	3.175	38
2.5	12	3.175	38
2.55	12	3.175	38
2.6	12	3.175	38
2.65	12	3.175	38
2.7	12	3.175	38
2.75	12	3.175	38
2.8	12	3.175	38
2.85	12	3.175	38
2.9	12	3.175	38
2.95	12	3.175	38
3	12	3.175	38
3.05	12	3.175	38
3.1	12	3.175	38
3.15	12	3.175	38
3.175	12	3.175	38
3.2	12	3.175	38
3.25	12	3.175	38
3.3	12	3.175	38
3.35	12	3.175	38
3.4	12	3.175	38
3.45	12	3.175	38
3.5	12	3.175	38