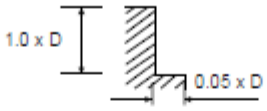
109120, 109320 (4 Flute Short Length)

MATERIAL GROUP		HRc		Size (mm)										
				2.0	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**16.0**	**20.0**	**25.0**
P	11 12	< 30	v_c (m/min)	75	85	95	100	105	105	100	105	110	105	105
			n	11560	8920	7560	6300	5560	4200	3260	2740	2200	1680	1360
			f_z	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048	0.046
			f (mm/min)	280	320	570	600	660	710	610	520	410	320	250
	13 14	30-45	v_c (m/min)	50	50	60	60	65	65	65	65	70	65	65
			n	7560	5560	4620	3780	3360	2520	2000	1680	1360	1060	840
			f_z	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.037	0.038	0.039
			f (mm/min)	170	200	350	360	410	380	300	250	200	160	130
H	15 16	45-55	v_c (m/min)	30	30	35	35	40	40	45	45	45	45	40
			n	5040	3360	2940	2320	2000	1680	1360	1160	900	680	540
			f_z	0.002	0.004	0.005	0.008	0.01	0.016	0.017	0.017	0.017	0.015	0.014
			f (mm/min)	50	60	60	70	80	110	90	80	60	40	30
	15 16	55-65	v_c (m/min)	-	20	20	20	20	20	20	20	20	20	20
			n	-	1900	1480	1260	1100	840	680	560	440	320	260
			f_z	-	0.007	0.008	0.01	0.011	0.015	0.015	0.018	0.014	0.02	0.019
			f (mm/min)	-	50	50	50	50	50	40	40	25	25	20
M	21 22		v_c (m/min)	40	45	50	50	55	55	55	50	55	55	55
			n	6300	4620	3880	3160	2840	2100	1680	1360	1100	840	680
			f_z	0.006	0.009	0.018	0.024	0.029	0.042	0.045	0.044	0.045	0.045	0.044
			f (mm/min)	140	170	280	300	330	350	300	240	200	150	120



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: $n = \frac{v_c * 1000}{\pi * \varnothing}$

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

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.