

## 切削参数参考表 Recommended Milling Conditions

刀具类型 Tool Type	涂层 Coating	P.C.D. / Helicopical P.C.D. / Helicopical	(M)规格 Size	刃径 Dia.	螺距 Pitch	螺旋R Helical R	不锈钢 Stainless Steels SUS304			钛合金 Titanium Alloy Ti-6Al-4V			超耐热合金 Heat Resistance Alloy Inconel			铝合金 Aluminum Alloy A7075																																										
							主轴转速 Spindle Speed	进给速度 Feed	每刃进给量 Feed per Tooth	主轴转速 Spindle Speed	进给速度 Feed	每刃进给量 Feed per Tooth	主轴转速 Spindle Speed	进给速度 Feed	每刃进给量 Feed per Tooth	主轴转速 Spindle Speed	进给速度 Feed	每刃进给量 Feed per Tooth																																								
							min <sup>-1</sup>	mm/min	mm/tooth	min <sup>-1</sup>	mm/min	mm/tooth	min <sup>-1</sup>	mm/min	mm/tooth	min <sup>-1</sup>	mm/min	mm/tooth																																								
CBN铣刀 Cubic Boron Nitride	无涂层 Non-Coating	P.C.D.	No.0-80UNF	1.16	0.318	R0.21	12,000	250	0.005	12,000	200	0.004	6,800	120	0.004	20,000	400	0.005																																								
							Diamond 钻石铣刀	Coating	No.1-64UNC	1.4	0.397	R0.26	10,000	300	0.005	8,000	240	0.005	5,600	150	0.004	15,000	450	0.005																																		
									No.1-72UNF	1.45	0.353	R0.23	10,000	300	0.005	8,000	240	0.005	5,600	150	0.004	15,000	450	0.005																																		
									No.2-56UNC	1.63	0.454	R0.32	8,000	300	0.006	6,400	240	0.006	4,500	150	0.005	12,000	600	0.008																																		
									No.2-64UNF	1.69	0.397	R0.28	8,000	300	0.006	6,400	240	0.006	4,500	150	0.005	12,000	600	0.008																																		
平底铣刀 Square 平底铣刀	Coating	Coating	No.3-48UNC	1.88	0.529	R0.36	8,000	300	0.006	6,400	240	0.006	4,500	150	0.006	12,000	600	0.008																																								
			No.3-56UNF	1.96	0.454	R0.31	8,000	300	0.006	6,400	240	0.006	4,500	150	0.006	12,000	600	0.008																																								
			长颈平底 铣刀 Long Neck Square 铣刀	Non-Coating	No.4-40UNC	2.09	0.635	R0.43	6,000	300	0.008	4,800	240	0.008	3,400	150	0.007	9,000	600	0.011																																						
					No.4-48UNF	2.21	0.529	R0.36	6,000	300	0.008	4,800	240	0.008	3,400	150	0.007	9,000	600	0.011																																						
					No.5-40UNC	2.38	0.635	R0.45	6,000	300	0.008	4,800	240	0.008	3,400	150	0.007	9,000	600	0.011																																						
球头铣刀 Ball 球头铣刀	Coating	Coating	No.5-44UNF	2.45	0.577	R0.4	6,000	300	0.008	4,800	240	0.008	3,400	150	0.007	9,000	600	0.011																																								
			No.6-32UNC	2.54	0.794	R0.55	5,500	300	0.009	4,300	240	0.009	3,000	150	0.008	7,700	600	0.013																																								
			No.6-40UNF	2.72	0.635	R0.44	5,500	300	0.009	4,300	240	0.009	3,000	150	0.008	7,700	600	0.013																																								
			长颈球头 铣刀 Long Neck Ball 铣刀	Non-Coating	No.8-32UNC	3.14	0.794	R0.57	5,000	300	0.01	4,000	240	0.01	2,800	150	0.009	7,700	600	0.013																																						
					No.8-36UNF	3.24	0.706	R0.51	5,000	300	0.01	4,000	240	0.01	2,800	150	0.009	7,700	600	0.013																																						
圆鼻铣刀 Radius 圆鼻铣刀	Coating	Coating	No.10-24UNC	3.52	1.058	R0.72	4,200	300	0.012	3,400	240	0.012	2,400	150	0.01	6,300	600	0.016																																								
			No.10-32UNF	3.8	0.794	R0.57	4,200	300	0.012	3,400	240	0.012	2,400	150	0.01	6,300	600	0.016																																								
			No.12-24UNC	4.14	1.058	R0.74	4,200	300	0.012	3,400	240	0.012	2,400	150	0.01	6,300	600	0.016																																								
			长颈圆鼻 铣刀 Long Neck Radius 铣刀	Non-Coating	No.12-28UNF	4.29	0.907	R0.65	4,200	300	0.012	3,400	240	0.012	2,400	150	0.01	6,300	600	0.016																																						
					1/4-20UNC	4.77	1.27	R0.86	2,600	300	0.019	2,200	240	0.018	1,500	150	0.017	3,800	600	0.026																																						
1/4-28UNF	5.16	0.907	R0.65	2,600	300	0.019	2,200	240	0.018	1,500	150	0.017	3,800	600	0.026																																											
锥形铣刀 Taper 锥形铣刀	Coating	Coating	备注 Notes				※本切削参数是使用水溶性切削油，分2次进行加工时的参考基准。1/4规格是分3次进行加工时的参考值。 ※加工方法建议采用顺铣加工方式。 ※必须先使用钻头加工底孔。 ※请以每刃进给量为基准，根据加工环境因素调整主轴转速和进给速度，以及路径和加工方向等。 ※使用参数表中的螺旋R值时，必须设定底孔直径，避免颈部与底孔发生干涉。 ※如加工形状发生锥度状况时，请再次原位零切深加工。 ※请使用适合加工材料的冷却方式。 ※The above milling conditions are provided as a reference for cutting when the depth of cut is divided into twice with water soluble cutting fluid. Also milling conditions for size 1/4 are for reference when it is divided into three times. ※Down-cut is recommended. ※Recommend making pilot hole in advance by using drill, etc. ※Depending on environment, adjustments of spindle speed based on feed per tooth, feed, number of paths and cutting direction are needed. ※When use helical R in the Recommended Milling Conditions, setting of pilot hole dia. for avoiding interference between the area of under neck and pilot hole is required. ※Add zero-cut process in case completed thread has deflection. ※Choose appropriate coolant for each working material.																																																			
							非涂层 Non-Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating																																	
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																																											非涂层 Non-Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating	Coating