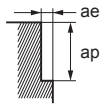
Recommended Cutting Conditions

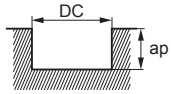
■Shoulder Milling

Overhang Length DC×3 (DC=Dia.) (inch)

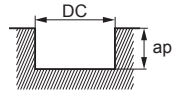
Workpiece Material	Austenitic Stainless Steels (≤200HB), Titanium Alloys AISI 304, AISI 316, Ti-6Al-4V etc.				
DC (mm)	**DC** (inch)	Cutting Speed **vc** (SFM)	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Width of Cut **ae**
16	**.630**	230	1400	27.6	1.260	.094
20	**.787**	230	1100	21.7	1.575	.118
25	**.984**	230	890	17.3	1.969	.150
Depth of Cut						

■Slot Milling

Depth of Cut DC×1 (inch)

Workpiece Material	Austenitic Stainless Steels (≤200HB), Titanium Alloys AISI 304, AISI 316, Ti-6Al-4V etc.			
DC (mm)	**DC** (inch)	Cutting Speed **vc** (SFM)	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**
16	**.630**	195	1200	16.5	.630
20	**.787**	195	950	13.0	.787
25	**.984**	165	640	8.7	.984
Depth of Cut	 DC=Dia.				

Depth of Cut DC×2 (inch)

Workpiece Material	Austenitic Stainless Steels (≤200HB), Titanium Alloys AISI 304, AISI 316, Ti-6Al-4V etc.			
DC (mm)	**DC** (inch)	Cutting Speed **vc** (SFM)	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**
16	**.630**	195	1200	9.4	1.260
20	**.787**	195	950	7.5	1.575
25	**.984**	165	640	5.1	1.969
Depth of Cut	 DC=Dia.				

Note 1) SMART MIRACLE coating has very low electrical conductivity; therefore, an external contact type of tool setter (electric transmitted) may not work.
When measuring the tool length, please use an internal contact type (non-electricity type) or a laser tool setter.
Note 2) When cutting titanium alloys, the use of water-soluble cutting fluid is effective.
Note 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 material installation is poor, vibration or abnormal sound can occur.
In this case, please reduce the revolution and the feed rate proportionately, or set a lower depth of cut.
Note 4) If the depth of cut is smaller, the revolution and the feed rate can be increased.
Note 5) For slot milling, use a chuck with high clamping force.