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%

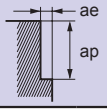
Workpiece Material	Precipitation Hardening Stainless Steels, Cobalt Chromium Alloys			Heat Resistant Alloys Inconel718		
L/D	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**	Revolution **n** (min^{-1})	Feed per Tooth **fz** (IPT)	Width of Cut **ae**
2	100%	100%	100%	100%	100%	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%

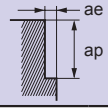
iMX-R4F
Roughing head, 4 flute

Recommended Cutting Conditions

Shoulder Milling

(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			
DC		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Width of Cut **ae**	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Width of Cut **ae**	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Width of Cut **ae**
(mm)	(inch)												
	.3750	5000	36.0	.300	.015	4000	19.2	.300	.150	3400	20.4	.300	.150
10	.3937	4800	34.6	.320	.160	3800	18.2	.320	.160	3200	19.2	.320	.160
12	.4724	4000	28.8	.380	.190	3200	16.6	.380	.190	2700	17.3	.380	.190
	.5000	3700	26.6	.400	.200	3000	15.6	.400	.200	2500	16.0	.400	.200
	.6250	3000	24.0	.500	.250	2400	14.4	.500	.250	2000	14.4	.500	.250
16	.6299	3000	24.0	.500	.250	2400	14.4	.500	.250	2000	14.4	.500	.250
	.7500	2500	20.0	.600	.300	2000	12.0	.600	.300	1700	12.2	.600	.300
20	.7874	2400	19.2	.630	.320	1900	11.4	.630	.320	1600	11.5	.630	.320
25	.9843	1900	18.2	.790	.390	1500	9.0	.790	.390	1300	9.4	.790	.390
	1.0000	1900	18.2	.800	.400	1500	9.0	.800	.400	1300	9.4	.800	.400
Depth of Cut													

Workpiece Material		Precipitation Hardening Stainless Steels, Cobalt Chromium Alloys				Heat Resistant Alloys Inconel718			
DC		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Width of Cut **ae**	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Width of Cut **ae**
(mm)	(inch)								
	.3750	2500	12.0	.300	.150	1300	8.3	.300	.038
10	.3937	2400	11.5	.320	.160	1300	8.3	.320	.039
12	.4724	2000	10.4	.380	.190	1100	7.9	.380	.047
	.5000	1900	9.9	.400	.200	990	7.1	.400	.050
	.6250	1500	9.0	.500	.250	790	6.3	.500	.063
16	.6299	1500	9.0	.500	.250	790	6.3	.500	.063
	.7500	1200	7.2	.600	.300	660	5.3	.600	.075
20	.7874	1200	7.2	.630	.320	630	5.0	.630	.079
25	.9843	950	5.7	.790	.390	500	4.0	.790	.098
	1.0000	940	5.6	.800	.400	500	4.0	.800	.100
Depth of Cut									

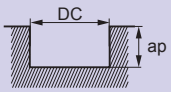
Note 1) Vibration may occur if the rigidity of machine or workpiece material is low.
In this case, please reduce the revolution and the feed rate proportionately, or set a lower depth of cut.
Note 2) If the depth of cut is smaller, the revolution and the feed rate can be increased.
Note 3) For stainless steels, titanium alloys and heat resistant alloys, the use of water-soluble coolant is effective.

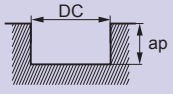
iMX-R4F
Roughing head, 4 flute

Recommended Cutting Conditions

Slot Milling

(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		
DC (mm)	DC (inch)	Revolution **n** (min^{-1})	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Revolution **n** (min^{-1})	Feed Rate **vf** (IPM)	Depth of Cut **ap**	Revolution **n** (min^{-1})	Feed Rate **vf** (IPM)	Depth of Cut **ap**
	.3750	3400	21.4	.190	2600	12.5	.190	2000	6.4	.150
10	.3937	3200	20.5	.200	2500	12.0	.200	1900	6.1	.160
12	.4724	2700	19.4	.240	2100	10.9	.240	1600	6.4	.190
	.5000	2500	18.0	.250	2000	10.4	.250	1500	6.0	.200
	.6250	2000	16.0	.310	1600	9.6	.310	1200	5.8	.250
16	.6299	2000	16.0	.320	1600	9.6	.320	1200	5.8	.250
	.7500	1700	13.6	.380	1300	7.8	.380	990	5.1	.300
20	.7874	1600	12.8	.390	1300	7.8	.390	950	4.9	.320
25	.9843	1300	12.5	.470	1000	6.0	.470	760	4.0	.390
	1.0000	1300	12.5	.480	990	5.9	.480	740	3.8	.400
Depth of Cut		 DC=Dia.								

Workpiece Material		Precipitation Hardening Stainless Steels, Cobalt Chromium Alloys		
DC (mm)	DC (inch)	Revolution **n** (min^{-1})	Feed Rate **vf** (IPM)	Depth of Cut **ap**
	.3750	1300	3.1	.150
10	.3937	1300	3.1	.160
12	.4724	1100	3.5	.190
	.5000	990	3.2	.200
	.6250	790	2.8	.250
16	.6299	790	2.8	.250
	.7500	660	2.9	.300
20	.7874	630	2.8	.320
25	.9843	500	2.2	.390
	1.0000	500	2.2	.400
Depth of Cut		 DC=Dia.		

Note 1) Vibration may occur if the rigidity of machine or workpiece material is low.
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.