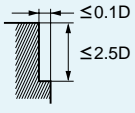
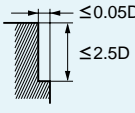
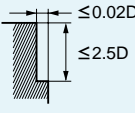


RECOMMENDED CUTTING CONDITIONS

Shoulder milling

Work material	Carbon steel, Cast iron, Alloy steel (–30HRC)		Alloy steel, Tool steel, Pre-hardened steel		Austenitic stainless steel, Titanium alloy		Hardened steel (45–55HRC)		Heat resistant alloys			
	Cf53, GG25		X40CrMoV51		X5CrNi1810, X5CrNiMo17-12-2, Ti6Al4V		X40CrMoV51		Inconel718			
Dia. (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)	Revolution (min ⁻¹)	Feed rate (mm/min)		
2	16000	530	10000	320	10000	300	7400	140	3800	55		
3	12000	820	7600	470	7600	440	5600	280	2500	80		
4	9500	950	6000	520	6000	510	4500	310	1900	110		
5	7600	1000	4800	550	4800	540	3600	330	1500	110		
6	6300	1100	4000	610	4000	600	3000	330	1300	110		
8	4700	1100	3000	630	3000	600	2200	330	960	100		
10	3800	1000	2400	610	2400	570	1800	310	760	100		
12	3100	980	2000	580	2000	520	1500	280	640	80		
16	2300	810	1500	480	1500	420	1100	240	480	65		
20	1900	740	1200	430	1200	390	900	220	380	50		
Depth of cut												

D:Dia.

- 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.
- 2) If the depth of cut is shallow, the revolution and feed rate can be increased.
- 3) The irregular helix flute end mill has a larger 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.