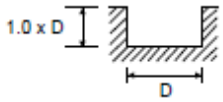
301303, 302303, 100103, 102103, 501303, 502303 (2 Flute)

MATERIAL GROUP		HRc		Size (mm)										
				2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	11 12	< 30	v_c (m/min)	30	30	30	30	30	30	30	30	30	30	30
			n	4800	3200	2400	1900	1600	1200	950	800	700	600	480
			f_z	0.007	0.013	0.017	0.021	0.025	0.033	0.042	0.05	0.057	0.071	0.089
			f (mm/min)	70	80	80	80	80	80	80	80	80	85	85
	13 14	30-40	v_c (m/min)	25	25	25	25	25	25	25	25	25	25	25
			n	4000	2600	2000	1600	1300	1000	800	660	570	500	400
			f_z	0.007	0.012	0.015	0.019	0.023	0.03	0.038	0.045	0.053	0.075	0.094
			f (mm/min)	55	60	60	60	60	60	60	60	60	75	75
M	21 22		v_c (m/min)	50	50	50	50	50	50	50	50	50	50	50
			n	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800
			f_z	0.004	0.006	0.008	0.01	0.013	0.016	0.02	0.025	0.03	0.038	0.05
			f (mm/min)	65	65	65	65	65	65	65	65	65	75	80
K	31 32 33		v_c (m/min)	40	40	40	40	40	40	40	40	40	40	40
			n	6500	4200	3200	2500	2100	1600	1300	1000	900	800	640
			f_z	0.012	0.018	0.023	0.03	0.043	0.059	0.077	0.105	0.122	0.141	0.188
			f (mm/min)	150	150	150	150	180	190	200	210	220	225	240
N	61 62 63		v_c (m/min)	75	75	75	75	75	75	75	75	75	75	75
			n	12000	8000	6000	4800	4000	3000	2400	2000	1700	1500	1200
			f_z	0.010	0.015	0.02	0.025	0.033	0.043	0.054	0.065	0.075	0.087	0.108
			f (mm/min)	240	240	240	240	260	260	260	260	260	260	260
	71 72 73		v_c (m/min)	100	105	100	100	100	100	100	100	100	100	100
			n	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600
			f_z	0.01	0.015	0.02	0.025	0.032	0.043	0.053	0.065	0.074	0.085	0.106
			f (mm/min)	320	320	320	320	340	340	340	340	340	340	340
S	41 42 43		v_c (m/min)	50	50	50	50	50	50	50	50	50	50	50
			n	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800
			f_z	0.004	0.006	0.008	0.01	0.013	0.016	0.02	0.025	0.03	0.038	0.05
			f (mm/min)	65	65	65	65	65	65	65	65	65	75	80



▶ The feed rate for long and long reach tools should be reduced by up to 50%

v_c - cutting speed (m/min)
n - RPM (rev/min)
f_Z - feed rate (mm/tooth)
f - feed rate (mm/rev)
z - No. of teeth
a_p - axial depth of cut
a_e - radial depth of cut

To calculate RPM from cutting speed: $n = \frac{v_c \times 1000}{\pi \times ø}$

To calculate cutting speed from RPM: $v_c = \frac{n \times \pi \times ø}{1000}$

All recommendations are based on ideal machining conditions. Adjustments may need to be made according to your set-up. The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.