NS TOOL

「匠」心创先

无限白金涂层
高硬度钢用2刃长颈球头铣刀

MUGEN COATING PREMIUM

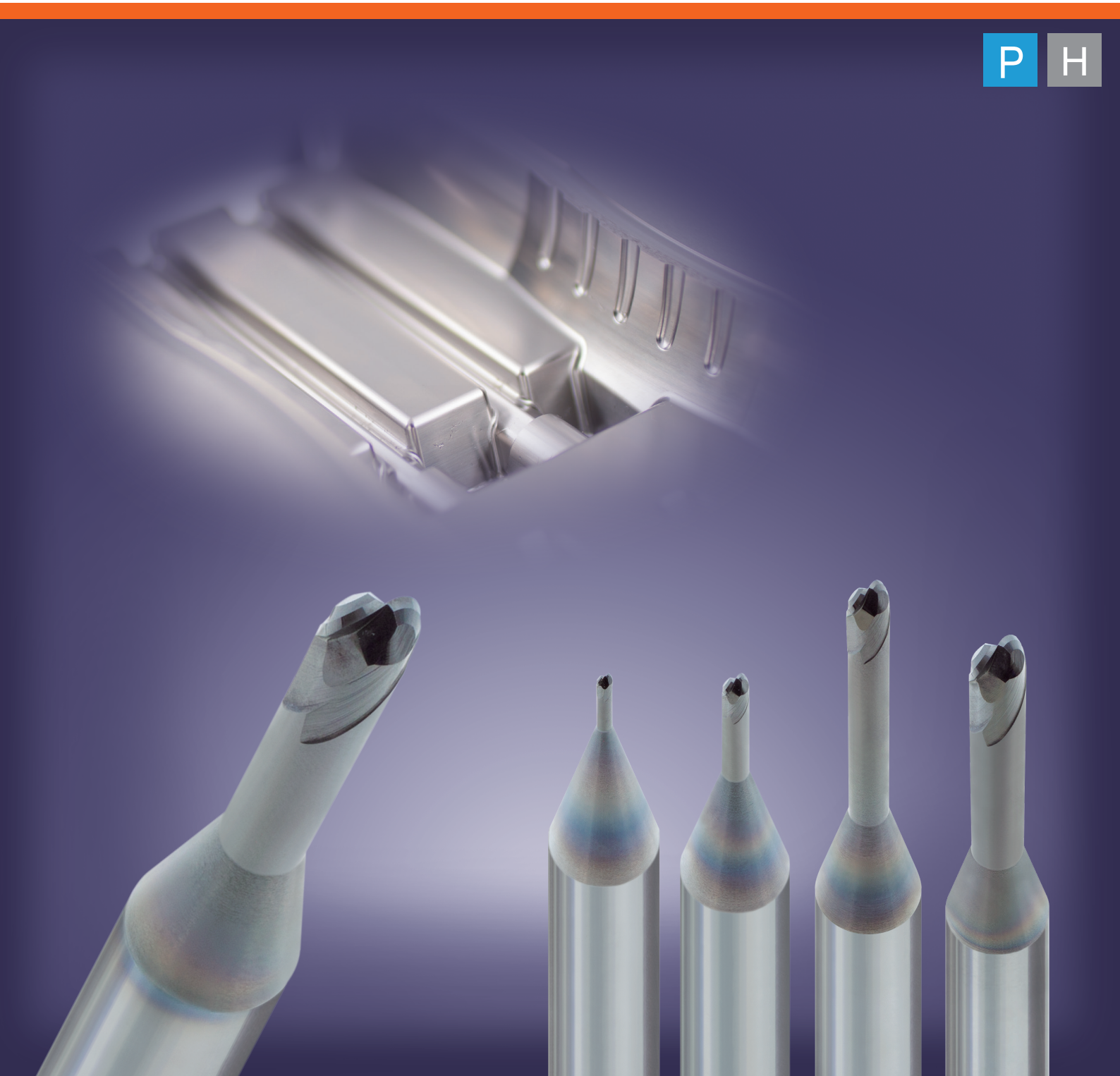
2-Flute Long Neck Ball End Mill for Hardened Steel

MRBH230

共334种规格

Total 334 sizes

P H



可对应调质钢、高硬度钢（~ 65HRC）的长颈球头铣刀
丰富的尺寸规格增加至 共 334 种规格
Long neck ball end mill supports machining from prehardened steels to hardened steels (~ 65HRC)
Abundant size variations with total 334 sizes

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM
2-Flute Long Neck Ball End Mill for Hardened Steel

MRBH230

R0.05 ~ R3　共 334 种规格
Total 334 sizes



特点
Features

Feature 1 | 涂层 Coating | 无限白金涂层 Performance of MUGEN COATING PREMIUM

无限白金涂层是在无限涂层的基础上，针对高硬度钢的直接加工时，可大幅提升刀具寿命的涂层
特别是针对加工硬度40～65HRC的材料时可实现显著的效果

MUGEN COATING PREMIUM is a further improvement of the conventional MUGEN COATING that dramatically extends tool life during direct milling on hardened steels
It is effective in machining work materials with hardness from 40 to 65 HRC

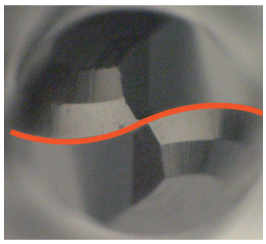


Feature 2 刀尖设计 Cutting edge shape — 螺旋形状 · 倒锥形状 Spiral shape・Back taper shape

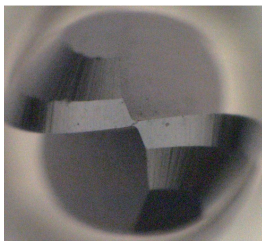
2-1

与以往产品相比，采用强螺旋角形状
提升切削负荷大的R中心点附近的切削性、
也抑制振刀现象

Adopt stronger spiral shape than conventional tool
Resist chattering by improved cutting ability of center R where has high cutting load



MRBH230

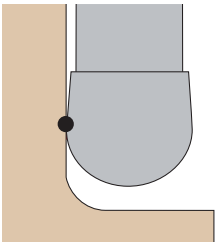


以往产品
Conventional

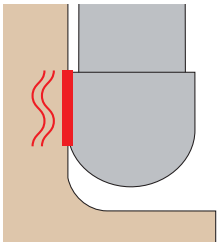
2-2

为了抑制增加切削负荷而产生的振刀现象，
外周刃采用倒锥形造型。
单点切削造型可减轻加工负荷，实现稳定的加工面

Adopt back taper shape for the peripheral edge to suppress chattering that occurs due to increasing cutting load
The cutting load is reduced by point cutting that realizes stable machining surface



单点切削，不易振刀!
Suppress chattering by point milling



普通铣刀
General End Mill

Feature 3 丰富的尺寸规格 Abundant line up — 无限白金涂层系列 MUGEN COATING PREMIUM Series

	平底铣刀 Square End Mill	球头铣刀 Ball End Mill	圆鼻铣刀 Corner Radius End Mill
全刃长类型 Full Cutting Length Type	**MXH225,MXH230,MXH235 MXH240,MXH245** 刃长为外径的 1 ～ 5 倍 可对应广泛地材料 All round type with L/D 1~5 times	**MSBH230** 粗加工到精加工可对应广泛地材料 Multi-purpose from roughing to finishing	**MHDH445R MHDH645R** 适合于高硬度钢（～ 65HRC）加工的圆鼻铣刀 Corner radius end mill suitable for hardened steels（～ 65HRC）
	MXH225P,MXH230P,MXH235P 刃长为外径的 1 ～ 3 倍　尖角造型 Sharp edge type with L/D 1~3 times	**MSBH345** 3 刃强螺旋角球头铣刀 3-flute strong helix angle ball end mill	
	MHDH445 MHDH645 适合于高硬度钢（～ 65HRC）的精加工 Suitable for finishing on hardened steels（～ 65HRC）		
长颈类型 Long Neck Type	**MHRH230 MHRH430** 适合于调质钢・高硬度钢（～ 65HRC）的深沟加工 Suitable for deep milling on prehardened steels and hardened steels（～ 65HRC）	**MRBH230** 适合于高硬度钢（～ 65HRC）的长颈球头铣刀 Ball end mill suitable for hardened steels（～ 65HRC）	**MHRH230R MHRH430R** 可对应调质钢・高硬度钢（～ 65HRC） Support to machining on prehardened steels and hardened steels（～ 65HRC）
		MACH225 MACH225SF 锋利刀尖设计可减轻切削负荷 Sharp cutting edge reduces cutting load	
		MRBTNH230 MRBTNH345 采用锥形长颈大幅提升刀具刚性 Taper neck shape significantly increases tool rigidity	

MRBH230

规格 Size R0.05 ∽ R3

Premium ≦65 HRC

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM 2-Flute Long Neck Ball End Mill for Hardened Steel

共 334 种规格
Total 334 sizes

MG | 2 | 30° | R ±0.005 | φd h5 | 3D

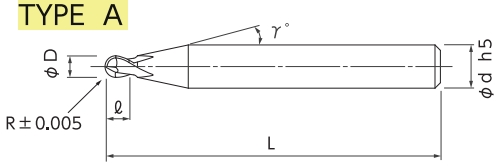
可对应调质钢、高硬度钢（～65HRC）的2刃长颈球头铣刀
丰富的尺寸规格增加至共 334 种规格

Long neck ball end mill supports machining from prehardened steels to hardened steels(~ 65HRC)
Abundant size variations with total 334 sizes

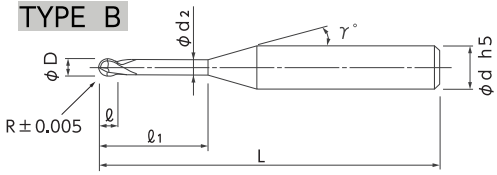




TYPE A



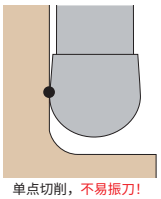
TYPE B

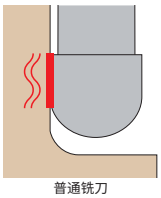


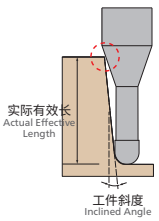
- 采用高硬度钢用无限白金涂层与独创的新形状，
  耐崩刃性优异并可有效抑制振刀，从而提高了加工面的加工精度。
- 适用于至65HRC的高硬度钢。
- 共 334 种规格！
- MUGEN COATING PREMIUM for hardened steel and unique cutting edge
  realize excellent chipping resistance and suppress chattering to improve finishing surface.
- Support hardened steels up to 65HRC.
- Lineup to total 334 sizes.

加工材料 Work Material

调质钢 Prehardened Steel	高硬度钢 Hardened Steel	
P	H	
	40～60HRC	～65HRC
◎	◎	○


单点切削，不易振刀！
Suppress chattering by point milling


普通铣刀
General End Mill



R≧0.5可对应返修服务（柄长须在15mm以上。详情请咨询本公司。）

单位 [规格：mm]
Unit [Size : mm]

产品代码No. Code No.	(R)球头半径 Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	形状 Type	(D)外径 Dia.	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
08-00527-00050	R0.05	0.2	0.07	B	0.1	0.085	12°	4	45	0.24	0.25	0.26	0.27	0.29
08-00527-00054		0.25	0.07	B	0.1	0.085	12°	4	45	0.29	0.30	0.31	0.33	0.36
08-00527-00051		0.3	0.07	B	0.1	0.085	12°	4	45	0.34	0.36	0.37	0.39	0.42
08-00527-00055		0.35	0.07	B	0.1	0.085	12°	4	45	0.39	0.41	0.43	0.45	0.49
08-00527-00052		0.4	0.07	B	0.1	0.085	12°	4	45	0.45	0.46	0.48	0.51	0.56
08-00527-00056		0.45	0.07	B	0.1	0.085	12°	4	45	0.50	0.52	0.54	0.57	0.62
08-00527-00053		0.5	0.07	B	0.1	0.085	12°	4	45	0.55	0.57	0.60	0.63	0.69
08-00527-00070	R0.075	0.25	0.1	B	0.15	0.13	12°	4	45	0.30	0.31	0.32	0.34	0.37
08-00527-00071		0.3	0.1	B	0.15	0.13	12°	4	45	0.35	0.37	0.38	0.40	0.43
08-00527-00076		0.35	0.1	B	0.15	0.13	12°	4	45	0.41	0.42	0.44	0.46	0.50
08-00527-00072		0.4	0.1	B	0.15	0.13	12°	4	45	0.46	0.48	0.49	0.52	0.56
08-00527-00077		0.45	0.1	B	0.15	0.13	12°	4	45	0.51	0.53	0.55	0.58	0.63
08-00527-00073		0.5	0.1	B	0.15	0.13	12°	4	45	0.56	0.58	0.61	0.64	0.70
08-00527-00074		0.6	0.1	B	0.15	0.13	12°	4	45	0.67	0.69	0.72	0.75	0.83
08-00527-00078		0.75	0.1	B	0.15	0.13	12°	4	45	0.82	0.86	0.89	0.93	1.03
08-00527-00075		1	0.1	B	0.15	0.13	12°	4	45	1.08	1.13	1.18	1.23	1.36
08-00527-00100	R0.1	0.3	0.15	B	0.2	0.18	12°	4	45	0.35	0.36	0.38	0.39	0.42
08-00527-00110		0.4	0.15	B	0.2	0.18	12°	4	45	0.46	0.47	0.49	0.51	0.56
08-00527-00101		0.5	0.15	B	0.2	0.18	12°	4	45	0.56	0.58	0.61	0.63	0.69
08-00527-00111		0.6	0.15	B	0.2	0.18	12°	4	45	0.67	0.69	0.72	0.75	0.82
08-00527-00102		0.75	0.15	B	0.2	0.18	12°	4	45	0.82	0.85	0.89	0.93	1.02
08-00527-00112		0.85	0.15	B	0.2	0.18	12°	4	45	0.93	0.96	1.00	1.05	1.15
08-00527-00103		1	0.15	B	0.2	0.18	12°	4	45	1.08	1.13	1.18	1.23	1.35
08-00528-00103		1	0.15	B	0.2	0.18	12°	6	50	1.08	1.13	1.18	1.23	1.35
08-00527-00104		1.25	0.15	B	0.2	0.18	12°	4	45	1.34	1.40	1.46	1.53	1.68
08-00527-00105		1.5	0.15	B	0.2	0.18	12°	4	45	1.60	1.67	1.75	1.83	2.02
08-00527-00106		1.75	0.15	B	0.2	0.18	12°	4	45	1.86	1.94	2.03	2.13	2.35
08-00527-00107		2	0.15	B	0.2	0.18	12°	4	45	2.13	2.22	2.32	2.43	2.68
08-00527-00113		2.25	0.15	B	0.2	0.18	12°	4	45	2.39	2.49	2.60	2.72	3.01
08-00527-00108		2.5	0.15	B	0.2	0.18	12°	4	45	2.65	2.76	2.89	3.02	3.34
08-00527-00114		2.75	0.15	B	0.2	0.18	12°	4	45	2.91	3.03	3.17	3.32	3.68
08-00527-00109		3	0.15	B	0.2	0.18	12°	4	45	3.17	3.31	3.46	3.62	4.01
08-00527-00164	R0.15	0.2※	0.2	A	0.3	-	12°	4	45	0.20	0.20	0.20	0.20	0.20
08-00527-00162		0.5	0.2	B	0.3	0.28	12°	4	45	0.56	0.58	0.60	0.62	0.67

订购方式 How to Order

请指定MRBH230 球头半径（R）×颈长（ℓ1）×柄径（d）。
When you order, indicate MRBH230 (R)×(ℓ1)×(d).

※全刃长类型（TYPE A）
Full cutting length type(TYPE A)

(γ) 为参考值。
(γ) is reference value.

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM 2-Flute Long Neck Ball End Mill for Hardened Steel

单位 [规格：mm]
Unit [Size : mm]

产品代码No. Code No.	(R)球头半径 Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	形状 Type	(D)外径 Dia.	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
08-00527-00150	R0.15	0.6	0.2	B	0.3	0.28	12°	4	45	0.66	0.69	0.71	0.74	0.81
08-00527-00163		0.75	0.2	B	0.3	0.28	12°	4	45	0.82	0.85	0.88	0.92	1.01
08-00527-00151		1	0.2	B	0.3	0.28	12°	4	45	1.08	1.12	1.17	1.22	1.34
08-00527-00152		1.25	0.2	B	0.3	0.28	12°	4	45	1.34	1.39	1.45	1.52	1.67
08-00527-00153		1.5	0.2	B	0.3	0.28	12°	4	45	1.60	1.67	1.74	1.82	2.00
08-00528-00153		1.5	0.2	B	0.3	0.28	12°	6	50	1.60	1.67	1.74	1.82	2.00
08-00527-00154		1.75	0.2	B	0.3	0.28	12°	4	45	1.86	1.94	2.02	2.12	2.33
08-00527-00155		2	0.2	B	0.3	0.28	12°	4	45	2.12	2.21	2.31	2.42	2.66
08-00527-00156		2.25	0.2	B	0.3	0.28	12°	4	45	2.38	2.48	2.59	2.71	3.00
08-00527-00157		2.5	0.2	B	0.3	0.28	12°	4	45	2.64	2.76	2.88	3.01	3.33
08-00527-00159		3	0.2	B	0.3	0.28	12°	4	45	3.17	3.30	3.45	3.61	3.99
08-00527-00160		3.5	0.2	B	0.3	0.28	12°	4	45	3.69	3.85	4.02	4.21	4.65
08-00527-00161		4	0.2	B	0.3	0.28	12°	4	45	4.21	4.39	4.59	4.81	5.32
08-00527-00165		4.5	0.2	B	0.3	0.28	12°	4	45	4.73	4.94	5.16	5.41	5.98
08-00527-00200	R0.2	0.3※	0.3	A	0.4	-	12°	4	45	0.30	0.30	0.30	0.30	0.30
08-00527-00211		0.5	0.3	B	0.4	0.37	12°	4	45	0.58	0.60	0.62	0.64	0.69
08-00527-00213		0.65	0.3	B	0.4	0.37	12°	4	45	0.74	0.76	0.79	0.82	0.89
08-00527-00201		0.8	0.3	B	0.4	0.37	12°	4	45	0.89	0.93	0.96	1.00	1.09
08-00527-00202		1	0.3	B	0.4	0.37	12°	4	45	1.10	1.14	1.19	1.24	1.35
08-00528-00202		1	0.3	B	0.4	0.37	12°	6	50	1.10	1.14	1.19	1.24	1.35
08-00527-00214		1.25	0.3	B	0.4	0.37	12°	4	45	1.36	1.42	1.47	1.54	1.68
08-00527-00203		1.5	0.3	B	0.4	0.37	12°	4	45	1.62	1.69	1.76	1.84	2.02
08-00527-00215		1.75	0.3	B	0.4	0.37	12°	4	45	1.88	1.96	2.04	2.13	2.35
08-00527-00204		2	0.3	B	0.4	0.37	12°	4	45	2.15	2.23	2.33	2.43	2.68
08-00528-00204		2	0.3	B	0.4	0.37	12°	6	50	2.15	2.23	2.33	2.43	2.68
08-00527-00216		2.25	0.3	B	0.4	0.37	12°	4	45	2.41	2.51	2.61	2.73	3.01
08-00527-00205		2.5	0.3	B	0.4	0.37	12°	4	45	2.67	2.78	2.90	3.03	3.34
08-00527-00217		2.75	0.3	B	0.4	0.37	12°	4	45	2.93	3.05	3.18	3.33	3.67
08-00527-00206		3	0.3	B	0.4	0.37	12°	4	45	3.19	3.32	3.47	3.63	4.01
08-00527-00207		3.5	0.3	B	0.4	0.37	12°	4	45	3.71	3.87	4.04	4.23	4.67
08-00527-00208		4	0.3	B	0.4	0.37	12°	4	45	4.23	4.41	4.61	4.83	5.33
08-00527-00209		4.5	0.3	B	0.4	0.37	12°	4	45	4.75	4.96	5.18	5.43	6.00
08-00527-00210		5	0.3	B	0.4	0.37	12°	4	45	5.27	5.50	5.75	6.02	6.66
08-00527-00218		5.5	0.3	B	0.4	0.37	12°	4	45	5.80	6.05	6.32	6.62	7.32
08-00527-00212		6	0.3	B	0.4	0.37	12°	4	45	6.32	6.59	6.89	7.22	7.99
08-00527-00265	R0.25	0.35※	0.35	A	0.5	-	12°	4	45	0.35	0.35	0.35	0.35	0.35
08-00527-00266		0.5	0.35	B	0.5	0.46	12°	4	45	0.60	0.62	0.64	0.66	0.70
08-00527-00267		0.75	0.35	B	0.5	0.46	12°	4	45	0.86	0.89	0.92	0.96	1.04
08-00527-00250		1	0.35	B	0.5	0.46	12°	4	45	1.13	1.16	1.21	1.26	1.37
08-00527-00268		1.25	0.35	B	0.5	0.46	12°	4	45	1.39	1.44	1.49	1.56	1.70
08-00527-00251		1.5	0.35	B	0.5	0.46	12°	4	45	1.65	1.71	1.78	1.85	2.03
08-00527-00269		1.75	0.35	B	0.5	0.46	12°	4	45	1.91	1.98	2.06	2.15	2.36
08-00527-00252		2	0.35	B	0.5	0.46	12°	4	45	2.17	2.25	2.35	2.45	2.69
08-00527-00270		2.25	0.35	B	0.5	0.46	12°	4	45	2.43	2.53	2.63	2.75	3.03
08-00527-00253		2.5	0.35	B	0.5	0.46	12°	4	45	2.69	2.80	2.92	3.05	3.36
08-00527-00254		3	0.35	B	0.5	0.46	12°	4	45	3.21	3.34	3.49	3.65	4.02
08-00527-00255		3.5	0.35	B	0.5	0.46	12°	4	45	3.73	3.89	4.06	4.25	4.69
08-00527-00256		4	0.35	B	0.5	0.46	12°	4	45	4.25	4.43	4.63	4.85	5.35
08-00527-00257		4.5	0.35	B	0.5	0.46	12°	4	45	4.78	4.98	5.20	5.44	6.01
08-00527-00258		5	0.35	B	0.5	0.46	12°	4	45	5.30	5.52	5.77	6.04	6.68
08-00527-00259		5.5	0.35	B	0.5	0.46	12°	4	45	5.82	6.07	6.34	6.64	7.34
08-00527-00260		6	0.35	B	0.5	0.46	12°	4	45	6.34	6.61	6.91	7.24	8.00
08-00527-00261		7	0.35	B	0.5	0.46	12°	4	45	7.38	7.70	8.05	8.44	9.33
08-00527-00262		8	0.35	B	0.5	0.46	12°	4	45	8.42	8.79	9.19	9.63	10.66
08-00527-00263		9	0.35	B	0.5	0.46	12°	4	45	9.47	9.88	10.33	10.83	11.99
08-00527-00264		10	0.35	B	0.5	0.46	12°	4	45	10.51	10.97	11.47	12.03	13.31
08-00527-00323	R0.3	0.45※	0.45	A	0.6	-	12°	4	45	0.45	0.45	0.45	0.45	0.45
08-00527-00324		0.6	0.45	B	0.6	0.56	12°	4	45	0.71	0.72	0.75	0.77	0.82
08-00527-00325		0.8	0.45	B	0.6	0.56	12°	4	45	0.91	0.94	0.97	1.01	1.09
08-00527-00300		1	0.45	B	0.6	0.56	12°	4	45	1.12	1.16	1.20	1.25	1.35

MRBH230

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM 2-Flute Long Neck Ball End Mill for Hardened Steel

R≧0.5可对应返修服务(柄长须在15mm以上。详情请咨询本公司。)

单位 [规格：mm]
Unit [Size : mm]

产品代码No. Code No.	(R)球头半径 Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	形状 Type	(D)外径 Dia.	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
08-00527-00326	R0.3	1.25	0.45	B	0.6	0.56	12°	4	45	1.38	1.43	1.49	1.55	1.68
08-00527-00301		1.5	0.45	B	0.6	0.56	12°	4	45	1.64	1.71	1.77	1.84	2.02
08-00527-00327		1.75	0.45	B	0.6	0.56	12°	4	45	1.91	1.98	2.06	2.14	2.35
08-00527-00302		2	0.45	B	0.6	0.56	12°	4	45	2.17	2.25	2.34	2.44	2.68
08-00528-00302		2	0.45	B	0.6	0.56	12°	6	50	2.17	2.25	2.34	2.44	2.68
08-00527-00328		2.25	0.45	B	0.6	0.56	12°	4	45	2.43	2.52	2.63	2.74	3.01
08-00527-00303		2.5	0.45	B	0.6	0.56	12°	4	45	2.69	2.79	2.91	3.04	3.34
08-00527-00329		2.75	0.45	B	0.6	0.56	12°	4	45	2.95	3.07	3.20	3.34	3.67
08-00527-00304		3	0.45	B	0.6	0.56	12°	4	45	3.21	3.34	3.48	3.64	4.01
08-00528-00304		3	0.45	B	0.6	0.56	12°	6	50	3.21	3.34	3.48	3.64	4.01
08-00527-00305		3.5	0.45	B	0.6	0.56	12°	4	45	3.73	3.88	4.05	4.24	4.67
08-00527-00306		4	0.45	B	0.6	0.56	12°	4	45	4.25	4.43	4.62	4.84	5.33
08-00528-00306		4	0.45	B	0.6	0.56	12°	6	50	4.25	4.43	4.62	4.84	5.33
08-00527-00321		4.5	0.45	B	0.6	0.56	12°	4	45	4.77	4.97	5.19	5.43	6.00
08-00527-00308		5	0.45	B	0.6	0.56	12°	4	45	5.29	5.52	5.76	6.03	6.66
08-00527-00322		5.5	0.45	B	0.6	0.56	12°	4	45	5.82	6.06	6.33	6.63	7.32
08-00527-00310		6	0.45	B	0.6	0.56	12°	4	45	6.34	6.61	6.90	7.23	7.99
08-00527-00311		6.5	0.45	B	0.6	0.56	12°	4	45	6.86	7.15	7.47	7.83	8.65
08-00527-00312		7	0.45	B	0.6	0.56	12°	4	45	7.38	7.70	8.04	8.43	9.31
08-00527-00313		7.5	0.45	B	0.6	0.56	12°	4	45	7.90	8.24	8.61	9.02	9.98
08-00527-00314		8	0.45	B	0.6	0.56	12°	4	45	8.42	8.79	9.18	9.62	10.64
08-00527-00316		9	0.45	B	0.6	0.56	12°	4	45	9.47	9.88	10.33	10.82	11.97
08-00527-00318		10	0.45	B	0.6	0.56	12°	4	45	10.51	10.97	11.47	12.02	13.30
08-00527-00320		12	0.45	B	0.6	0.56	12°	4	45	12.59	13.14	13.75	14.41	15.95
08-00527-00354	R0.35	0.5※	0.5	A	0.7	-	12°	4	45	0.50	0.50	0.50	0.50	0.50
08-00527-00355		1	0.5	B	0.7	0.66	12°	4	45	1.12	1.16	1.19	1.24	1.34
08-00527-00350		2	0.5	B	0.7	0.66	12°	4	45	2.16	2.25	2.33	2.43	2.66
08-00527-00351		4	0.5	B	0.7	0.66	12°	4	45	4.25	4.42	4.62	4.83	5.32
08-00527-00352		6	0.5	B	0.7	0.66	12°	4	45	6.34	6.60	6.90	7.22	7.97
08-00527-00353		8	0.5	B	0.7	0.66	12°	4	45	8.42	8.78	9.18	9.61	10.63
08-00527-00400	R0.4	0.6※	0.6	A	0.8	-	12°	4	45	0.60	0.60	0.60	0.60	0.60
08-00527-00411		1	0.6	B	0.8	0.76	12°	4	45	1.12	1.15	1.19	1.23	1.32
08-00527-00412		1.5	0.6	B	0.8	0.76	12°	4	45	1.64	1.70	1.76	1.83	1.98
08-00527-00401		2	0.6	B	0.8	0.76	12°	4	45	2.16	2.24	2.33	2.42	2.65
08-00528-00401		2	0.6	B	0.8	0.76	12°	6	50	2.16	2.24	2.33	2.42	2.65
08-00527-00413		2.5	0.6	B	0.8	0.76	12°	4	45	2.68	2.79	2.90	3.02	3.31
08-00527-00402		3	0.6	B	0.8	0.76	12°	4	45	3.20	3.33	3.47	3.62	3.97
08-00527-00414		3.5	0.6	B	0.8	0.76	12°	4	45	3.73	3.88	4.04	4.22	4.64
08-00527-00403		4	0.6	B	0.8	0.76	12°	4	45	4.25	4.42	4.61	4.82	5.30
08-00527-00415		4.5	0.6	B	0.8	0.76	12°	4	45	4.77	4.96	5.18	5.41	5.97
08-00527-00404		5	0.6	B	0.8	0.76	12°	4	45	5.29	5.51	5.75	6.01	6.63
08-00527-00405		6	0.6	B	0.8	0.76	12°	4	45	6.33	6.60	6.89	7.21	7.96
08-00527-00406		7	0.6	B	0.8	0.76	12°	4	45	7.38	7.69	8.03	8.41	9.28
08-00527-00407		8	0.6	B	0.8	0.76	12°	4	45	8.42	8.78	9.17	9.60	10.61
08-00527-00408		9	0.6	B	0.8	0.76	12°	4	45	9.46	9.87	10.31	10.80	11.94
08-00527-00409		10	0.6	B	0.8	0.76	12°	4	45	10.50	10.96	11.45	12.00	13.26
08-00527-00410		12	0.6	B	0.8	0.76	12°	4	45	12.59	13.14	13.73	14.39	15.92
08-00527-00416		16	0.6	B	0.8	0.76	12°	4	50	16.76	17.49	18.29	19.18	21.23
08-00527-00454	R0.45	0.65※	0.65	A	0.9	-	12°	4	45	0.65	0.65	0.65	0.65	0.65
08-00527-00455		1	0.65	B	0.9	0.86	12°	4	45	1.12	1.15	1.18	1.22	1.30
08-00527-00450		2	0.65	B	0.9	0.86	12°	4	45	2.16	2.24	2.32	2.41	2.63
08-00527-00451		4	0.65	B	0.9	0.86	12°	4	45	4.25	4.42	4.60	4.81	5.29
08-00527-00452		6	0.65	B	0.9	0.86	12°	4	45	6.33	6.59	6.88	7.20	7.94
08-00527-00453		8	0.65	B	0.9	0.86	12°	4	45	8.42	8.77	9.16	9.59	10.59
08-00527-00517	R0.5	0.75※	0.75	A	1	-	12°	4	45	0.75	0.75	0.75	0.75	0.75
08-00527-00518		1	0.75	B	1	0.95	12°	4	45	1.14	1.17	1.20	1.24	1.32
08-00527-00519		1.5	0.75	B	1	0.95	12°	4	45	1.66	1.71	1.77	1.83	1.98
08-00527-00500		2	0.75	B	1	0.95	12°	4	45	2.18	2.26	2.34	2.43	2.65
08-00527-00514		2.5	0.75	B	1	0.95	12°	4	45	2.70	2.80	2.91	3.03	3.31
08-00527-00501		3	0.75	B	1	0.95	12°	4	45	3.22	3.35	3.48	3.63	3.97

订购方式 How to Order

请指定MRBH230 球头半径（R）×颈长（ℓ1）×柄径（d）。
When you order, indicate MRBH230 (R)×(ℓ1)×(d).

※全刃长类型（TYPE A）
Full cutting length type(TYPE A)

(γ) 为参考值。
(γ) is reference value.

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM 2-Flute Long Neck Ball End Mill for Hardened Steel

单位 [规格：mm]
Unit [Size : mm]

产品代码No. Code No.	(R)球头半径 Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	形状 Type	(D)外径 Dia.	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
08-00528-00501	R0.5	3	0.75	B	1	0.95	12°	6	50	3.22	3.35	3.48	3.63	3.97
08-00527-00520		3.5	0.75	B	1	0.95	12°	4	45	3.75	3.89	4.05	4.23	4.64
08-00527-00502		4	0.75	B	1	0.95	12°	4	45	4.27	4.44	4.62	4.83	5.30
08-00528-00502		4	0.75	B	1	0.95	12°	6	50	4.27	4.44	4.62	4.83	5.30
08-00527-00521		4.5	0.75	B	1	0.95	12°	4	45	4.79	4.98	5.19	5.42	5.96
08-00527-00503		5	0.75	B	1	0.95	12°	4	45	5.31	5.53	5.76	6.02	6.63
08-00528-00503		5	0.75	B	1	0.95	12°	6	50	5.31	5.53	5.76	6.02	6.63
08-00527-00504		6	0.75	B	1	0.95	12°	4	45	6.35	6.62	6.90	7.22	7.96
08-00528-00504		6	0.75	B	1	0.95	12°	6	50	6.35	6.62	6.90	7.22	7.96
08-00527-00505		7	0.75	B	1	0.95	12°	4	45	7.40	7.71	8.04	8.42	9.28
08-00528-00505		7	0.75	B	1	0.95	12°	6	50	7.40	7.71	8.04	8.42	9.28
08-00527-00506		8	0.75	B	1	0.95	12°	4	45	8.44	8.79	9.18	9.61	10.61
08-00528-00506		8	0.75	B	1	0.95	12°	6	50	8.44	8.79	9.18	9.61	10.61
08-00527-00507		9	0.75	B	1	0.95	12°	4	45	9.48	9.88	10.32	10.81	11.94
08-00527-00508		10	0.75	B	1	0.95	12°	4	45	10.52	10.97	11.46	12.01	13.26
08-00528-00508		10	0.75	B	1	0.95	12°	6	50	10.52	10.97	11.46	12.01	13.26
08-00527-00509		12	0.75	B	1	0.95	12°	4	45	12.61	13.15	13.75	14.40	15.92
08-00527-00515		13	0.75	B	1	0.95	12°	4	45	13.65	14.24	14.89	15.59	17.25
08-00527-00510		14	0.75	B	1	0.95	12°	4	50	14.70	15.33	16.03	16.79	18.57
08-00527-00511		16	0.75	B	1	0.95	12°	4	50	16.78	17.51	18.31	19.18	21.23
08-00527-00512		18	0.75	B	1	0.95	12°	4	55	18.87	19.69	20.59	21.58	23.88
08-00527-00513		20	0.75	B	1	0.95	12°	4	55	20.95	21.87	22.87	23.97	26.54
08-00528-00516		22	0.75	B	1	0.95	12°	6	60	23.04	24.05	25.15	26.36	29.19
08-00527-00608	R0.6	1.2	0.9	B	1.2	1.15	12°	4	45	1.34	1.38	1.41	1.46	1.55
08-00527-00600		2.4	0.9	B	1.2	1.15	12°	4	45	2.59	2.68	2.78	2.89	3.15
08-00527-00601		4	0.9	B	1.2	1.15	12°	4	45	4.26	4.43	4.61	4.81	5.27
08-00527-00602		6	0.9	B	1.2	1.15	12°	4	45	6.35	6.61	6.89	7.20	7.92
08-00527-00603		8	0.9	B	1.2	1.15	12°	4	45	8.43	8.79	9.17	9.59	10.58
08-00527-00604		10	0.9	B	1.2	1.15	12°	4	45	10.52	10.96	11.45	11.99	13.23
08-00527-00605		12	0.9	B	1.2	1.15	12°	4	45	12.61	13.14	13.73	14.38	15.89
08-00527-00606		14	0.9	B	1.2	1.15	12°	4	50	14.69	15.32	16.01	16.77	18.54
08-00527-00607		16	0.9	B	1.2	1.15	12°	4	50	16.78	17.50	18.29	19.17	21.20
08-00527-00703	R0.7	2	1	B	1.4	1.35	12°	4	45	2.17	2.24	2.31	2.39	2.58
08-00527-00704		4	1	B	1.4	1.35	12°	4	45	4.26	4.42	4.59	4.79	5.24
08-00527-00705		6	1	B	1.4	1.35	12°	4	45	6.34	6.60	6.88	7.18	7.89
08-00527-00700		8	1	B	1.4	1.35	12°	4	45	8.43	8.78	9.16	9.57	10.55
08-00527-00701		12	1	B	1.4	1.35	12°	4	50	12.60	13.13	13.72	14.36	15.85
08-00527-00702		16	1	B	1.4	1.35	12°	4	50	16.77	17.49	18.28	19.15	21.16
08-00527-00765	R0.75	2	1.1	B	1.5	1.45	12°	4	45	2.17	2.24	2.31	2.38	2.57
08-00527-00750		3	1.1	B	1.5	1.45	12°	4	45	3.21	3.33	3.45	3.58	3.89
08-00527-00751		4	1.1	B	1.5	1.45	12°	4	45	4.26	4.41	4.59	4.78	5.22
08-00527-00752		5	1.1	B	1.5	1.45	12°	4	45	5.30	5.50	5.73	5.97	6.55
08-00527-00753		6	1.1	B	1.5	1.45	12°	4	45	6.34	6.59	6.87	7.17	7.88
08-00528-00753		6	1.1	B	1.5	1.45	12°	6	50	6.34	6.59	6.87	7.17	7.88
08-00527-00755		8	1.1	B	1.5	1.45	12°	4	45	8.43	8.77	9.15	9.56	10.53
08-00528-00755		8	1.1	B	1.5	1.45	12°	6	50	8.43	8.77	9.15	9.56	10.53
08-00527-00757		10	1.1	B	1.5	1.45	12°	4	45	10.51	10.95	11.43	11.96	13.18
08-00527-00758		12	1.1	B	1.5	1.45	12°	4	45	12.60	13.13	13.71	14.35	15.84
08-00527-00759		14	1.1	B	1.5	1.45	12°	4	50	14.69	15.31	15.99	16.74	18.49
08-00527-00760		16	1.1	B	1.5	1.45	12°	4	50	16.77	17.49	18.27	19.14	21.15
08-00527-00761		18	1.1	B	1.5	1.45	12°	4	55	18.86	19.67	20.55	21.53	23.80
08-00527-00762		20	1.1	B	1.5	1.45	12°	4	55	20.94	21.85	22.84	23.92	Free
08-00527-00763		22	1.1	B	1.5	1.45	12°	4	60	23.03	24.02	25.12	26.32	Free
08-00527-00766		25	1.1	B	1.5	1.45	12°	4	65	26.16	27.29	28.54	29.91	Free
08-00527-00764		30	1.1	B	1.5	1.45	12°	4	70	31.37	32.74	34.24	35.89	Free
08-00527-00800	R0.8	2	1.2	B	1.6	1.55	12°	4	45	2.17	2.23	2.30	2.37	2.55
08-00527-00801		4	1.2	B	1.6	1.55	12°	4	45	4.25	4.41	4.58	4.77	5.21
08-00527-00802		6	1.2	B	1.6	1.55	12°	4	45	6.34	6.59	6.86	7.16	7.86
08-00527-00803		8	1.2	B	1.6	1.55	12°	4	45	8.43	8.77	9.14	9.55	10.51
08-00527-00805		12	1.2	B	1.6	1.55	12°	4	45	12.60	13.13	13.70	14.34	15.82

MRBH230

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM 2-Flute Long Neck Ball End Mill for Hardened Steel

R≧0.5可对应返修服务(柄长须在15mm以上。详情请咨询本公司。)

单位 [规格：mm]
Unit [Size : mm]

产品代码No. Code No.	(R)球头半径 Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	形状 Type	(D)外径 Dia.	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
08-00527-00807	R0.8	16	1.2	B	1.6	1.55	12°	4	50	16.77	17.48	18.27	19.13	21.13
08-00527-00809		20	1.2	B	1.6	1.55	12°	4	55	20.94	21.84	22.83	23.91	Free
08-00527-00901	R0.9	3	1.3	B	1.8	1.74	12°	4	45	3.23	3.34	3.45	3.58	3.88
08-00527-00902		4	1.3	B	1.8	1.74	12°	4	45	4.28	4.43	4.59	4.78	5.20
08-00527-00903		6	1.3	B	1.8	1.74	12°	4	45	6.36	6.61	6.87	7.17	7.86
08-00527-00904		8	1.3	B	1.8	1.74	12°	4	45	8.45	8.78	9.16	9.56	10.51
08-00527-00905		10	1.3	B	1.8	1.74	12°	4	45	10.53	10.96	11.44	11.96	13.17
08-00527-00906		12	1.3	B	1.8	1.74	12°	4	45	12.62	13.14	13.72	14.35	15.82
08-00527-00907		16	1.3	B	1.8	1.74	12°	4	50	16.79	17.50	18.28	19.14	21.13
08-00527-00908		18	1.3	B	1.8	1.74	12°	4	55	18.87	19.68	20.56	21.53	Free
08-00527-00909		20	1.3	B	1.8	1.74	12°	4	55	20.96	21.86	22.84	23.92	Free
08-00527-00910		22	1.3	B	1.8	1.74	12°	4	60	23.05	24.04	25.12	26.31	Free
08-00527-00911		25	1.3	B	1.8	1.74	12°	4	65	26.17	27.31	28.54	29.90	Free
08-00527-00912		30	1.3	B	1.8	1.74	12°	4	70	31.39	32.75	34.25	Free	Free
08-00527-01000	R1	2	1.5	B	2	1.94	12°	4	45	2.19	2.24	2.30	2.36	2.52
08-00527-01001		3	1.5	B	2	1.94	12°	4	45	3.23	3.33	3.44	3.56	3.85
08-00528-01001		3	1.5	B	2	1.94	12°	6	50	3.23	3.33	3.44	3.56	3.85
08-00527-01002		4	1.5	B	2	1.94	12°	4	45	4.27	4.42	4.58	4.76	5.17
08-00528-01002		4	1.5	B	2	1.94	12°	6	50	4.27	4.42	4.58	4.76	5.17
08-00527-01004		6	1.5	B	2	1.94	12°	4	45	6.36	6.60	6.86	7.15	7.83
08-00528-01004		6	1.5	B	2	1.94	12°	6	50	6.36	6.60	6.86	7.15	7.83
08-00527-01006		8	1.5	B	2	1.94	12°	4	45	8.44	8.78	9.14	9.54	10.48
08-00528-01006		8	1.5	B	2	1.94	12°	6	50	8.44	8.78	9.14	9.54	10.48
08-00527-01008		10	1.5	B	2	1.94	12°	4	45	10.53	10.95	11.42	11.94	13.14
08-00528-01008		10	1.5	B	2	1.94	12°	6	50	10.53	10.95	11.42	11.94	13.14
08-00527-01010		12	1.5	B	2	1.94	12°	4	45	12.61	13.13	13.70	14.33	15.79
08-00528-01010		12	1.5	B	2	1.94	12°	6	50	12.61	13.13	13.70	14.33	15.79
08-00527-01020		13	1.5	B	2	1.94	12°	4	45	13.66	14.22	14.84	15.53	17.12
08-00527-01011		14	1.5	B	2	1.94	12°	4	50	14.70	15.31	15.98	16.72	18.45
08-00528-01011		14	1.5	B	2	1.94	12°	6	50	14.70	15.31	15.98	16.72	18.45
08-00527-01012		16	1.5	B	2	1.94	12°	4	50	16.78	17.49	18.27	19.12	Free
08-00528-01012		16	1.5	B	2	1.94	12°	6	60	16.78	17.49	18.27	19.12	21.10
08-00527-01013		18	1.5	B	2	1.94	12°	4	55	18.87	19.67	20.55	21.51	Free
08-00528-01013		18	1.5	B	2	1.94	12°	6	60	18.87	19.67	20.55	21.51	23.75
08-00527-01014		20	1.5	B	2	1.94	12°	4	55	20.96	21.85	22.83	23.90	Free
08-00528-01014		20	1.5	B	2	1.94	12°	6	60	20.96	21.85	22.83	23.90	26.41
08-00527-01015		22	1.5	B	2	1.94	12°	4	60	23.04	24.03	25.11	26.30	Free
08-00527-01016		25	1.5	B	2	1.94	12°	4	65	26.17	27.30	28.53	Free	Free
08-00528-01016		25	1.5	B	2	1.94	12°	6	65	26.17	27.30	28.53	29.89	33.04
08-00527-01021		27	1.5	B	2	1.94	12°	4	70	28.26	29.48	30.81	Free	Free
08-00527-01017		30	1.5	B	2	1.94	12°	4	70	31.38	32.74	34.23	Free	Free
08-00528-01017		30	1.5	B	2	1.94	12°	6	70	31.38	32.74	34.23	35.87	Free
08-00527-01022		32	1.5	B	2	1.94	12°	4	70	33.47	34.92	36.51	Free	Free
08-00527-01018		35	1.5	B	2	1.94	12°	4	70	36.60	38.19	Free	Free	Free
08-00528-01018		35	1.5	B	2	1.94	12°	6	80	36.60	38.19	39.93	41.85	Free
08-00527-01019		40	1.5	B	2	1.94	12°	4	90	41.81	43.64	Free	Free	Free
08-00528-01019		40	1.5	B	2	1.94	12°	6	90	41.81	43.64	45.64	47.83	Free
08-00527-01258	R1.25	4	2.3	B	2.5	2.4	12°	4	45	4.36	4.50	4.65	4.82	5.22
08-00527-01250		6	2.3	B	2.5	2.4	12°	4	45	6.44	6.68	6.93	7.21	7.87
08-00527-01251		8	2.3	B	2.5	2.4	12°	4	45	8.53	8.86	9.21	9.61	10.53
08-00527-01252		10	2.3	B	2.5	2.4	12°	4	45	10.62	11.04	11.49	12.00	13.18
08-00527-01253		15	2.3	B	2.5	2.4	12°	4	50	15.83	16.48	17.20	17.98	Free
08-00527-01254		20	2.3	B	2.5	2.4	12°	4	55	21.04	21.93	22.90	Free	Free
08-00527-01255		25	2.3	B	2.5	2.4	12°	4	65	26.26	27.38	28.60	Free	Free
08-00527-01256		30	2.3	B	2.5	2.4	12°	4	70	31.47	32.82	Free	Free	Free
08-00527-01257		35	2.3	B	2.5	2.4	12°	4	70	36.69	38.27	Free	Free	Free
08-00527-01501	R1.5	6	2.5	B	3	2.85	12°	6	60	6.56	6.78	7.03	7.31	7.95
08-00527-01502		8	2.5	B	3	2.85	12°	6	60	8.64	8.96	9.31	9.70	10.60
08-00527-01503		10	2.5	B	3	2.85	12°	6	60	10.73	11.14	11.59	12.09	13.26
08-00527-01504		12	2.5	B	3	2.85	12°	6	60	12.81	13.32	13.88	14.49	15.91

订购方式 How to Order

请指定MRBH230 球头半径（R）×颈长（ℓ1）×柄径（d）。
When you order, indicate MRBH230 (R)×(ℓ1)×(d).

※全刃长类型（TYPE A）
Full cutting length type(TYPE A)

（γ）为参考值。
(γ) is reference value.

无限白金涂层
高硬度钢用2刃长颈球头铣刀
MUGEN COATING PREMIUM 2-Flute Long Neck Ball End Mill for Hardened Steel

单位 [规格：mm]
Unit [Size : mm]

产品代码No. Code No.	(R)球头半径 Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	形状 Type	(D)外径 Dia.	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
08-00527-01505	R1.5	14	2.5	B	3	2.85	12°	6	60	14.90	15.50	16.16	16.88	18.57
08-00527-01506		16	2.5	B	3	2.85	12°	6	60	16.98	17.68	18.44	19.27	21.22
08-00527-01507		18	2.5	B	3	2.85	12°	6	60	19.07	19.86	20.72	21.67	23.88
08-00527-01508		20	2.5	B	3	2.85	12°	6	65	21.16	22.04	23.00	24.06	26.53
08-00527-01513		22	2.5	B	3	2.85	12°	6	65	23.24	24.21	25.28	26.45	29.18
08-00527-01509		25	2.5	B	3	2.85	12°	6	65	26.37	27.48	28.70	30.04	Free
08-00527-01514		27	2.5	B	3	2.85	12°	6	70	28.46	29.66	30.98	32.44	Free
08-00527-01510		30	2.5	B	3	2.85	12°	6	70	31.58	32.93	34.40	36.03	Free
08-00527-01511		35	2.5	B	3	2.85	12°	6	80	36.80	38.38	40.11	42.01	Free
08-00527-01512		40	2.5	B	3	2.85	12°	6	90	42.01	43.83	45.81	Free	Free
08-00527-01757	R1.75	5	2.8	B	3.5	3.35	12°	6	60	5.50	5.67	5.86	6.06	6.54
08-00527-01758		10	2.8	B	3.5	3.35	12°	6	60	10.72	11.12	11.56	12.05	13.18
08-00527-01750		15	2.8	B	3.5	3.35	12°	6	60	15.93	16.57	17.26	18.03	19.81
08-00527-01754		20	2.8	B	3.5	3.35	12°	6	65	21.14	22.01	22.96	24.01	Free
08-00527-01751		25	2.8	B	3.5	3.35	12°	6	65	26.36	27.46	28.67	29.99	Free
08-00527-01755		30	2.8	B	3.5	3.35	12°	6	70	31.57	32.91	34.37	35.98	Free
08-00527-01752		35	2.8	B	3.5	3.35	12°	6	80	36.79	38.36	40.07	Free	Free
08-00527-01756		40	2.8	B	3.5	3.35	12°	6	90	42.00	43.80	45.77	Free	Free
08-00527-01753		45	2.8	B	3.5	3.35	12°	6	90	47.22	49.25	Free	Free	Free
08-00527-02015	R2	6	3	B	4	3.8	-	4	65	Free	Free	Free	Free	Free
08-00527-02016		6	3	B	4	3.8	12°	6	65	6.66	6.87	7.10	7.35	7.95
08-00527-02000		8	3	B	4	3.8	-	4	65	Free	Free	Free	Free	Free
08-00527-02001		8	3	B	4	3.8	12°	6	65	8.74	9.05	9.38	9.74	10.60
08-00527-02017		10	3	B	4	3.8	-	4	65	Free	Free	Free	Free	Free
08-00527-02002		10	3	B	4	3.8	12°	6	65	10.83	11.22	11.66	12.14	13.25
08-00527-02003		12	3	B	4	3.8	12°	6	65	12.91	13.40	13.94	14.53	15.91
08-00527-02101		14	3	B	4	3.8	12°	6	65	15.00	15.58	16.22	16.92	18.56
08-00527-02004		15	3	B	4	3.8	12°	6	65	16.04	16.67	17.36	18.12	19.89
08-00527-02005		16	3	B	4	3.8	12°	6	65	17.09	17.76	18.50	19.32	Free
08-00527-02018		18	3	B	4	3.8	12°	6	65	19.17	19.94	20.78	21.71	Free
08-00527-02006		20	3	B	4	3.8	12°	6	65	21.26	22.12	23.06	24.10	Free
08-00527-02007		22	3	B	4	3.8	12°	6	70	23.34	24.30	25.35	26.50	Free
08-00527-02008		25	3	B	4	3.8	12°	6	70	26.47	27.57	28.77	30.09	Free
08-00527-02009		27	3	B	4	3.8	12°	6	70	28.56	29.75	31.05	Free	Free
08-00527-02010		30	3	B	4	3.8	12°	6	70	31.68	33.01	34.47	Free	Free
08-00527-02011		35	3	B	4	3.8	12°	6	80	36.90	38.46	Free	Free	Free
08-00527-02012		40	3	B	4	3.8	12°	6	85	42.11	43.91	Free	Free	Free
08-00527-02013		45	3	B	4	3.8	12°	6	90	47.33	49.36	Free	Free	Free
08-00527-02014		50	3	B	4	3.8	12°	6	100	52.54	54.80	Free	Free	Free
08-00527-02500	R2.5	10	3.5	B	5	4.8	12°	6	70	10.81	11.18	11.59	12.04	Free
08-00527-02501		15	3.5	B	5	4.8	12°	6	70	16.02	16.63	17.29	Free	Free
08-00527-02502		20	3.5	B	5	4.8	12°	6	70	21.24	22.08	Free	Free	Free
08-00527-02503		25	3.5	B	5	4.8	12°	6	70	26.45	27.52	Free	Free	Free
08-00527-02504		30	3.5	B	5	4.8	12°	6	80	31.66	Free	Free	Free	Free
08-00527-02505		35	3.5	B	5	4.8	12°	6	80	36.88	Free	Free	Free	Free
08-00527-02506		40	3.5	B	5	4.8	12°	6	90	42.09	Free	Free	Free	Free
08-00527-02507		45	3.5	B	5	4.8	12°	6	100	47.31	Free	Free	Free	Free
08-00527-02508		50	3.5	B	5	4.8	12°	6	100	52.52	Free	Free	Free	Free
08-00527-03009	R3	8	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03000		10	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03010		12	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03001		15	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03011		18	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03002		20	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03003		25	6	B	6	5.7	-	6	70	Free	Free	Free	Free	Free
08-00527-03004		30	6	B	6	5.7	-	6	80	Free	Free	Free	Free	Free
08-00527-03007		35	6	B	6	5.7	-	6	85	Free	Free	Free	Free	Free
08-00527-03005		40	6	B	6	5.7	-	6	90	Free	Free	Free	Free	Free
08-00527-03006		50	6	B	6	5.7	-	6	120	Free	Free	Free	Free	Free
08-00527-03008		60	6	B	6	5.7	-	6	120	Free	Free	Free	Free	Free

MRBH230

切削条件参考表 Recommended Conditions

加工材料 Work Material			高硬度钢 Hardened Steels SKD61·STAVAX·HPM-38(∽52HRC)				高硬度钢 Hardened Steels SKD11(∽62HRC)				高速钢 High Speed Steels SKH(∽65HRC)			
R球头半径 Radius	颈长 Under Neck Length	L(颈长)/D(外径) L/D	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}
0.05	0.2	2.0	0.003	0.005	120	40,000	0.002	0.005	100	40,000	0.002	0.003	70	40,000
	0.25	2.5	0.003	0.005	110	40,000	0.002	0.005	80	40,000	0.002	0.003	50	40,000
	0.3	3.0	0.003	0.005	100	40,000	0.002	0.005	70	40,000	0.002	0.003	50	40,000
	0.35	3.5	0.002	0.005	100	40,000	0.001	0.005	70	40,000	0.001	0.003	50	40,000
	0.4	4.0	0.002	0.005	90	40,000	0.001	0.005	70	40,000	0.001	0.003	50	40,000
	0.45	4.5	0.002	0.003	80	40,000	0.001	0.003	60	40,000	0.001	0.002	40	40,000
	0.5	5.0	0.002	0.003	70	40,000	0.001	0.003	50	40,000	0.001	0.002	30	40,000
0.075	0.25	1.7	0.003	0.005	200	40,000	0.002	0.005	160	40,000	0.002	0.003	120	40,000
	0.3	2.0	0.003	0.005	180	40,000	0.002	0.005	150	40,000	0.002	0.003	100	40,000
	0.35	2.3	0.003	0.005	180	40,000	0.002	0.005	150	40,000	0.002	0.003	100	40,000
	0.4	2.6	0.003	0.005	150	40,000	0.002	0.005	120	40,000	0.002	0.003	70	40,000
	0.45	3.0	0.003	0.005	150	40,000	0.002	0.005	120	40,000	0.002	0.003	70	40,000
	0.5	3.3	0.003	0.005	150	40,000	0.002	0.005	120	40,000	0.002	0.003	70	40,000
	0.6	4.0	0.002	0.003	120	40,000	0.001	0.003	100	40,000	0.001	0.002	50	40,000
	0.75	5.0	0.002	0.003	100	40,000	0.001	0.003	80	40,000	0.001	0.002	40	40,000
	1	6.7	0.002	0.003	70	40,000	0.001	0.003	50	40,000	0.001	0.002	30	40,000
0.1	0.3	1.5	0.01	0.01	350	40,000	0.006	0.005	300	40,000	0.003	0.003	200	40,000
	0.4	2.0	0.008	0.01	330	40,000	0.005	0.005	290	40,000	0.003	0.003	200	40,000
	0.5	2.5	0.008	0.01	320	40,000	0.005	0.005	280	40,000	0.003	0.003	180	40,000
	0.6	3.0	0.005	0.01	300	40,000	0.003	0.005	250	40,000	0.002	0.003	160	40,000
	0.75	3.8	0.005	0.01	280	40,000	0.003	0.005	200	40,000	0.002	0.003	150	40,000
	0.85	4.3	0.003	0.005	260	40,000	0.002	0.005	180	40,000	0.001	0.003	130	40,000
	1	5.0	0.003	0.005	250	40,000	0.002	0.003	160	40,000	0.001	0.002	120	40,000
	1.25	6.3	0.003	0.005	180	40,000	0.002	0.003	140	40,000	0.001	0.002	100	40,000
	1.5	7.5	0.003	0.005	150	40,000	0.002	0.003	120	40,000	0.001	0.002	80	40,000
	1.75	8.8	0.002	0.003	120	40,000	0.001	0.002	100	40,000	0.001	0.002	60	40,000
	2	10.0	0.002	0.003	100	40,000	0.001	0.002	80	40,000	0.001	0.001	50	40,000
	2.25	11.3	0.001	0.002	80	40,000	0.001	0.001	70	40,000	0.001	0.001	45	40,000
	2.5	12.5	0.001	0.002	70	40,000	0.001	0.001	60	40,000	0.001	0.001	40	40,000
	2.75	13.8	0.001	0.001	60	40,000	0.001	0.001	50	40,000	0.001	0.001	35	40,000
	3	15.0	0.001	0.001	50	40,000	0.001	0.001	40	40,000	0.001	0.001	30	40,000
0.15	-	-	0.01	0.015	450	40,000	0.007	0.01	380	40,000	0.003	0.005	320	40,000
	0.5	1.6	0.01	0.015	350	40,000	0.007	0.01	300	40,000	0.003	0.005	280	40,000
	0.6	2.0	0.007	0.01	350	40,000	0.005	0.007	300	40,000	0.003	0.005	250	40,000
	0.75	2.5	0.007	0.01	330	40,000	0.005	0.007	280	40,000	0.003	0.005	230	40,000
	1	3.3	0.007	0.01	320	40,000	0.005	0.007	250	40,000	0.003	0.005	200	40,000
	1.25	4.2	0.005	0.007	280	40,000	0.003	0.005	200	40,000	0.002	0.003	160	40,000
	1.5	5.0	0.005	0.007	230	40,000	0.003	0.005	180	40,000	0.002	0.003	120	40,000
	1.75	5.8	0.003	0.005	180	40,000	0.002	0.003	150	40,000	0.002	0.002	100	40,000
	2	6.6	0.003	0.005	150	40,000	0.002	0.003	120	40,000	0.002	0.002	90	40,000
	2.25	7.5	0.002	0.003	120	40,000	0.001	0.002	100	40,000	0.001	0.001	80	40,000
	2.5	8.3	0.002	0.003	100	40,000	0.001	0.002	80	40,000	0.001	0.001	70	40,000
	3	10.0	0.001	0.003	80	40,000	0.001	0.002	70	40,000	0.001	0.001	60	40,000
	3.5	11.7	0.001	0.002	70	40,000	0.001	0.001	60	40,000	0.001	0.001	50	40,000
	4	13.3	0.001	0.002	60	40,000	0.001	0.001	50	40,000	0.001	0.001	40	40,000
	4.5	15.0	0.001	0.001	50	40,000	0.001	0.001	40	40,000	0.001	0.001	30	40,000
0.2	-	-	0.03	0.05	800	40,000	0.03	0.03	720	40,000	0.009	0.02	580	40,000
	0.5	1.3	0.03	0.05	800	40,000	0.03	0.03	720	40,000	0.009	0.02	580	40,000
	0.65	1.6	0.025	0.05	800	40,000	0.025	0.03	720	40,000	0.009	0.02	580	40,000
	0.8	2.0	0.02	0.05	800	40,000	0.02	0.03	720	40,000	0.008	0.02	580	40,000
	1	2.5	0.02	0.05	800	40,000	0.02	0.03	720	40,000	0.008	0.02	580	40,000
	1.25	3.1	0.015	0.04	700	40,000	0.015	0.02	620	40,000	0.006	0.02	470	40,000
	1.5	3.8	0.01	0.03	620	40,000	0.01	0.02	500	40,000	0.005	0.01	400	40,000
	1.75	4.4	0.01	0.025	580	40,000	0.01	0.02	450	40,000	0.005	0.01	340	40,000
	2	5.0	0.01	0.02	500	40,000	0.01	0.01	380	40,000	0.005	0.007	300	40,000
	2.25	5.6	0.01	0.015	460	40,000	0.005	0.01	330	40,000	0.003	0.005	280	40,000

切削参数参考表 Recommended Conditions

加工材料 Work Material			高硬度钢 Hardened Steels SKD61·STAVAX·HPM-38(∽52HRC)				高硬度钢 Hardened Steels SKD11(∽62HRC)				高速钢 High Speed Steels SKH(∽65HRC)			
R球头半径 Radius	颈长 Under Neck Length	L(颈长)/D(外径) L/D	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}
0.2	2.5	6.3	0.007	0.01	420	40,000	0.005	0.007	300	40,000	0.003	0.005	260	40,000
	2.75	6.9	0.007	0.01	350	40,000	0.005	0.007	280	40,000	0.003	0.005	220	40,000
	3	7.5	0.007	0.01	300	40,000	0.005	0.007	240	40,000	0.003	0.005	200	40,000
	3.5	8.8	0.005	0.007	230	40,000	0.003	0.005	160	40,000	0.002	0.003	120	40,000
	4	10.0	0.005	0.005	160	30,000	0.003	0.003	120	30,000	0.002	0.003	90	30,000
	4.5	11.3	0.003	0.005	100	30,000	0.002	0.003	80	30,000	0.001	0.002	60	30,000
	5	12.5	0.002	0.003	70	30,000	0.001	0.002	50	30,000	0.001	0.002	40	30,000
	5.5	13.8	0.001	0.002	60	30,000	0.001	0.002	40	30,000	0.001	0.001	40	30,000
	6	15.0	0.001	0.002	50	30,000	0.001	0.001	40	30,000	0.001	0.001	30	30,000
0.25	-	-	0.04	0.07	1,000	40,000	0.03	0.05	860	40,000	0.015	0.03	650	40,000
	0.5	1.0	0.04	0.07	1,000	40,000	0.03	0.04	860	40,000	0.015	0.03	650	40,000
	0.75	1.5	0.03	0.06	1,000	40,000	0.025	0.03	860	40,000	0.012	0.02	650	40,000
	1	2.0	0.03	0.05	1,000	40,000	0.02	0.03	860	40,000	0.01	0.02	650	40,000
	1.25	2.5	0.025	0.05	920	40,000	0.02	0.03	780	40,000	0.01	0.02	580	40,000
	1.5	3.0	0.02	0.05	850	40,000	0.01	0.03	720	40,000	0.007	0.02	520	40,000
	1.75	3.5	0.02	0.04	800	40,000	0.01	0.03	680	40,000	0.007	0.02	480	40,000
	2	4.0	0.02	0.03	720	40,000	0.01	0.02	650	40,000	0.007	0.01	400	40,000
	2.25	4.5	0.015	0.03	650	40,000	0.007	0.02	580	40,000	0.005	0.01	380	40,000
	2.5	5.0	0.01	0.02	600	40,000	0.007	0.01	530	40,000	0.005	0.007	360	40,000
	3	6.0	0.01	0.02	500	40,000	0.007	0.01	420	40,000	0.005	0.007	320	40,000
	3.5	7.0	0.007	0.01	420	40,000	0.005	0.007	360	40,000	0.003	0.005	280	40,000
	4	8.0	0.007	0.01	350	40,000	0.005	0.007	300	40,000	0.003	0.005	260	40,000
	4.5	9.0	0.005	0.005	300	40,000	0.003	0.003	260	40,000	0.002	0.003	220	40,000
	5	10.0	0.005	0.005	240	33,000	0.003	0.003	200	33,000	0.002	0.003	180	33,000
	5.5	11.0	0.003	0.005	200	30,000	0.002	0.003	160	30,000	0.001	0.002	120	30,000
	6	12.0	0.002	0.003	120	30,000	0.001	0.002	80	30,000	0.001	0.002	70	30,000
	7	14.0	0.002	0.002	90	30,000	0.001	0.002	70	30,000	0.001	0.002	60	30,000
	8	16.0	0.002	0.002	75	30,000	0.001	0.002	60	30,000	0.001	0.002	50	30,000
	9	18.0	0.001	0.002	60	25,000	0.001	0.002	50	25,000	0.001	0.001	35	22,000
	10	20.0	0.001	0.002	40	20,000	0.001	0.002	30	20,000	0.001	0.001	20	20,000
0.3	-	-	0.05	0.1	1,400	40,000	0.03	0.08	1,000	40,000	0.02	0.05	720	35,000
	0.6	1.0	0.05	0.1	1,400	40,000	0.03	0.08	1,000	40,000	0.02	0.05	720	35,000
	0.8	1.3	0.05	0.1	1,400	40,000	0.03	0.08	1,000	40,000	0.02	0.05	720	35,000
	1	1.7	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	1.25	2.1	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	1.5	2.5	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	1.75	2.9	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	2	3.3	0.05	0.1	1,400	40,000	0.03	0.06	1,000	40,000	0.02	0.05	720	30,000
	2.25	3.8	0.03	0.05	1,400	40,000	0.02	0.04	900	40,000	0.02	0.03	670	30,000
	2.5	4.2	0.03	0.05	1,200	40,000	0.02	0.04	840	40,000	0.02	0.03	640	30,000
	2.75	4.6	0.03	0.05	1,200	40,000	0.02	0.04	840	40,000	0.02	0.03	640	30,000
	3	5.0	0.03	0.05	1,200	40,000	0.02	0.04	840	40,000	0.02	0.03	640	30,000
	3.5	5.8	0.02	0.03	1,000	40,000	0.01	0.03	620	40,000	0.01	0.02	480	30,000
	4	6.7	0.02	0.03	1,000	40,000	0.01	0.03	620	40,000	0.01	0.02	480	30,000
	4.5	7.5	0.02	0.03	900	35,000	0.01	0.02	580	35,000	0.008	0.015	430	30,000
	5	8.3	0.01	0.02	720	30,000	0.007	0.015	500	30,000	0.007	0.01	400	30,000
	5.5	9.2	0.01	0.015	700	30,000	0.007	0.01	450	30,000	0.005	0.008	360	30,000
	6	10.0	0.007	0.01	500	30,000	0.005	0.007	380	30,000	0.004	0.006	320	30,000
	6.5	10.8	0.006	0.007	460	30,000	0.004	0.005	350	30,000	0.003	0.005	290	26,000
	7	11.7	0.005	0.007	400	25,000	0.003	0.005	300	25,000	0.003	0.003	260	20,000
	7.5	12.5	0.004	0.006	360	25,000	0.003	0.004	280	25,000	0.002	0.003	240	20,000
	8	13.3	0.003	0.005	320	25,000	0.003	0.003	260	25,000	0.002	0.003	220	20,000
	9	15.0	0.003	0.003	280	25,000	0.003	0.002	220	25,000	0.001	0.002	160	20,000
	10	16.6	0.002	0.003	150	20,000	0.002	0.002	120	20,000	0.001	0.002	100	18,000
	12	20.0	0.002	0.002	80	20,000	0.002	0.002	60	20,000	0.001	0.002	50	18,000

MRBH230

切削参数参考表 Recommended Conditions

加工材料 Work Material			高硬度钢 Hardened Steels SKD61·STAVAX·HPM-38(∽52HRC)				高硬度钢 Hardened Steels SKD11(∽62HRC)				高速钢 High Speed Steels SKH(∽65HRC)			
R球头半径 Radius	颈长 Under Neck Length	L(颈长)/D(外径) L/D	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}
0.35	-	-	0.07	0.1	1,600	40,000	0.05	0.08	1,300	40,000	0.03	0.07	1,000	35,000
	1	1.4	0.07	0.1	1,600	40,000	0.05	0.08	1,300	40,000	0.03	0.07	1,000	35,000
	2	2.9	0.07	0.1	1,600	40,000	0.05	0.08	1,300	40,000	0.03	0.07	1,000	30,000
	4	5.7	0.04	0.06	1,300	40,000	0.03	0.04	820	40,000	0.015	0.02	600	30,000
	6	8.6	0.01	0.03	800	30,000	0.01	0.015	500	30,000	0.006	0.01	420	25,000
	8	11.4	0.006	0.01	520	25,000	0.005	0.006	380	20,000	0.004	0.006	250	20,000
0.4	-	-	0.1	0.15	2,000	40,000	0.08	0.12	1,600	40,000	0.06	0.1	1,200	35,000
	1	1.3	0.1	0.15	2,000	40,000	0.08	0.12	1,600	40,000	0.06	0.1	1,200	35,000
	1.5	1.9	0.1	0.15	2,000	40,000	0.08	0.12	1,600	40,000	0.06	0.1	1,200	35,000
	2	2.5	0.1	0.15	2,000	40,000	0.07	0.1	1,600	40,000	0.05	0.1	1,200	30,000
	2.5	3.1	0.1	0.15	2,000	40,000	0.07	0.1	1,600	40,000	0.05	0.08	1,200	30,000
	3	3.8	0.1	0.15	2,000	40,000	0.07	0.1	1,600	40,000	0.05	0.05	1,200	30,000
	3.5	4.4	0.08	0.12	2,000	40,000	0.06	0.08	1,600	40,000	0.04	0.05	1,200	30,000
	4	5.0	0.05	0.1	1,600	40,000	0.05	0.05	1,200	40,000	0.03	0.05	860	30,000
	4.5	5.6	0.05	0.08	1,600	40,000	0.04	0.05	1,200	40,000	0.02	0.04	860	30,000
	5	6.3	0.05	0.05	1,600	40,000	0.03	0.05	1,000	40,000	0.02	0.03	620	30,000
	6	7.5	0.03	0.05	1,200	30,000	0.02	0.03	760	30,000	0.01	0.02	560	25,000
	7	8.8	0.02	0.03	1,000	30,000	0.01	0.02	680	30,000	0.007	0.01	520	25,000
	8	10.0	0.01	0.02	820	30,000	0.007	0.01	600	30,000	0.005	0.01	480	25,000
	9	11.3	0.008	0.01	700	30,000	0.005	0.005	550	30,000	0.003	0.005	420	25,000
	10	12.5	0.005	0.005	450	25,000	0.003	0.003	380	25,000	0.002	0.003	320	20,000
	12	15.0	0.003	0.005	320	20,000	0.002	0.003	260	20,000	0.002	0.002	200	20,000
	16	20.0	0.002	0.003	250	18,000	0.002	0.002	200	18,000	0.001	0.002	140	16,000
0.45	-	-	0.1	0.2	2,200	40,000	0.08	0.15	1,800	32,000	0.06	0.1	1,300	30,000
	1	1.1	0.1	0.2	2,200	40,000	0.08	0.15	1,800	32,000	0.06	0.1	1,300	30,000
	2	2.2	0.1	0.2	2,200	40,000	0.08	0.15	1,800	30,000	0.06	0.1	1,300	30,000
	4	4.4	0.05	0.12	1,800	40,000	0.04	0.08	1,400	30,000	0.03	0.05	900	25,000
	6	6.7	0.035	0.05	1,200	30,000	0.025	0.035	800	25,000	0.015	0.025	600	20,000
	8	8.9	0.025	0.04	1,000	30,000	0.015	0.025	700	23,000	0.008	0.015	500	20,000
0.5	-	-	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.12	1,400	25,000
	1	1.0	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.12	1,400	25,000
	1.5	1.5	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.12	1,400	25,000
	2	2.0	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.1	1,400	25,000
	2.5	2.5	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.1	1,400	25,000
	3	3.0	0.1	0.3	2,500	40,000	0.1	0.2	2,000	30,000	0.08	0.1	1,400	25,000
	3.5	3.5	0.1	0.25	2,500	40,000	0.07	0.15	1,800	30,000	0.06	0.1	1,300	25,000
	4	4.0	0.1	0.2	2,500	40,000	0.05	0.15	1,800	30,000	0.05	0.1	1,200	25,000
	4.5	4.5	0.08	0.2	2,000	30,000	0.05	0.1	1,600	25,000	0.04	0.07	950	20,000
	5	5.0	0.05	0.15	2,000	30,000	0.04	0.1	1,600	25,000	0.03	0.05	920	20,000
	6	6.0	0.05	0.1	1,800	30,000	0.04	0.05	1,200	25,000	0.02	0.05	740	20,000
	7	7.0	0.04	0.06	1,200	30,000	0.03	0.04	950	25,000	0.02	0.03	680	20,000
	8	8.0	0.04	0.06	1,000	30,000	0.03	0.04	860	25,000	0.02	0.03	560	20,000
	9	9.0	0.03	0.05	820	25,000	0.02	0.03	750	20,000	0.01	0.02	500	18,000
	10	10.0	0.03	0.05	750	25,000	0.02	0.03	620	20,000	0.01	0.02	450	18,000
	12	12.0	0.01	0.03	600	20,000	0.007	0.02	520	18,000	0.005	0.01	400	16,000
	13	13.0	0.008	0.02	500	20,000	0.005	0.01	420	18,000	0.003	0.006	350	16,000
	14	14.0	0.005	0.01	420	20,000	0.003	0.007	360	18,000	0.002	0.005	320	16,000
	16	16.0	0.005	0.005	300	18,000	0.003	0.005	250	16,000	0.002	0.003	200	14,000
	18	18.0	0.003	0.005	180	18,000	0.002	0.005	120	16,000	0.002	0.002	85	14,000
	20	20.0	0.003	0.003	100	16,000	0.002	0.003	75	14,000	0.002	0.002	60	12,000
	22	22.0	0.002	0.003	50	14,000	0.002	0.002	40	12,000	0.001	0.002	35	10,000
0.6	1.2	1.0	0.1	0.3	2,500	30,000	0.1	0.2	2,000	30,000	0.05	0.1	1,600	25,000
	2.4	2.0	0.1	0.3	2,500	30,000	0.1	0.2	2,000	30,000	0.05	0.1	1,600	25,000
	4	3.3	0.1	0.2	2,500	30,000	0.07	0.2	2,000	30,000	0.05	0.1	1,600	25,000
	6	5.0	0.07	0.1	2,000	30,000	0.05	0.1	1,600	25,000	0.03	0.07	1,200	20,000
	8	6.7	0.05	0.1	1,600	30,000	0.03	0.07	1,200	25,000	0.02	0.05	920	20,000

切削参数参考表 Recommended Conditions

加工材料 Work Material			高硬度钢 Hardened Steels SKD61·STAVAX·HPM-38(∽52HRC)				高硬度钢 Hardened Steels SKD11(∽62HRC)				高速钢 High Speed Steels SKH(∽65HRC)			
R球头半径 Radius	颈长 Under Neck Length	L(颈长)/D(外径) L/D	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}
0.6	10	8.3	0.03	0.07	1,200	20,000	0.02	0.05	860	20,000	0.01	0.03	680	18,000
	12	10.0	0.02	0.05	860	20,000	0.01	0.03	620	20,000	0.007	0.02	480	18,000
	14	11.7	0.02	0.03	600	18,000	0.01	0.02	400	18,000	0.005	0.01	300	16,000
	16	13.3	0.01	0.02	350	16,000	0.005	0.01	250	16,000	0.003	0.007	130	14,000
0.7	2	1.4	0.12	0.3	2,500	30,000	0.1	0.25	2,200	30,000	0.08	0.15	1,800	25,000
	4	2.9	0.12	0.25	2,500	30,000	0.1	0.2	2,200	30,000	0.05	0.15	1,800	25,000
	6	4.3	0.12	0.2	2,500	30,000	0.08	0.15	2,000	27,000	0.05	0.1	1,300	22,000
	8	5.7	0.12	0.2	2,500	30,000	0.08	0.15	1,800	20,000	0.03	0.08	1,000	20,000
	12	8.6	0.07	0.12	1,400	20,000	0.04	0.08	1,100	18,000	0.015	0.05	700	18,000
	16	11.4	0.02	0.05	700	17,000	0.01	0.03	600	17,000	0.008	0.02	450	16,000
0.75	2	1.3	0.15	0.3	3,000	30,000	0.1	0.3	2,500	30,000	0.1	0.2	2,000	25,000
	3	2.0	0.15	0.3	3,000	30,000	0.1	0.3	2,500	30,000	0.1	0.2	2,000	25,000
	4	2.7	0.15	0.3	3,000	30,000	0.1	0.3	2,500	30,000	0.1	0.2	2,000	25,000
	5	3.3	0.15	0.25	3,000	30,000	0.1	0.25	2,300	30,000	0.1	0.15	1,800	25,000
	6	4.0	0.15	0.2	3,000	30,000	0.1	0.2	2,000	30,000	0.1	0.1	1,600	25,000
	8	5.3	0.1	0.2	2,500	25,000	0.05	0.2	1,600	25,000	0.05	0.1	1,200	20,000
	10	6.7	0.1	0.1	2,500	25,000	0.05	0.1	1,200	25,000	0.05	0.05	860	20,000
	12	8.0	0.05	0.1	1,800	20,000	0.03	0.1	920	20,000	0.02	0.05	780	18,000
	14	9.3	0.05	0.07	1,200	20,000	0.03	0.05	820	20,000	0.02	0.03	650	18,000
	16	10.7	0.03	0.05	720	18,000	0.02	0.03	650	18,000	0.01	0.02	580	16,000
	18	12.0	0.02	0.04	550	16,000	0.012	0.025	400	16,000	0.008	0.015	400	14,000
	20	13.3	0.01	0.03	450	16,000	0.01	0.02	360	16,000	0.007	0.01	300	14,000
	22	14.7	0.01	0.02	330	14,000	0.01	0.01	250	14,000	0.007	0.007	200	12,000
	25	16.7	0.008	0.01	180	12,000	0.005	0.005	140	12,000	0.004	0.004	110	10,000
	30	20.0	0.005	0.005	80	10,000	0.003	0.005	60	10,000	0.003	0.003	40	8,000
0.8	2	1.3	0.15	0.3	3,000	30,000	0.1	0.25	2,500	25,000	0.1	0.2	2,000	20,000
	4	2.5	0.15	0.3	3,000	30,000	0.1	0.2	2,300	25,000	0.08	0.15	1,800	20,000
	6	3.8	0.15	0.25	3,000	30,000	0.1	0.2	2,000	23,000	0.07	0.12	1,600	20,000
	8	5.0	0.1	0.2	2,500	25,000	0.07	0.15	2,000	20,000	0.05	0.1	1,600	18,000
	12	7.5	0.07	0.1	1,800	20,000	0.05	0.07	1,500	16,000	0.03	0.05	1,200	14,000
	16	10.0	0.03	0.05	720	16,000	0.02	0.03	600	14,000	0.015	0.02	480	12,000
	20	12.5	0.01	0.03	500	14,000	0.01	0.02	380	12,000	0.01	0.01	300	10,000
0.9	3	1.7	0.15	0.35	3,000	27,000	0.12	0.3	2,500	25,000	0.1	0.25	2,000	20,000
	4	2.2	0.15	0.35	3,000	27,000	0.12	0.25	2,500	25,000	0.1	0.2	1,800	20,000
	6	3.3	0.15	0.35	3,000	27,000	0.12	0.25	2,500	25,000	0.1	0.2	1,600	18,000
	8	4.4	0.1	0.3	2,500	25,000	0.08	0.2	2,300	23,000	0.08	0.15	1,400	17,000
	10	5.6	0.1	0.3	2,000	20,000	0.08	0.2	1,700	18,000	0.08	0.12	1,100	14,000
	12	6.7	0.07	0.2	1,600	20,000	0.05	0.15	1,300	17,000	0.05	0.12	900	13,000
	16	8.9	0.07	0.15	1,200	18,000	0.05	0.1	1,000	16,000	0.03	0.1	720	12,000
	18	10.0	0.05	0.1	1,000	15,000	0.03	0.08	800	14,000	0.02	0.08	600	11,000
	20	11.1	0.05	0.08	800	15,000	0.03	0.05	640	13,000	0.02	0.05	430	9,000
	22	12.2	0.03	0.05	650	15,000	0.02	0.03	520	12,000	0.015	0.03	340	8,000
	25	13.9	0.02	0.03	480	12,000	0.015	0.02	340	10,000	0.01	0.02	230	7,000
	30	16.7	0.01	0.02	300	12,000	0.007	0.01	210	10,000	0.005	0.01	120	6,000
1	2	1.0	0.2	0.5	3,000	25,000	0.2	0.5	2,500	25,000	0.15	0.3	2,000	20,000
	3	1.5	0.2	0.5	3,000	25,000	0.2	0.5	2,500	25,000	0.15	0.3	2,000	20,000
	4	2.0	0.2	0.5	3,000	25,000	0.2	0.5	2,500	25,000	0.15	0.3	2,000	20,000
	6	3.0	0.2	0.4	2,500	25,000	0.2	0.3	2,000	25,000	0.15	0.3	1,600	20,000
	8	4.0	0.2	0.3	2,000	20,000	0.1	0.2	1,600	18,000	0.1	0.2	1,200	16,000
	10	5.0	0.1	0.3	2,000	18,000	0.1	0.2	1,600	16,000	0.1	0.1	1,200	14,000
	12	6.0	0.1	0.2	1,600	16,000	0.1	0.1	1,200	14,000	0.05	0.1	940	12,000
	13	6.5	0.08	0.2	1,600	16,000	0.06	0.1	1,200	14,000	0.04	0.08	940	12,000
	14	7.0	0.07	0.15	1,600	16,000	0.05	0.08	1,200	14,000	0.03	0.07	940	12,000
	16	8.0	0.07	0.15	1,600	16,000	0.05	0.08	1,200	14,000	0.03	0.07	940	12,000
	18	9.0	0.05	0.1	1,400	14,000	0.03	0.05	1,000	12,000	0.02	0.03	850	10,000
	20	10.0	0.05	0.1	1,000	14,000	0.03	0.05	820	12,000	0.02	0.03	720	10,000

MRBH230

切削参数参考表 Recommended Conditions

加工材料 Work Material			高硬度钢 Hardened Steels SKD61·STAVAX·HPM-38(∽52HRC)				高硬度钢 Hardened Steels SKD11(∽62HRC)				高速钢 High Speed Steels SKH(∽65HRC)			
R球头半径 Radius	颈长 Under Neck Length	L(颈长)/D(外径) L/D	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}
1	22	11.0	0.03	0.08	850	14,000	0.02	0.06	700	12,000	0.02	0.02	600	10,000
	25	12.5	0.03	0.05	680	12,000	0.02	0.03	560	10,000	0.01	0.02	420	8,500
	27	13.5	0.02	0.05	500	12,000	0.015	0.03	410	10,000	0.01	0.02	330	8,500
	30	15.0	0.02	0.03	360	12,000	0.01	0.02	300	10,000	0.008	0.01	240	8,500
	32	16.0	0.02	0.02	230	10,000	0.01	0.015	180	8,000	0.008	0.01	150	6,800
	35	17.5	0.01	0.02	150	10,000	0.007	0.01	120	8,000	0.005	0.007	100	6,800
	40	20.0	0.005	0.01	100	10,000	0.003	0.005	80	8,000	0.002	0.003	50	6,800
1.25	4	1.6	0.3	0.5	3,000	20,000	0.2	0.5	2,500	20,000	0.15	0.4	2,000	18,000
	6	2.4	0.3	0.4	2,800	20,000	0.2	0.5	2,300	20,000	0.15	0.4	2,000	18,000
	8	3.2	0.25	0.3	2,600	20,000	0.15	0.3	2,100	20,000	0.12	0.25	1,800	18,000
	10	4.0	0.2	0.3	2,500	20,000	0.15	0.2	2,000	20,000	0.1	0.15	1,600	18,000
	15	6.0	0.1	0.2	2,000	18,000	0.07	0.15	1,600	16,000	0.05	0.1	1,200	14,000
	20	8.0	0.07	0.15	1,500	16,000	0.05	0.1	1,200	14,000	0.03	0.05	1,000	10,000
	25	10.0	0.05	0.1	1,000	14,000	0.03	0.07	850	12,000	0.02	0.03	720	8,000
	30	12.0	0.03	0.07	720	12,000	0.02	0.05	640	10,000	0.01	0.02	580	7,000
	35	14.0	0.02	0.03	450	10,000	0.01	0.02	400	8,500	0.007	0.01	320	6,200
1.5	6	2.0	0.2	0.8	3,000	20,000	0.2	0.6	2,500	18,000	0.2	0.5	2,000	14,000
	8	2.7	0.2	0.8	3,000	20,000	0.2	0.6	2,500	18,000	0.2	0.5	2,000	14,000
	10	3.3	0.2	0.6	2,500	20,000	0.2	0.4	2,000	18,000	0.1	0.3	1,500	14,000
	12	4.0	0.2	0.6	2,500	20,000	0.2	0.4	2,000	18,000	0.1	0.3	1,500	14,000
	14	4.7	0.1	0.4	2,000	18,000	0.1	0.3	1,600	16,000	0.1	0.2	1,200	12,000
	16	5.3	0.1	0.4	2,000	18,000	0.1	0.3	1,600	16,000	0.1	0.2	1,200	12,000
	18	6.0	0.1	0.3	1,800	18,000	0.1	0.2	1,400	16,000	0.1	0.15	1,100	12,000
	20	6.7	0.1	0.3	1,600	18,000	0.1	0.2	1,200	16,000	0.1	0.1	960	12,000
	22	7.3	0.1	0.2	1,400	17,000	0.07	0.15	1,000	15,000	0.07	0.07	880	11,000
	25	8.3	0.1	0.2	1,200	16,000	0.07	0.15	920	14,000	0.05	0.07	800	10,000
	27	9.0	0.07	0.1	1,000	14,000	0.05	0.08	800	12,000	0.03	0.05	700	9,000
	30	10.0	0.07	0.1	750	14,000	0.05	0.07	640	12,000	0.03	0.05	600	8,600
	35	11.7	0.05	0.1	620	12,000	0.03	0.07	500	10,000	0.02	0.05	420	7,200
	40	13.3	0.03	0.07	450	10,000	0.02	0.05	320	8,200	0.01	0.03	260	6,400
1.75	5	1.4	0.3	1	3,000	20,000	0.25	0.8	2,500	18,000	0.2	0.6	1,800	14,000
	10	2.9	0.25	1	3,000	20,000	0.2	0.6	2,500	18,000	0.15	0.5	1,700	14,000
	15	4.3	0.25	1	3,000	20,000	0.15	0.5	2,300	16,000	0.13	0.4	1,500	14,000
	20	5.7	0.18	0.6	2,500	18,000	0.1	0.3	1,800	15,000	0.1	0.2	1,200	12,000
	25	7.1	0.12	0.35	1,800	16,000	0.1	0.2	1,600	14,000	0.06	0.12	1,000	10,000
	30	8.6	0.1	0.25	1,500	14,000	0.07	0.15	950	11,000	0.05	0.08	800	9,000
	35	10.0	0.08	0.2	1,200	13,000	0.07	0.12	800	10,000	0.03	0.06	650	7,500
	40	11.4	0.07	0.1	800	11,000	0.04	0.07	720	9,000	0.02	0.05	450	7,000
	45	12.9	0.06	0.07	700	10,000	0.035	0.05	600	7,500	0.015	0.03	320	6,000
2	6	1.5	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
	8	2.0	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
	10	2.5	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
	12	3.0	0.3	1.5	3,000	20,000	0.2	0.8	2,500	16,000	0.2	0.6	2,000	12,000
	14	3.5	0.3	1.5	3,000	20,000	0.2	0.8	2,000	16,000	0.2	0.6	1,600	12,000
	15	3.8	0.3	1.5	3,000	20,000	0.2	0.8	2,000	16,000	0.2	0.6	1,600	12,000
	16	4.0	0.3	1	2,700	18,000	0.2	0.6	2,000	16,000	0.15	0.5	1,600	12,000
	18	4.5	0.2	1	2,700	18,000	0.15	0.6	1,800	14,000	0.12	0.4	1,400	10,000
	20	5.0	0.2	1	2,400	16,000	0.1	0.6	1,800	14,000	0.1	0.4	1,400	10,000
	22	5.5	0.2	0.8	2,000	16,000	0.1	0.5	1,500	14,000	0.1	0.3	1,200	10,000
	25	6.3	0.2	0.8	1,600	16,000	0.1	0.4	1,200	14,000	0.1	0.2	1,000	10,000
	27	6.8	0.15	0.5	1,600	16,000	0.1	0.3	1,200	14,000	0.07	0.2	1,000	10,000
	30	7.5	0.1	0.3	1,600	14,000	0.07	0.2	1,200	10,000	0.05	0.15	1,000	8,200
	35	8.8	0.1	0.2	1,200	14,000	0.07	0.15	1,000	10,000	0.05	0.1	820	8,200
	40	10.0	0.07	0.15	1,200	12,000	0.05	0.1	1,000	8,600	0.03	0.07	820	6,800
	45	11.3	0.07	0.1	750	12,000	0.05	0.07	620	8,600	0.03	0.05	500	6,800
	50	12.5	0.05	0.08	550	10,000	0.03	0.05	500	7,500	0.02	0.03	420	5,500

切削参数参考表 Recommended Conditions

加工材料 Work Material			高硬度钢 Hardened Steels SKD61·STAVAX·HPM-38(∽52HRC)				高硬度钢 Hardened Steels SKD11(∽62HRC)				高速钢 High Speed Steels SKH(∽65HRC)			
R球头半径 Radius	颈长 Under Neck Length	L(颈长)/D(外径) L/D	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed	切深量 Depth of Cut		进给速度 Feed	主轴转速 Spindle Speed
			a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}	a_p mm	a_e mm	mm/min	min^{-1}
2.5	10	2.0	0.3	1.5	3,000	18,000	0.2	1.2	2,500	12,000	0.2	0.7	2,000	9,200
	15	3.0	0.3	1.5	3,000	18,000	0.2	1.2	2,500	12,000	0.2	0.7	2,000	9,200
	20	4.0	0.3	1.2	3,000	15,000	0.2	1	2,000	10,000	0.15	0.5	1,600	8,000
	25	5.0	0.2	1	2,500	15,000	0.15	0.8	1,800	8,600	0.1	0.3	1,200	7,200
	30	6.0	0.2	0.8	2,000	12,000	0.15	0.5	1,500	7,600	0.1	0.2	860	6,400
	35	7.0	0.15	0.5	1,500	10,000	0.1	0.3	1,100	7,300	0.07	0.15	750	6,000
	40	8.0	0.1	0.2	1,200	10,000	0.07	0.15	1,000	6,800	0.05	0.1	650	5,500
	45	9.0	0.1	0.15	1,000	10,000	0.07	0.1	760	6,400	0.05	0.07	550	4,800
	50	10.0	0.08	0.1	800	9,000	0.05	0.07	530	6,000	0.03	0.05	360	4,000
3	8	1.3	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	10	1.7	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	12	2.0	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	15	2.5	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	18	3.0	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	20	3.3	0.3	2	3,000	16,000	0.3	1.2	2,500	8,000	0.2	1	2,000	7,000
	25	4.2	0.3	1.5	3,000	16,000	0.2	1	2,000	8,000	0.15	0.7	1,500	7,000
	30	5.0	0.2	1.5	3,000	14,000	0.2	1	2,000	7,200	0.15	0.7	1,500	6,500
	35	5.8	0.2	1.2	2,400	13,000	0.17	0.8	1,600	6,800	0.12	0.5	1,200	5,800
	40	6.7	0.2	1	1,800	12,000	0.15	0.6	1,200	6,400	0.1	0.4	1,000	5,200
	50	8.3	0.1	0.6	1,200	8,200	0.1	0.3	860	4,800	0.05	0.2	620	4,000
	60	10.0	0.07	0.3	600	6,000	0.05	0.15	450	3,200	0.03	0.07	300	2,500

备 注 Notes

※1 切深量的ap表示轴向切深量，ae表示径向切深量。
※2 建议使用油雾冷却方式。
※3 请以相同的比率调整主轴转速与进给速度。
※4 加工参数会因切深量和机床刚性的状况而有所不同。请每次调整后再使用。
※5 请根据需要控制刀具的伸出量。

※1 Depth of Cut: ap=Axial Depth of Cut / ae=Radial Depth of Cut.
※2 We recommend using oil mist coolant.
※3 Adjust both spindle speed and feed at the same rate.
※4 Adjust milling conditions according to the volume of depth of cut and rigidity of machine.
※5 Length of tool overhang must be as short as possible.

日进工具株式会社

总公司・海外营业部
140-0014 东京都品川区大井1-28-1 住友不动产大井町站前大厦6 F
TEL. ＋81(3)-6423-1191 FAX. ＋81(3)-6423-1192
www.ns-tool.com

日进工具香港有限公司
香港九龙尖沙咀亚士厘道33号 九龙中心大厦10 楼1001-02室
TEL. ＋852-2736-8686 FAX. ＋852-2736-0070
www.ns-tool.com.en

日进工具香港有限公司 深圳代表处
广东省深圳市罗湖区人民南路2008号 深圳嘉里中心大厦1221室
TEL. ＋86(755)-2265-2275

日进工具香港有限公司 苏州办事处
江苏省苏州市工业园区星港街199号 东方之门大厦北楼22楼
TEL. ＋86(512)-6866-2275

www.ns-tool.com.cn（手机官网）

警告 CAUTION 使用上的安全注意事项 Attention on Safety

1）拿取刀具使用时，请特别小心避免损坏刀刃。
2）请勿空手触摸刀刃
3）为了安全，使用刀具时请带防护眼镜。
4）选用适合刀具和实际加工内容的刀柄。刀柄装夹后将刀柄的偏摆量控制最低。
5）加工工件必须固定好。
6）请预先测量刀具及加工材料的尺寸。
7）请根据工件形状和使用设备情况来调节切削参数。
8）根据实际用途请选择适合的冷却方式。使用切削油时，请采取防火措施以免发生火花引起火灾等发生。
9）加工过程中如发生异常现象（异常声音或烟雾）时，请立即停止机床。
10）请勿改造刀具。

1) When removing tools from cases, be careful of getting-out of tools and don't touch directly the cutting edges.
2) Never touch the cutting edges directly with bare hand.
3) Use safety covers and eye protection, as tools may be broken.
4) Use holders, etc. that match the tools and nature of the processing operations. The tool should be firmly attached to the holder to prevent shaking.
5) The work materials clamp firmly.
6) Make sure of dimensions of tools and work pieces before starting operation.
7) It is necessary to adjust conditions according to the dimensions of work materials and the machine.
8) Select a cutting fluid appropriate to the particular usage. Using a non-water cutting fluid could lead to fires due to sparks generated during processing or heat caused by breakage. Ensure that you take proper fire-prevention measures.
9) If abnormal sound, etc. occurs during processing, stop the machine immediately.
10) Don't modify tools.

91.5
26'01
ISO 9001 JQA-QM6096 ISO 14001 JQA-EM3712
MRBH230_B1_202601_CN_A

■本册中列出的产品规格将来可能会发生改变，恕不另行通知。
Specifications may change without notice for improvement.