

Cutting Data for High Speed Milling (H.S.M.) Cyber Series 2002 / 2012 / 2032 / 2042 / 2112 Ball Nose TiAlN (XTR)
Based on machine with spindle speed up to 20000 R.P.M.

TOOL DIAMETER (Ød)	DEPTH OF CUT ap mm	STEEL 40-45 HRc Vc ≤250 m / min		STEEL 45-50 HRc Vc ≤200 m / min		STEEL 50-55 HRc Vc ≤160 m / min		STEEL 55-60 HRc Vc ≤125 m / min		STEEL 60-62 HRc Vc ≤100 m / min	
		R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min
0.5	0.02	20000	200	20000	150	20000	120	20000	100	20000	80
1	0.05	20000	500	20000	400	20000	350	20000	300	20000	250
2	0.1	20000	1200	20000	1100	20000	1000	20000	900	20000	800
3	0.1	20000	1600	20000	1400	20000	1250	20000	1150	20000	1000
4	0.2	20000	1600	20000	1400	20000	1250	20000	1150	18000	900
5	0.2	20000	2000	20000	1600	20000	1500	20000	1350	16000	1000
6	0.2	20000	2400	20000	2100	20000	1900	18000	1400	14000	1000
8	0.2	20000	2600	20000	2400	20000	2200	16000	1600	12000	1000
10	0.3	20000	2800	18000	2500	15000	1800	11000	1200	9000	900
12	0.3	20000	3000	17000	2500	13000	1800	10000	1200	8000	900
14	0.3	20000	3200	15000	2400	12000	1700	9000	1200	7000	900
16	0.3	18000	3200	14000	2400	11000	1700	8000	1200	6500	850
20	0.3	16000	3200	12000	2400	9000	1600	7000	1200	5500	800

MAX STEPOVER (Pitch) 0.2mm for Roughing 0.1mm for Finishing

Cutting Data for Series 4081 / 4091 End Mills

TOOL DIAMETER (mm)	STAINLESS STEEL (SOFT)		STAINLESS STEEL (HARD)		HI-TEMP ALLOYS		TITANIUM		STEEL SOFT	
	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min
3	10000	600	5500	260	2500	70	5400	210	16000	950
4	7400	700	4800	290	2000	80	4000	190	12000	1200
5	6500	780	3800	350	1600	85	3200	190	9800	1200
6	5000	800	3200	370	1250	90	2650	210	8000	1300
8	4200	840	2400	380	1000	90	2000	240	6000	1400
10	3300	800	1950	350	800	90	1600	190	4800	1150
12	2700	650	1600	310	650	90	1350	210	4000	1120
14	2300	600	1400	290	550	90	1150	180	3500	1000
16	2000	500	1200	260	500	90	950	170	2900	850
18	1800	470	1100	250	250	400	880	170	2700	850
20	1600	420	900	210	370	80	800	190	2400	850

Based on slotting 0.5 x D with 4081, 1 x D with 4091. For heavier cuts decrease feed, for lighter cuts increase feed. Tools should ideally be held in a Hydraulic Chuck.

Cutting Data for High Speed Milling (H.S.M.) Cyber Series 6011 / 6021 / 6031 TiAlN

TOOL DIAMETER (Ød)	STEEL 40-45 HRc Vc -200 m / min		STEEL 50-55 HRc Vc -160 m / min		STEEL 55-60 HRc Vc -125 m / min		STEEL 60-62 HRc Vc -100 m / min	
	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min	R.P.M.	Feed mm / min
4	15900	900	12750	600	9950	400	8000	250
6	10600	1400	8500	1000	6650	700	5300	450
8	8000	1650	6350	1150	5000	850	4000	600
10	6350	1650	5100	1150	4000	850	3200	600
12	5300	1650	4250	1150	3350	850	2650	600
14	4550	1650	3650	1150	2850	850	2300	600
16	4000	2400	3200	1800	2500	1300	2000	950
18	3550	2400	2850	1800	2200	1300	1800	950
20	3200	2400	2550	1800	2000	1300	1600	950

Cutting data is given for shoulder milling:
Axial depth of cut: 1 x d (ap)
Radial width of cut: (ae)
Up to: Ø6mm 0.02 x d
Ø8-Ø12mm 0.025 x d
Ø14 - Ø20mm 0.030 x d

