



DIXI 7264

ROUTING

		VDI 3323		CUTINOX Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		160	<0.4×ØD1	<1×L1
	Low alloyed steel < 800 N/mm²	6 - 9		140	<0.3×ØD1	<1×L1
	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		100	<0.3×ØD1	<1×L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		95	<0.3×ØD1	<1×L1
	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		85	<0.25×ØD1	<1×L1
K	Grey cast iron < 250 HB	15 - 16		180	<0.4×ØD1	<1×L1
	Ductile, malleable, nodular cast iron>250HB	17 - 20		150	<0.3×ØD1	<1×L1
S	Refractory alloy, Fe, Ni, Co base	31- 35		35	<0.15×ØD1	<1×L1
	Titanium, titanium alloy	36 - 37		65	<0.4×ØD1	<1×L1

$$n \text{ [rpm]} = \frac{V_c \text{ [m/min]} \times 1000}{\pi \times D_1 \text{ [mm]}}$$

$$V_f \text{ [mm/min]} = n \text{ [rpm]} \times f_z \text{ [mm]} \times Z$$

Feed per tooth fz [mm]					
Ø D ₁ 1.50 - 2.00	Ø D ₁ 3.00 - 5.00	Ø D ₁ 6.00 - 8.00	Ø D ₁ 10.00 - 12.00	Ø D ₁ 16.00 - 20.00	
0.013 - 0.018	0.026 - 0.045	0.050 - 0.070	0.090 - 0.105	0.125 - 0.155	
0.012 - 0.016	0.024 - 0.040	0.050 - 0.060	0.080 - 0.095	0.110 - 0.140	
0.011 - 0.014	0.022 - 0.035	0.040 - 0.060	0.070 - 0.085	0.100 - 0.125	
0.011 - 0.014	0.022 - 0.035	0.040 - 0.060	0.070 - 0.085	0.100 - 0.125	
0.010 - 0.013	0.020 - 0.030	0.040 - 0.050	0.065 - 0.075	0.090 - 0.110	
0.016 - 0.021	0.032 - 0.050	0.060 - 0.080	0.105 - 0.125	0.145 - 0.180	
0.013 - 0.018	0.026 - 0.045	0.050 - 0.070	0.090 - 0.105	0.125 - 0.155	
0.007 - 0.010	0.014 - 0.025	0.030 - 0.040	0.050 - 0.060	0.065 - 0.085	
0.014 - 0.019	0.028 - 0.050	0.060 - 0.080	0.095 - 0.115	0.135 - 0.170	

SLOTING

		VDI 3323		CUTINOX Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		110	1×ØD1	<1×ØD1
	Low alloyed steel < 800 N/mm²	6 - 9		100	1×ØD1	<1×ØD1
	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		70	1×ØD1	<1×ØD1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		65	1×ØD1	<0.8×ØD1
	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		60	1×ØD1	<0.5×ØD1
K	Grey cast iron < 250 HB	15 - 16		125	1×ØD1	<1×ØD1
	Ductile, malleable, nodular cast iron>250HB	17 - 20		105	1×ØD1	<1×ØD1
S	Refractory alloy, Fe, Ni, Co base	31- 35		25	1×ØD1	<0.3×ØD1
	Titanium, titanium alloy	36 - 37		45	1×ØD1	<0.5×ØD1

Feed per tooth fz [mm]					
Ø D ₁ 1.50 - 2.00	Ø D ₁ 3.00 - 5.00	Ø D ₁ 6.00 - 8.00	Ø D ₁ 10.00 - 12.00	Ø D ₁ 16.00 - 20.00	
0.008 - 0.011	0.016 - 0.025	0.030 - 0.040	0.055 - 0.065	0.075 - 0.095	
0.007 - 0.010	0.014 - 0.025	0.030 - 0.040	0.050 - 0.055	0.065 - 0.085	
0.007 - 0.008	0.014 - 0.020	0.020 - 0.040	0.040 - 0.050	0.060 - 0.075	
0.007 - 0.008	0.014 - 0.020	0.020 - 0.040	0.040 - 0.050	0.060 - 0.075	
0.006 - 0.008	0.012 - 0.020	0.020 - 0.030	0.040 - 0.045	0.055 - 0.065	
0.010 - 0.013	0.020 - 0.030	0.040 - 0.050	0.065 - 0.075	0.085 - 0.110	
0.008 - 0.011	0.016 - 0.025	0.030 - 0.040	0.055 - 0.065	0.075 - 0.095	
0.004 - 0.006	0.008 - 0.015	0.020 - 0.020	0.030 - 0.035	0.040 - 0.050	
0.008 - 0.011	0.016 - 0.030	0.036 - 0.048	0.055 - 0.070	0.080 - 0.100	

Values based on cutting oil use. The cutting parameters are very strongly influenced by external parameters, such as tool and workpiece stability, etc.
The cutting conditions must be adapted to the operating conditions !



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TROCHOIDAL MILLING

		VDI 3323		CUTINOX Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		320	<0.04×ØD1	<1×L1
	Low alloyed steel < 800 N/mm²	6 - 9		280	<0.03×ØD1	<1×L1
	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		200	<0.03×ØD1	<1×L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		165	<0.03×ØD1	<1×L1
	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		150	<0.03×ØD1	<1×L1
K	Grey cast iron < 250 HB	15 - 16		450	<0.04×ØD1	<1×L1
	Ductile, malleable, nodular cast iron>250HB	17 - 20		375	<0.03×ØD1	<1×L1
S	Refractory alloy, Fe, Ni, Co base	31- 35		55	<0.02×ØD1	<1×L1
	Titanium, titanium alloy	36 - 37		100	<0.04×ØD1	<1×L1

$$n \text{ [rpm]} = \frac{Vc \text{ [m/min]} \times 1000}{\pi \times D_1 \text{ [mm]}}$$

$$Vf \text{ [mm/min]} = n \text{ [rpm]} \times fz \text{ [mm]} \times Z$$

Feed per tooth fz [mm]					
Ø D ₁ 1.50 - 2.00	Ø D ₁ 3.00 - 5.00	Ø D ₁ 6.00 - 8.00	Ø D ₁ 10.00 - 12.00	Ø D ₁ 16.00 - 20.00	
0.018 - 0.024	0.036 - 0.060	0.070 - 0.100	0.120 - 0.145	0.170 - 0.210	
0.016 - 0.022	0.032 - 0.055	0.060 - 0.090	0.110 - 0.130	0.150 - 0.190	
0.014 - 0.019	0.028 - 0.050	0.060 - 0.080	0.095 - 0.115	0.135 - 0.170	
0.014 - 0.019	0.028 - 0.050	0.060 - 0.080	0.095 - 0.115	0.135 - 0.170	
0.013 - 0.017	0.026 - 0.040	0.050 - 0.070	0.085 - 0.100	0.120 - 0.145	
0.022 - 0.029	0.044 - 0.070	0.090 - 0.120	0.145 - 0.175	0.200 - 0.250	
0.018 - 0.024	0.036 - 0.060	0.070 - 0.100	0.120 - 0.145	0.170 - 0.210	
0.009 - 0.012	0.018 - 0.030	0.040 - 0.050	0.060 - 0.070	0.085 - 0.105	
0.018 - 0.024	0.036 - 0.060	0.070 - 0.100	0.120 - 0.145	0.170 - 0.210	

RAMPING

		VDI 3323		CUTINOX Vc [m/min]	Ramp angle α	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		135	< 8°	<1×L1
	Low alloyed steel < 800 N/mm²	6 - 9		120	< 6°	<1×L1
	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		85	< 5°	<1×L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		80	< 5°	<1×L1
	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		70	< 5°	<1×L1
K	Grey cast iron < 250 HB	15 - 16		155	< 10°	<1×L1
	Ductile, malleable, nodular cast iron>250HB	17 - 20		130	< 6°	<1×L1
S	Refractory alloy, Fe, Ni, Co base	31- 35		30	< 3°	<1×L1
	Titanium, titanium alloy	36 - 37		55	< 4°	<1×L1

Feed per tooth fz [mm]					
Ø D ₁ 1.50 - 2.00	Ø D ₁ 3.00 - 5.00	Ø D ₁ 6.00 - 8.00	Ø D ₁ 10.00 - 12.00	Ø D ₁ 16.00 - 20.00	
0.007 - 0.010	0.014 - 0.025	0.030 - 0.040	0.050 - 0.060	0.065 - 0.085	
0.011 - 0.014	0.022 - 0.035	0.040 - 0.060	0.070 - 0.085	0.100 - 0.125	
0.010 - 0.013	0.020 - 0.030	0.040 - 0.050	0.065 - 0.075	0.090 - 0.110	
0.010 - 0.013	0.020 - 0.030	0.040 - 0.050	0.065 - 0.075	0.090 - 0.110	
0.008 - 0.011	0.016 - 0.030	0.030 - 0.040	0.055 - 0.065	0.080 - 0.100	
0.014 - 0.019	0.028 - 0.050	0.060 - 0.080	0.095 - 0.115	0.135 - 0.170	
0.012 - 0.016	0.024 - 0.040	0.050 - 0.060	0.080 - 0.095	0.110 - 0.140	
0.006 - 0.008	0.012 - 0.020	0.020 - 0.030	0.040 - 0.050	0.055 - 0.070	
0.013 - 0.018	0.026 - 0.045	0.050 - 0.070	0.090 - 0.105	0.125 - 0.155	

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