Identification(Shoulder Milling)

Reduce the cutting parameters by the coefficient values shown according to the length of overhang.
For long edge and oversize types heads refer to their specific recommended conditions.

(inch)

Workpiece Material	Carbon Steels, Alloy Steels, Mild Steels, Copper, Copper Alloys			Pre-hardened Steels, Carbon Steels, Alloy Steels, Alloy Tool Steels			Austenitic Stainless Steels, Ferritic and Martensitic Stainless Steels, Titanium Alloys		
L/D	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**
2	100%	100%	100%	100%	100%	100%	100%	100%	100%
3	100%	100%	100%	100%	100%	100%	100%	100%	100%
4	80%	90%	70%	80%	90%	70%	80%	90%	70%
5	60%	80%	40%	60%	80%	40%	60%	80%	40%
6	50%	70%	30%	50%	70%	30%	50%	70%	30%
7	40%	70%	20%	40%	70%	20%	30%	60%	20%
8	40%	60%	10%	40%	60%	10%	30%	50%	10%
9	30%	60%	10%	30%	60%	10%	20%	50%	10%

Workpiece Material	Precipitation Hardening Stainless Steels, Cobalt Chromium Alloys			Heat Resistant Alloys Inconel718		
L/D	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**
2	100%	100%	100%	100%	100%	100%
3	100%	100%	100%	100%	100%	100%
4	80%	90%	70%	80%	90%	70%
5	60%	80%	40%	60%	80%	40%
6	50%	70%	30%	50%	70%	30%
7	30%	60%	20%	30%	60%	20%
8	30%	50%	10%	30%	50%	10%
9	20%	50%	10%	20%	50%	10%

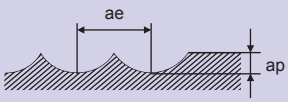
iMX-B6HV

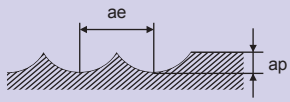
Ball nose head, 6 flute, Irregular curve

Recommended Cutting Conditions

Shoulder Milling

(inch)

Workpiece Material		Carbon Steels, Alloy Steels, Mild Steels, Pre-hardened Steels						Austenitic Stainless Steels, Ferritic and Martensitic Stainless Steels, Cobalt Chromium Alloys, Titanium Alloys					
Inclination Angle		α≤15°		α>15°		Depth of Cut **ap**	Width of Cut **ae**	α≤15°		α>15°		Depth of Cut **ap**	Width of Cut **ae**
RE		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Revolution **n** (min-1)	Feed Rate **vf** (IPM)			Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Revolution **n** (min-1)	Feed Rate **vf** (IPM)		
(mm)	(inch)												
	.1875	10000	252.0	6700	112.6	.019	.075	7500	184.5	5000	78.0	.019	.075
5	**.1969**	9500	236.2	6400	107.5	.020	.079	7200	177.1	4800	74.9	.020	.079
6	**.2362**	8000	235.2	5300	104.9	.024	.094	6000	176.4	4000	74.4	.024	.094
	.2500	7500	220.5	5000	99.0	.025	.100	5700	167.6	3700	68.8	.025	.100
	.3125	6000	190.8	4000	84.0	.031	.125	4500	148.5	3000	63.0	.031	.125
8	**.3150**	6000	190.8	4000	84.0	.031	.126	4500	148.5	3000	63.0	.031	.126
	.3750	5000	183.0	3300	77.2	.038	.150	3800	143.6	2500	61.5	.038	.150
10	**.3937**	4800	175.7	3200	74.9	.039	.157	3600	136.1	2400	59.0	.039	.157
12.5	**.4921**	3800	143.6	2500	58.5	.047	.197	2900	109.6	1900	46.7	.047	.197
	.5000	3800	143.6	2500	58.5	.048	.200	2800	105.8	1900	46.7	.048	.200
Depth of Cut													

Workpiece Material		Heat Resistant Alloys Inconel718					
Inclination Angle		α≤15°		α>15°		Depth of Cut **ap**	Width of Cut **ae**
RE		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Revolution **n** (min-1)	Feed Rate **vf** (IPM)		
(mm)	(inch)						
	.1875	2000	26.4	1300	10.9	.019	.038
5	**.1969**	1900	25.1	1300	10.9	.020	.039
6	**.2362**	1600	21.1	1100	9.2	.024	.047
	.2500	1500	19.8	990	8.3	.025	.050
	.3125	1200	17.3	790	7.6	.031	.063
8	**.3150**	1200	17.3	790	7.6	.031	.063
	.3750	990	14.3	660	6.3	.038	.075
10	**.3937**	950	13.7	630	6.0	.039	.079
12.5	**.4921**	760	10.9	500	4.8	.047	.098
	.5000	740	10.7	500	4.8	.048	.100
Depth of Cut							

Note 1) 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 2) If the depth of cut is smaller, the revolution and the feed rate can be increased.
Note 3) For stainless steels, titanium alloys and heat resistant alloys, the use of water-soluble coolant is effective.
Note 4) α is the inclination angle of the machined surface.