

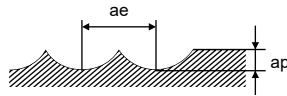
RECOMMENDED CUTTING CONDITIONS

■ Shoulder milling (L/D=3)

Other than the L/D = 3, use following recommended cutting conditions by multiplying the J003 page correction factor of the overhang length.

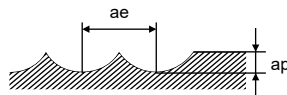
Work material	P										M				S					
	Carbon steel, Alloy steel, Mild Steel, Pre-hardened steel										Austenitic stainless steel, Ferritic and martensitic stainless steel, Cobalt chromium alloy, Titanium alloy									
	$\alpha \leq 15^\circ$				$\alpha > 15^\circ$				Depth of cut ap (mm)	Cutting Width ae (mm)	$\alpha \leq 15^\circ$				$\alpha > 15^\circ$				Depth of cut ap (mm)	Cutting Width ae (mm)
Dia. DC (mm)	RE (mm)	Cutting Speed (m/min)	Main Spindle Revolution (min ⁻¹)	Feed per Tooth (mm/t)	Table Feed per Min. (mm/min)	Cutting Speed (m/min)	Main Spindle Revolution (min ⁻¹)	Feed per Tooth (mm/t)			Table Feed per Min. (mm/min)	Cutting Speed (m/min)	Main Spindle Revolution (min ⁻¹)	Feed per Tooth (mm/t)	Table Feed per Min. (mm/min)	Cutting Speed (m/min)	Main Spindle Revolution (min ⁻¹)	Feed per Tooth (mm/t)		
10 5	300	9500	0.106	6000	200	6400	0.07	2700	0.5	2	225	7200	0.105	4500	150	4800	0.067	1900	0.5	2
12 6	300	8000	0.125	6000	200	5300	0.085	2700	0.6	2.4	225	6000	0.125	4500	150	4000	0.08	1900	0.6	2.4
16 8	300	6000	0.134	4800	200	4000	0.088	2100	0.8	3.2	225	4500	0.14	3800	150	3000	0.09	1600	0.8	3.2
20 10	300	4800	0.156	4500	200	3200	0.1	1900	1	4	225	3600	0.16	3500	150	2400	0.105	1500	1	4
25 12.5	300	3800	0.16	3600	200	2500	0.1	1500	1.2	5	225	2900	0.16	2800	150	1900	0.105	1200	1.2	5

Depth of cut



Work material	S										
	Heat resistant alloys										
	$\alpha \leq 15^\circ$				$\alpha > 15^\circ$				Depth of cut ap (mm)	Cutting Width ae (mm)	
Dia. DC (mm)	RE (mm)	Cutting Speed (m/min)	Main Spindle Revolution (min ⁻¹)	Feed per Tooth (mm/t)	Table Feed per Min. (mm/min)	Cutting Speed (m/min)	Main Spindle Revolution (min ⁻¹)	Feed per Tooth (mm/t)			Table Feed per Min. (mm/min)
10 5	60	1900	0.055	630	40	1300	0.035	270	0.5	1	
12 6	60	1600	0.055	530	40	1100	0.035	230	0.6	1.2	
16 8	60	1200	0.062	450	40	800	0.04	190	0.8	1.6	
20 10	60	950	0.062	350	40	640	0.04	150	1	2	
25 12.5	60	760	0.062	280	40	510	0.04	120	1.2	2.5	

Depth of cut



Note 1) For stainless steel, titanium and heat resistant alloys, the use of water-soluble coolant is effective.

Note 2) If the depth of cut is shallow, the revolution and feed rate can be increased.

Note 3) The irregular helix flute end mill has a large effect on controlling vibration when compared to standard end mills.

However, if the rigidity of the machine or the workpiece installation is poor, vibration or abnormal sound can occur.

In this case, please reduce the revolution and feed rate proportionately, or set a lower depth of cut.

Note 4) α is the inclination angle of the machined surface.

