

BTA^{2T}

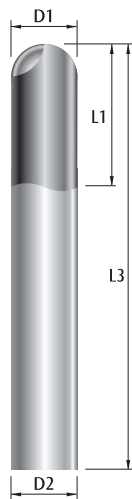
超微粒圓頭立銑刀 Ball Nose End Mills

精銑
Finishing中銑
Semi-finishing粗銑
Roughing乾式切削
Dry Machining油霧切削
MQL (Mist)水溶性切削
Emulsion Machining油性切削
Oil Machining

產品規格 / SPECIFICATIONS

型號 Type NO.	D1 直徑 Diameter	L1 刃長 Flute Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
BTA0102	R0.5	2	50	4
BTA0152	R0.75	3	50	4
BTA0202	R1	4	50	4
BTA0252	R1.25	5	50	4
BTA0302	R1.5	6	50	4
BTA0402	R2	8	50	4
BTA0502	R2.5	10	50	6
BTA0602	R3	12	50	6
BTA0802	R4	16	60	8
BTA1002	R5	20	75	10
BTA1202	R6	24	75	12
BTA1602	R8	32	100	16
BTA2002	R10	40	100	20

Unit : mm



直徑 D1	球頭公差值 R Tolerance
----------	----------------------

R0.5 ±0.01

R0.75 ±0.01

R1 ±0.01

R1.5 ±0.01

R2 ±0.01

R2.5 ±0.01

R3 ±0.01

R4 ±0.01

R5 ±0.015

R6 ±0.015

R8 ±0.02

R10 ±0.02

柄徑 D2	柄徑公差值 D2 Tolerance
----------	-----------------------

Ø4 0
-0.008Ø6 0
-0.008Ø8 0
-0.009Ø10 0
-0.009Ø12 0
-0.011Ø16 0
-0.011Ø20 0
-0.013

Unit : mm

BTA^{2T} / BTD^{2T}

切削條件表

Milling Conditions

被切削材 Work Material

碳素鋼 / 鑄鐵 : Carbon Steels / Cast Iron

S50C / Fe250 / SS400 : 1.1210 / 0.6025 / 1.0036 : 1050 / NO.35 / A570 Gr.45 (~HRc22)

BTA^{2T} 冷卻方式 Coolant Type

乾式切削 Dry coolant

BTD^{2T} 冷卻方式 Coolant Type

濕式切削 Wet coolant

型號 Type NO.	刀具伸長量 Extension Length(mm)	切削速度 (m/min) Cutting Speed	迴轉速度 Speed (min ⁻¹)	進給速度 Feed (mm/min)	加工深度 (Aa) Depth of Cut	加工寬度 (Ap) Width of Cut	加工方式 Milling Type
BTA BTD 0102	10	60	18000~20000	600~800	0.08~0.1	0.16~0.2	3D銑 (3D MILLING)
0102	10	60	18000~20000	800~1100	0.06~0.08	0.12~0.16	3D銑 (3D MILLING)
0102	10	60	18000~20000	1000~1400	0.02~0.04	0.04~0.08	3D銑 (3D MILLING)
BTA BTD 0152	10	90	18000~20000	600~800	0.1~0.12	0.2~0.24	3D銑 (3D MILLING)
0152	10	90	18000~20000	800~1100	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0152	10	90	18000~20000	1000~1400	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0202	12	120	18000~20000	600~800	0.1~0.12	0.2~0.24	3D銑 (3D MILLING)
0202	12	120	18000~20000	800~1100	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0202	12	120	18000~20000	1000~1400	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0252	12	135	17000~18000	600~800	0.12~0.14	0.24~0.28	3D銑 (3D MILLING)
0252	12	135	17000~18000	800~1100	0.08~0.1	0.16~0.2	3D銑 (3D MILLING)
0252	12	135	17000~18000	1000~1400	0.04~0.06	0.08~0.12	3D銑 (3D MILLING)
BTA BTD 0302	13	150	16000~17000	600~800	0.15~0.18	0.3~0.36	3D銑 (3D MILLING)
0302	13	150	16000~17000	800~1100	0.1~0.12	0.2~0.24	3D銑 (3D MILLING)
0302	13	150	16000~17000	1000~1400	0.05~0.07	0.1~0.14	3D銑 (3D MILLING)
BTA BTD 0402	15	190	15000~16000	600~800	0.18~0.22	0.36~0.44	3D銑 (3D MILLING)
0402	15	190	15000~16000	800~1200	0.11~0.13	0.22~0.26	3D銑 (3D MILLING)
0402	15	190	15000~16000	1200~1600	0.05~0.08	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0502	18	220	14000~15000	600~800	0.23~0.26	0.46~0.52	3D銑 (3D MILLING)
0502	18	220	14000~15000	700~1100	0.13~0.16	0.26~0.32	3D銑 (3D MILLING)
0502	18	220	14000~15000	1600~2000	0.05~0.09	0.14~0.18	3D銑 (3D MILLING)
BTA BTD 0602	20	230	12000~13000	600~1000	0.28~0.33	0.56~0.66	3D銑 (3D MILLING)
0602	20	245	13000~14000	1000~1400	0.15~0.2	0.3~0.4	3D銑 (3D MILLING)
0602	20	245	13000~14000	1600~2000	0.05~0.11	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0802	30	255	10000~11000	1000~1200	0.35~0.4	0.7~0.8	3D銑 (3D MILLING)
0802	30	255	10000~11000	1500~1900	0.18~0.23	0.36~0.46	3D銑 (3D MILLING)
0802	30	255	10000~11000	1800~2200	0.05~0.13	0.16~0.26	3D銑 (3D MILLING)
BTA BTD 1002	35	285	8700~9200	1000~1400	0.35~0.45	0.7~0.9	3D銑 (3D MILLING)
1002	35	285	8700~9200	1700~2100	0.23~0.28	0.46~0.56	3D銑 (3D MILLING)
1002	35	285	8700~9200	1800~2200	0.05~0.15	0.2~0.3	3D銑 (3D MILLING)
BTA BTD 1202	40	265	7000~8000	800~1200	0.4~0.5	0.8~1	3D銑 (3D MILLING)
1202	40	265	7000~8000	1300~1700	0.27~0.32	0.54~0.64	3D銑 (3D MILLING)
1202	40	265	7000~8000	1400~1800	0.1~0.2	0.3~0.4	3D銑 (3D MILLING)
BTA BTD 1602	50	255	5000~6000	600~800	0.6~0.65	1.2~1.3	3D銑 (3D MILLING)
1602	50	255	5000~6000	800~1200	0.35~0.4	0.7~0.8	3D銑 (3D MILLING)
1602	50	255	5000~6000	1300~1600	0.1~0.23	0.36~0.46	3D銑 (3D MILLING)
BTA BTD 2002	60	280	4000~5000	600~800	0.7~0.8	1.4~1.6	3D銑 (3D MILLING)
2002	60	280	4000~5000	1000~1400	0.4~0.45	0.8~0.9	3D銑 (3D MILLING)
2002	60	280	4000~5000	1700~2100	0.1~0.25	0.4~0.5	3D銑 (3D MILLING)

BTA^{2T} / BTD^{2T}

切削條件表

Milling Conditions

被切削材 Work Material

合金工具鋼 / 碳工具鋼 : Alloy Tool Steels / Carbon Tool Steels

P20 / P5 / SK3 / SKD61 / SKD11 : 1.2311 / 1.1545 / 1.2379 / 1.2344 : H13 / D2 (HRC23~32)

BTA^{2T} 冷卻方式 Coolant Type

乾式切削 Dry coolant

BTD^{2T} 冷卻方式 Coolant Type

濕式切削 Wet coolant

型號 Type NO.	刀具伸長量 Extension Length(mm)	切削速度 (m/min) Cutting Speed	迴轉速度 Speed (min ⁻¹)	進給速度 Feed (mm/min)	加工深度 (Aa) Depth of Cut	加工寬度 (Ap) Width of Cut	加工方式 Milling Type
BTA BTD 0102	10	60	18000~20000	700~1000	0.06~0.08	0.12~0.16	3D銑 (3D MILLING)
0102	10	60	18000~20000	1000~1300	0.02~0.04	0.04~0.08	3D銑 (3D MILLING)
BTA BTD 0152	10	90	18000~20000	700~1000	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0152	10	90	18000~20000	1000~1300	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0202	12	120	18000~20000	700~1000	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0202	12	120	18000~20000	1000~1300	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0252	12	135	17000~18000	700~1000	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0252	12	135	17000~18000	1000~1300	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0302	13	150	16000~17000	700~1000	0.09~0.11	0.18~0.22	3D銑 (3D MILLING)
0302	13	150	16000~17000	1000~1300	0.04~0.06	0.08~0.12	3D銑 (3D MILLING)
BTA BTD 0402	15	175	14000~15000	700~1000	0.11~0.13	0.22~0.26	3D銑 (3D MILLING)
0402	15	175	14000~15000	1100~1400	0.05~0.08	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0502	18	205	13000~14000	600~900	0.11~0.13	0.22~0.26	3D銑 (3D MILLING)
0502	18	205	13000~14000	1200~1500	0.05~0.08	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0602	20	230	12000~13000	700~1000	0.13~0.16	0.26~0.32	3D銑 (3D MILLING)
0602	20	230	12000~13000	1300~1700	0.05~0.11	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0802	30	255	10000~11000	1200~1600	0.15~0.2	0.3~0.4	3D銑 (3D MILLING)
0802	30	255	10000~11000	1300~1600	0.05~0.12	0.16~0.24	3D銑 (3D MILLING)
BTA BTD 1002	35	285	8700~9200	1200~1600	0.2~0.25	0.4~0.5	3D銑 (3D MILLING)
1002	35	285	8700~9200	1600~2000	0.05~0.15	0.2~0.3	3D銑 (3D MILLING)
BTA BTD 1202	40	260	6500~7500	1000~1300	0.23~0.28	0.46~0.56	3D銑 (3D MILLING)
1202	40	260	6500~7500	1200~1600	0.1~0.15	0.2~0.3	3D銑 (3D MILLING)
BTA BTD 1602	50	275	5000~6000	800~1100	0.27~0.32	0.54~0.64	3D銑 (3D MILLING)
1602	50	275	5000~6000	1200~1500	0.1~0.2	0.3~0.4	3D銑 (3D MILLING)
BTA BTD 2002	60	280	4000~5000	800~1100	0.3~0.35	0.6~0.7	3D銑 (3D MILLING)
2002	60	280	4000~5000	1200~1500	0.1~0.23	0.36~0.46	3D銑 (3D MILLING)

BTA^{2T} / BTD^{2T}

切削條件表

Milling Conditions

被切削材 Work Material

調質鋼 / 預硬鋼 : Prehardened Steels
NAK80 : 1.2083 : AISI420 : M310 (HRC36~45)BTA^{2T} 冷卻方式 Coolant Type

乾式切削 Dry coolant

BTD^{2T} 冷卻方式 Coolant Type

濕式切削 Wet coolant

型號 Type NO.	刀具伸長量 Extension Length(mm)	切削速度 (m/min) Cutting Speed	迴轉速度 Speed (min ⁻¹)	進給速度 Feed (mm/min)	加工深度 (Aa) Depth of Cut	加工寬度 (Ap) Width of Cut	加工方式 Milling Type
BTA BTD 0102	10	60	18000~20000	700~900	0.06~0.08	0.12~0.16	3D銑 (3D MILLING)
0102	10	60	18000~20000	1000~1200	0.02~0.04	0.04~0.08	3D銑 (3D MILLING)
BTA BTD 0152	10	90	18000~20000	700~900	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0152	10	90	18000~20000	1000~1200	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0202	12	120	18000~20000	700~900	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0202	12	120	18000~20000	1000~1200	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0252	12	135	17000~18000	700~900	0.07~0.09	0.14~0.18	3D銑 (3D MILLING)
0252	12	135	17000~18000	1000~1200	0.03~0.05	0.06~0.1	3D銑 (3D MILLING)
BTA BTD 0302	13	150	16000~17000	700~900	0.09~0.11	0.18~0.22	3D銑 (3D MILLING)
0302	13	150	16000~17000	1000~1200	0.04~0.06	0.08~0.12	3D銑 (3D MILLING)
BTA BTD 0402	15	175	14000~15000	700~900	0.11~0.13	0.22~0.26	3D銑 (3D MILLING)
0402	15	175	14000~15000	1000~1300	0.05~0.08	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0502	18	205	13000~14000	600~800	0.11~0.13	0.22~0.26	3D銑 (3D MILLING)
0502	18	205	13000~14000	1100~1300	0.05~0.08	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0602	20	230	12000~13000	700~900	0.13~0.16	0.26~0.32	3D銑 (3D MILLING)
0602	20	230	12000~13000	1200~1600	0.05~0.11	0.14~0.22	3D銑 (3D MILLING)
BTA BTD 0802	30	255	10000~11000	1100~1500	0.15~0.2	0.3~0.4	3D銑 (3D MILLING)
0802	30	255	10000~11000	1200~1500	0.05~0.12	0.16~0.24	3D銑 (3D MILLING)
BTA BTD 1002	35	285	8700~9200	1100~1500	0.2~0.25	0.4~0.5	3D銑 (3D MILLING)
1002	35	285	8700~9200	1400~1800	0.05~0.15	0.2~0.3	3D銑 (3D MILLING)
BTA BTD 1202	40	260	6500~7500	1000~1200	0.23~0.28	0.46~0.56	3D銑 (3D MILLING)
1202	40	260	6500~7500	1200~1600	0.1~0.15	0.2~0.3	3D銑 (3D MILLING)
BTA BTD 1602	50	275	5000~6000	800~1000	0.27~0.32	0.54~0.64	3D銑 (3D MILLING)
1602	50	275	5000~6000	1200~1400	0.1~0.2	0.3~0.4	3D銑 (3D MILLING)
BTA BTD 2002	60	280	4000~5000	800~1000	0.3~0.35	0.6~0.7	3D銑 (3D MILLING)
2002	60	280	4000~5000	1200~1400	0.1~0.23	0.36~0.46	3D銑 (3D MILLING)