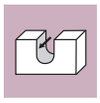
B222X 超微粒鎢鋼塗層圓頭立銑刀

Ball Nose End Mills

MG Carbide

AlTiN X-NaNo

Type of Operation



Work Material

P	H	M	K	N	S
●	●	○	●	○	

- **P** 鋼鐵 Steel
- **H** 硬化鋼 <38HRC Hardened Steel
- **H** 硬化鋼 <48HRC Hardened Steel
- **M** 不銹鋼 Stainless Steel
- **K** 鑄鐵 Cast Iron
- **N** 銅 Copper

Feature of product:

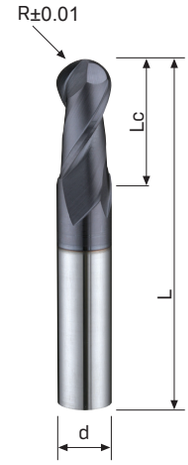
2刃圓頭立銑刀

可應用於各式材料切削加工。

採用奈米多層膜塗層具有優異的耐磨性質。

S型球頭幾何設計，可維持穩定切削。

對於硬度低於HRC48材料能有效加工。



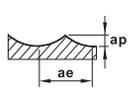
Code No. B222X-Dc

Dc 0 -0.02	R ±0.01	Lc mm	L mm	d h6	AlTiN B222X
0.1	0.05R	0.2	50	4	●
0.2	0.1R	0.4	50	4	●
0.3	0.15R	0.6	50	4	●
0.4	0.2R	0.8	50	4	●
0.5	0.25R	1	50	4	●
0.6	0.3R	1.2	50	4	●
0.7	0.35R	1.4	50	4	●
0.8	0.4R	1.6	50	4	●
0.9	0.45R	1.8	50	4	●
1	0.5R	2	50	4	●
1.2	0.6R	2.4	50	4	●
1.4	0.7R	2.8	50	4	●
1.5	0.75R	3	50	4	●
1.6	0.8R	3.2	50	4	●
1.8	0.9R	3.6	50	4	●
2	1R	4	50	4	●
2.5	1.25R	5	50	4	●
3A	1.5R	6	50	4	●
4A	2R	8	50	4	●
3	1.5R	6	50	6	●
3.5	1.75R	8	50	6	●
4	2R	8	50	6	●
4.5	2.25R	10	50	6	●
5	2.5R	10	50	6	●
5.5	2.75R	12	50	6	●
6	3R	12	50	6	●
6.5	3.25R	14	60	8	●
7	3.5R	14	60	8	●
7.5	3.75R	14	60	8	●
8	4R	14	60	8	●
8.5	4.25R	18	72	10	●
9	4.5R	18	72	10	●
9.5	4.75R	18	72	10	●
10	5R	18	72	10	●
11	5.5R	22	75	12	●
12	6R	22	75	12	●
13	6.5R	26	90	16	●
14	7R	26	90	16	●
15	7.5R	30	90	16	●
16	8R	30	100	16	●
17	8.5R	34	100	20	●
18	9R	34	100	20	●
19	9.5R	38	100	20	●
20	10R	38	100	20	●

B222X 切削條件參考表

Recommended Milling Conditions

General processing 普通加工

被削材 Work Material		GR.1 碳鋼 Carbon Steel		GR.2 低合金鋼 Low-alloyed Steel (~24HRC)		GR.3 高合金鋼 Hi-alloyed Steel (~30HRC)		GR.4 硬化鋼 Hardened Steel (30~38HRC)		GR.5 硬化鋼 Hardened Steel (38~48HRC)		GR.8 不銹鋼 Stainless Steel		GR.9 鑄鐵 Cast Iron		GR.11 銅 Copper	
切削速度 Vc m/min		Ø0.1~0.6 20~60 Ø0.8~20 80~120		Ø0.1~0.6 20~60 Ø0.8~20 80~120		Ø0.1~0.6 20~60 Ø0.8~20 80~100		Ø0.1~0.6 20~60 Ø0.8~20 60~80		Ø0.1~0.6 20~60 Ø0.8~20 60~70		Ø0.1~0.6 20~60 Ø0.8~20 60~80		Ø0.1~0.6 20~60 Ø0.8~20 80~120		Ø0.1~0.6 25~75 Ø0.8~20 100~120	
型號 Code No.	刃徑 Dc	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)	RPM 迴轉速度 (min-1)	Feed 進給速度 (mm/min)
B222X-R0.05	0.1	32,000	140	32,000	140	32,000	140	32,000	120	32,000	120	32,000	100	32,000	140	40,000	180
B222X-R0.1	0.2	32,000	160	32,000	160	32,000	160	32,000	140	32,000	140	32,000	120	32,000	160	40,000	200
B222X-R0.15	0.3	32,000	200	32,000	200	32,000	200	32,000	200	32,000	200	32,000	200	32,000	200	40,000	300
B222X-R0.2	0.4	32,000	296	32,000	296	32,000	330	32,000	330	32,000	205	32,000	330	32,000	296	40,000	490
B222X-R0.25	0.5	32,000	395	32,000	395	32,000	330	32,000	330	32,000	205	32,000	330	32,000	395	40,000	490
B222X-R0.3	0.6	32,000	490	32,000	490	32,000	400	32,000	400	32,000	265	32,000	400	32,000	490	40,000	580
B222X-R0.4	0.8	32,000	550	32,000	550	31,500	406	31,500	406	27,500	290	31,500	406	32,000	550	40,000	660
B222X-R0.5	1	31,500	564	31,500	564	25,000	412	25,000	412	22,000	296	25,000	412	31,500	564	32,000	700
B222X-R0.6	1.2	29,190	570	29,190	570	23,880	410	23,880	410	18,580	300	21,250	410	29,195	570	31,850	710
B222X-R0.75	1.5	26,250	578	26,250	578	20,860	418	20,860	418	14,800	302	20,860	418	26,250	578	25,500	715
B222X-R0.9	1.8	21,230	580	21,230	580	17,690	424	17,690	424	12,380	305	17,690	420	23,000	580	23,000	720
B222X-R1	2	21,000	582	21,000	582	16,720	425	16,720	425	11,000	310	16,720	425	21,000	582	19,000	730
B222X-R1.25	2.5	15,750	596	15,750	596	12,580	430	12,580	430	8,900	316	12,580	430	15,750	596	12,700	745
B222X-R1.5	3	10,500	620	10,500	620	8,450	435	8,450	435	7,400	322	8,450	435	10,500	620	12,500	760
B222X-R1.75	3.5	9,840	625	9,840	625	7,350	440	7,350	440	6,400	330	7,350	440	9,840	625	11,000	760
B222X-R2	4	9,250	630	9,250	630	6,350	442	6,350	442	5,550	342	6,350	442	9,250	630	9,500	765
B222X-R1.25	4.5	8,600	635	8,600	635	5,700	445	5,700	445	5,100	355	5,700	445	8,600	635	8,600	770
B222X-R2.5	5	7,950	640	7,950	640	5,095	447	5,095	447	4,460	377	5,095	447	7,950	640	7,650	775
B222X-R2.75	5.5	6,600	645	6,600	645	4,650	450	4,650	450	4,050	380	4,650	450	6,600	645	6,950	780
B222X-R3	6	5,300	670	5,300	670	4,200	465	4,200	465	3,700	390	4,200	465	5,300	670	6,300	800
B222X-R3.5	7	4,600	730	4,600	730	3,700	510	3,700	510	3,200	420	3,700	510	4,600	730	5,500	870
B222X-R4	8	3,950	790	3,950	790	3,150	555	3,150	555	2,750	455	3,150	555	3,950	790	4,750	950
B222X-R4.5	9	3,550	765	3,550	765	2,825	540	2,825	540	2,450	440	2,825	540	3,550	765	4,250	920
B222X-R5	10	3,150	745	3,150	745	2,500	525	2,500	525	2,200	430	2,500	525	3,150	745	3,800	890
B222X-R5.5	11	2,900	720	2,900	720	2,300	505	2,300	505	2,000	430	2,300	505	2,900	720	3,470	865
B222X-R6	12	2,650	700	2,650	700	2,100	490	2,100	490	1,850	430	2,100	490	2,650	700	3,170	840
B222X-R6.5	13	2,450	655	2,450	655	1,960	460	1,960	460	1,730	400	1,960	460	2,450	655	2,970	790
B222X-R7	14	2,300	610	2,300	610	1,830	430	1,830	430	1,620	375	1,830	430	2,300	610	2,780	730
B222X-R7.5	15	2,150	565	2,150	565	1,700	400	1,700	400	1,500	350	1,700	400	2,150	565	2,590	680
B222X-R8	16	1,990	525	1,990	525	1,580	370	1,580	370	1,390	325	1,580	370	1,990	525	2,400	630
B222X-R8.5	17	1,890	495	1,890	495	1,500	350	1,500	350	1,320	305	1,500	350	1,890	495	2,270	590
B222X-R9	18	1,790	470	1,790	470	1,420	330	1,420	330	1,250	290	1,420	330	1,790	470	2,150	560
B222X-R9.5	19	1,690	445	1,690	445	1,340	310	1,340	310	1,180	275	1,340	310	1,690	445	2,020	530
B222X-R10	20	1,590	420	1,590	420	1,260	290	1,260	290	1,110	260	1,260	290	1,590	420	1,900	500
切入深度 (mm) 		ap:0.1D ae:<1 0.1D ≥1 0.2D		ap:0.1D ae:<1 0.1D ≥1 0.2D		ap:0.1D ae:<1 0.1D ≥1 0.2D		ap:0.1D ae:<1 0.1D ≥1 0.2D		ap:0.1D ae:<1 0.05D ≥1 0.1D		ap:0.1D ae:<1 0.05D ≥1 0.1D		ap:0.1D ae:<1 0.1D ≥1 0.2D		ap:0.1D ae:<1 0.1D ≥1 0.2D	

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

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