



## 切削参数参考表

Recommended Milling Conditions

加工材料 Work Material	不锈钢 Stainless Steels SUS304			钛合金 Titanium Alloy Ti-6Al-4V			超耐热合金 Heat Resistance Alloy Inconel®718			高硬度钢 Hardened Steels SKD61 (~52HRC)		
	主轴转速 Spindle Speed	进给速度 Feed		主轴转速 Spindle Speed	进给速度 Feed		主轴转速 Spindle Speed	进给速度 Feed		主轴转速 Spindle Speed	进给速度 Feed	
		min <sup>-1</sup>	mm/min		min <sup>-1</sup>	mm/min		min <sup>-1</sup>	mm/min		min <sup>-1</sup>	mm/min
外径 Dia.		侧面 Side Milling	沟槽 Slotting		侧面 Side Milling	沟槽 Slotting		侧面 Side Milling	沟槽 Slotting		侧面 Side Milling	沟槽 Slotting
0.1	50,000	30	15	40,000	30	15	25,000	10	10	50,000	-	15
0.2	50,000	50	25	40,000	50	25	25,000	15	10	39,800	-	20
0.3	50,000	90	35	40,000	90	35	25,000	30	15	26,500	-	20
0.4	43,800	120	50	35,000	120	50	22,000	40	20	19,900	-	20
0.5	35,000	120	50	28,000	120	50	17,000	40	20	15,900	50	25
0.6	31,500	120	50	25,000	120	50	15,000	40	20	13,300	50	25
0.7	28,000	120	50	22,500	120	50	14,000	40	20	11,400	50	25
0.8	24,500	130	50	19,600	130	50	12,000	45	20	10,000	50	25
0.9	21,000	130	50	17,000	130	50	10,500	45	20	8,900	50	25
1	17,500	140	50	14,000	140	50	8,700	45	20	8,000	65	30
1.1	16,400	140	50	13,000	140	50	8,200	45	20	7,300	65	30
1.2	15,300	140	50	12,000	140	50	7,500	45	20	6,700	65	30
1.3	14,100	140	50	11,000	140	50	7,000	45	20	6,200	65	30
1.4	12,900	140	50	10,000	140	50	6,400	45	20	5,700	65	30
1.5	11,700	140	50	9,400	140	50	5,800	45	20	5,300	65	30
1.6	11,200	140	50	8,900	140	50	5,500	45	20	5,000	65	30
1.7	10,600	140	50	8,500	140	50	5,300	45	20	4,700	65	30
1.8	10,000	150	50	8,000	150	50	5,000	50	20	4,500	65	30
1.9	9,400	160	55	7,500	160	55	4,700	50	25	4,200	65	30
2	8,800	160	55	7,000	160	55	4,400	50	25	4,000	65	30
2.1	8,500	160	55	6,800	160	55	4,200	50	25	3,800	65	30
2.2	8,100	160	55	6,500	160	55	4,000	50	25	3,700	65	30
2.3	7,800	160	55	6,200	160	55	3,900	50	25	3,500	65	30
2.4	7,400	160	55	5,900	160	55	3,700	50	25	3,300	65	30
2.5	7,000	170	60	5,600	170	60	3,500	55	30	3,200	70	35
2.6	6,700	170	60	5,400	170	60	3,300	55	30	3,100	70	35
2.7	6,400	170	60	5,100	170	60	3,200	55	30	3,000	70	35
2.8	6,200	170	60	4,900	170	60	3,100	55	30	2,900	70	35
2.9	6,000	170	60	4,800	170	60	3,000	55	30	2,800	70	35
3	5,800	170	60	4,600	170	60	2,900	55	30	2,700	70	35
3.5	5,000	180	60	4,000	180	60	2,500	60	30	2,300	75	35
4	4,400	180	60	3,500	180	60	2,200	60	30	2,000	80	40
4.5	3,900	200	65	3,100	200	65	1,900	65	30	1,800	80	40
5	3,500	210	70	2,800	210	70	1,700	70	35	1,600	80	40
5.5	3,200	220	70	2,500	220	70	1,600	75	35	1,400	80	40
6	2,900	230	75	2,300	230	75	1,400	75	35	1,300	80	40

切深量 Depth of Cut	侧面 Side Milling	侧面 Side Milling 沟槽 Slotting	侧面 Side Milling 沟槽 Slotting
	<p>ae  <math>\phi 0.1 \sim 0.9 = 0.04D</math>  <math>\phi 1 \sim 2.9 = 0.05D</math>  <math>\phi 3 \sim 6 = 0.1D</math></p> <p>ap  <math>\phi 0.1 \sim 0.4 = 0.05D</math>  <math>\phi 0.5 \sim 1.4 = 0.08D</math>  <math>\phi 1.5 \sim 3.5 = 0.25D</math>  <math>\phi 4 \sim 6 = 0.4D</math></p>	<p>ae  <math>\phi 0.1 \sim 0.9 = 0.01D</math>  <math>\phi 1 \sim 2.9 = 0.02D</math>  <math>\phi 3 \sim 6 = 0.05D</math></p> <p>ap  <math>\phi 0.1 \sim 0.4 = 0.02D</math>  <math>\phi 0.5 \sim 1.4 = 0.04D</math>  <math>\phi 1.5 \sim 3.5 = 0.1D</math>  <math>\phi 4 \sim 6 = 0.2D</math></p>	<p>ap  <math>\phi 0.1 \sim 0.4 = 0.05D</math>  <math>\phi 0.5 \sim 6 = 0.1D</math></p>

(D: 外径 Dia.)

### 备注 Notes

- ※ 1 请根据机床刚性和工件的夹持状态等调整切削参数。
- ※ 2 请使用发烟性低的油冷冷却方式。
- ※ 3 请使用刚性较大的铣刀刀柄和机床。
- ※ 4 请使用油冷冷却方式进行加工时，根据排屑和发烟的状况调整切削参数。
- ※ 1 Adjust milling condition conforming to machine rigidity and clamping condition.
- ※ 2 Use cutting fluid with smoke retardant.
- ※ 3 Use rigid and precise machine and chuck holder.
- ※ 4 Adjust milling condition with caution for chip evacuation and smoke generation when milling with water-insoluble fluid.

P 调质钢  
Prehardened Steel

H ~52高硬度钢  
HRC Hardened Steel

M 不锈钢  
Stainless Steel

S 钛合金  
耐热合金  
Titanium Alloy  
Heat Resistant Alloy

常规系列  
无限白金涂层  
全刃长造型  
Regular Line  
MUGEN PREMIUM  
Full Cutting Length Type