Recommended Cutting Conditions

■Internal Profile Milling, Undercut Machining (L/D=3)

(inch)

Workpiece Material				Mild Steels, Carbon Steels, Alloy Steels, Pre-hardened Steels, Copper Alloys			Austentic, Ferritic and Martensitic Steels, Precipitation Hardening Stainless Steels, Cobalt Chrome Alloys, Titanium Alloys			Heat Resistant Alloys		
DC		RE		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae
(mm)	(inch)	(mm)	(inch)									
12	**.4724**	**6**	**.2362**	2700	38.2	.018	2100	24.8	.018	800	5.1	.014
	.5000		**.2500**	2500	35.4	.019	2000	23.6	.019	750	4.7	.015
	.6250		**.3125**	2000	31.5	.024	1600	20.1	.024	600	4.3	.019
16	**.6300**	**8**	**.3150**	2000	31.5	.024	1600	20.1	.024	600	4.3	.019
	.7500		**.3750**	1700	26.8	.028	1300	18.5	.028	500	3.9	.022
20	**.7870**	**10**	**.3937**	1600	25.2	.030	1300	18.5	.030	480	3.8	.024

■Internal Profile Milling, Undercut Machining (L/D=5)

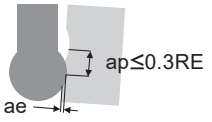
(inch)

Workpiece Material				Mild Steels, Carbon Steels, Alloy Steels, Pre-hardened Steels, Copper Alloys			Austentic, Ferritic and Martensitic Steels, Precipitation Hardening Stainless Steels, Cobalt Chrome Alloys, Titanium Alloys			Heat Resistant Alloys		
DC		RE		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae
(mm)	(inch)	(mm)	(inch)									
12	**.4724**	**6**	**.2362**	1900	20.9	.012	1300	10.2	.012	530	2.5	.009
	.5000		**.2500**	1800	19.7	.013	1300	10.2	.013	500	2.4	.010
	.6250		**.3125**	1400	17.7	.016	1000	9.4	.016	400	2.5	.013
16	**.6300**	**8**	**.3150**	1400	17.7	.016	990	9.4	.016	400	2.5	.013
	.7500		**.3750**	1200	15.0	.019	840	9.4	.019	330	2.1	.015
20	**.7870**	**10**	**.3937**	1100	13.8	.020	800	8.7	.020	320	2.0	.016

■Internal Profile Milling, Undercut Machining (L/D=7)

(inch)

Workpiece Material				Mild Steels, Carbon Steels, Alloy Steels, Pre-hardened Steels, Copper Alloys			Austentic, Ferritic and Martensitic Steels, Precipitation Hardening Stainless Steels, Cobalt Chrome Alloys, Titanium Alloys		
DC		RE		Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae	Revolution **n** (min-1)	Feed Rate **vf** (IPM)	Depth of cut ae
(mm)	(inch)	(mm)	(inch)						
12	**.4724**	**6**	**.2362**	1300	6.3	.006	800	3.1	.006
	.5000		**.2500**	1300	6.3	.006	750	3.5	.006
	.6250		**.3125**	1000	5.5	.008	600	3.3	.008
16	**.6300**	**8**	**.3150**	990	5.5	.008	600	2.8	.008
	.7500		**.3750**	840	5.1	.009	500	2.8	.009
20	**.7870**	**10**	**.3937**	800	5.1	.010	480	2.6	.010



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) In case of L/D >5, It is recommended to use taper neck type holder.
Note 4) For stainless steels, titanium alloys and heat resistant alloys, the use of water-soluble coolant is effective.

● :USA Stock