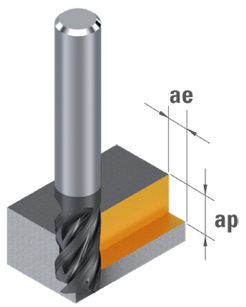
DIXI 7220-3D

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

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

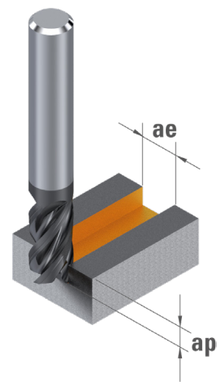
ROUTING

		VDI 3323		C-TOP Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		**140**	< 0.40×ØD1	<1× L1
P	Low alloyed steel < 800 N/mm²	6 - 9		**125**	< 0.35×ØD1	<1× L1
P	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		**85**	< 0.30×ØD1	<1× L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		**95**	< 0.30×ØD1	<1× L1
M	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		**65**	< 0.25×ØD1	<1× L1
K	Grey cast iron < 250 HB	15 - 16		**175**	< 0.40×ØD1	<1× L1
K	Ductile, malleable, nodular cast iron > 250 HB	17 - 20		**110**	< 0.40×ØD1	<1× L1
N	Copper alloy good machinability with Pb	26		**200**	< 0.40×ØD1	<1× L1
N	Copper alloy with difficult machinability	27 - 28		**170**	< 0.40×ØD1	<1× L1
N	Gold, silver	-		**150**	< 0.40×ØD1	<1× L1
S	Refractory alloy, Fe, Ni, Co base	31- 35		**35**	< 0.20×ØD1	<1× L1
S	Titanium, titanium alloy	36 - 37		**65**	< 0.40×ØD1	<1× L1

Feed per tooth fz [mm]

Ø D_1 3.00 - 4.00	Ø D_1 5.00 - 6.00	Ø D_1 8.00 - 10.00	Ø D_1 12.00 - 16.00
0.036 - 0.048	0.060 - 0.070	0.095 - 0.110	0.115 - 0.135
0.032 - 0.044	0.055 - 0.065	0.085 - 0.095	0.105 - 0.120
0.028 - 0.038	0.050 - 0.060	0.075 - 0.085	0.090 - 0.110
0.028 - 0.038	0.050 - 0.060	0.075 - 0.085	0.090 - 0.110
0.026 - 0.034	0.040 - 0.050	0.065 - 0.075	0.080 - 0.095
0.044 - 0.058	0.070 - 0.085	0.115 - 0.130	0.140 - 0.160
0.036 - 0.048	0.060 - 0.070	0.095 - 0.110	0.115 - 0.135
0.054 - 0.072	0.090 - 0.110	0.145 - 0.160	0.175 - 0.200
0.044 - 0.058	0.070 - 0.085	0.115 - 0.130	0.140 - 0.160
0.044 - 0.058	0.070 - 0.085	0.115 - 0.130	0.140 - 0.160
0.018 - 0.024	0.030 - 0.035	0.050 - 0.055	0.060 - 0.065
0.044 - 0.058	0.070 - 0.085	0.115 - 0.130	0.140 - 0.160

SLOTTING

		VDI 3323		C-TOP Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		**110**	1×ØD1	<1.50×ØD1
P	Low alloyed steel < 800 N/mm²	6 - 9		**95**	1×ØD1	<1.25×ØD1
P	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		**65**	1×ØD1	<1×ØD1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		**70**	1×ØD1	<1×ØD1
M	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		**50**	1×ØD1	<0.80×ØD1
K	Grey cast iron < 250 HB	15 - 16		**130**	1×ØD1	<1.50×ØD1
K	Ductile, malleable, nodular cast iron > 250 HB	17 - 20		**85**	1×ØD1	<1.25×ØD1
N	Copper alloy good machinability with Pb	26		**150**	1×ØD1	<1.50×ØD1
N	Copper alloy with difficult machinability	27 - 28		**130**	1×ØD1	<1.50×ØD1
N	Gold, silver	-		**115**	1×ØD1	<1.50×ØD1
S	Refractory alloy, Fe, Ni, Co base	31- 35		**25**	1×ØD1	<0.50×ØD1
S	Titanium, titanium alloy	36 - 37		**45**	1×ØD1	<1×ØD1

Feed per tooth fz [mm]

Ø D_1 3.00 - 4.00	Ø D_1 5.00 - 6.00	Ø D_1 8.00 - 10.00	Ø D_1 12.00 - 16.00
0.029 - 0.038	0.048 - 0.056	0.076 - 0.088	0.090 - 0.110
0.026 - 0.036	0.044 - 0.052	0.068 - 0.076	0.085 - 0.095
0.020 - 0.026	0.036 - 0.042	0.052 - 0.060	0.065 - 0.075
0.017 - 0.022	0.030 - 0.036	0.046 - 0.052	0.055 - 0.065
0.016 - 0.020	0.024 - 0.030	0.040 - 0.046	0.050 - 0.055
0.035 - 0.046	0.056 - 0.068	0.092 - 0.104	0.110 - 0.130
0.029 - 0.038	0.048 - 0.056	0.076 - 0.088	0.090 - 0.110
0.043 - 0.058	0.072 - 0.088	0.116 - 0.128	0.140 - 0.160
0.035 - 0.046	0.056 - 0.068	0.092 - 0.104	0.110 - 0.130
0.035 - 0.046	0.056 - 0.068	0.092 - 0.104	0.110 - 0.130
0.009 - 0.012	0.016 - 0.018	0.026 - 0.028	0.030 - 0.035
0.026 - 0.034	0.042 - 0.052	0.070 - 0.078	0.085 - 0.095

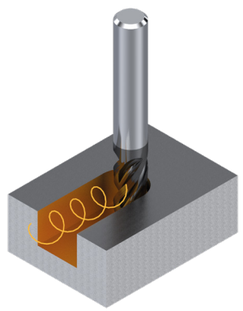
Values based on cutting oil use. The cutting parameters are very strongly influenced by external parameters, such as tool and workpiece stability, etc.
The cutting conditions must be adapted to the operating conditions !

DIXI 7220-3D

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

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

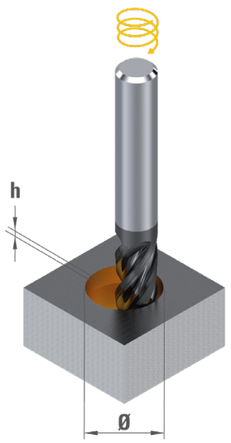
TROCHOIDAL MILLING

		VDI 3323		C-TOP Vc [m/min]	ae (mm)	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5		**420**	<0.05×ØD1	<1×L1
P	Low alloyed steel < 800 N/mm²	6 - 9		**380**	<0.04×ØD1	<1×L1
P	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		**260**	<0.04×ØD1	<1×L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		**190**	<0.04×ØD1	<1×L1
M	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		**130**	<0.03×ØD1	<1×L1
K	Grey cast iron < 250 HB	15 - 16		**480**	<0.05×ØD1	<1×L1
K	Ductile, malleable, nodular cast iron > 250 HB	17 - 20		**300**	<0.05×ØD1	<1×L1
N	Copper alloy good machinability with Pb	26		**550**	<0.05×ØD1	<1×L1
N	Copper alloy with difficult machinability	27 - 28		**470**	<0.05×ØD1	<1×L1
N	Gold, silver	-		**410**	<0.05×ØD1	<1×L1
S	Refractory alloy, Fe, Ni, Co base	31- 35		**60**	<0.03×ØD1	<1×L1
S	Titanium, titanium alloy	36 - 37		**110**	<0.05×ØD1	<1×L1

Feed per tooth fz [mm]

Ø D_1 3.00 - 4.00	Ø D_1 5.00 - 6.00	Ø D_1 8.00 - 10.00	Ø D_1 12.00 - 16.00
0.046 - 0.060	0.080 - 0.090	0.120 - 0.140	0.140 - 0.170
0.040 - 0.055	0.070 - 0.080	0.110 - 0.120	0.130 - 0.150
0.036 - 0.050	0.060 - 0.070	0.100 - 0.110	0.120 - 0.130
0.036 - 0.050	0.060 - 0.070	0.100 - 0.110	0.120 - 0.130
0.032 - 0.040	0.050 - 0.060	0.080 - 0.090	0.100 - 0.120
0.054 - 0.070	0.090 - 0.110	0.140 - 0.160	0.170 - 0.200
0.046 - 0.060	0.080 - 0.090	0.120 - 0.140	0.140 - 0.170
0.046 - 0.060	0.080 - 0.090	0.120 - 0.140	0.140 - 0.170
0.040 - 0.055	0.070 - 0.080	0.110 - 0.120	0.130 - 0.150
0.040 - 0.055	0.070 - 0.080	0.110 - 0.120	0.130 - 0.150
0.022 - 0.030	0.040 - 0.050	0.060 - 0.070	0.070 - 0.080
0.046 - 0.060	0.080 - 0.090	0.120 - 0.140	0.140 - 0.170

HELICAL INTERPOLATION

		VDI 3323		C-TOP Vc [m/min]	Ramp angle α	ap (mm)
P	Unalloyed steel, leaded steel	1 - 5	 $h = \pi \times ø \times \tan \alpha$ $1.3xD_1 < ø < 1.9xD_1$	**120**	<6°	<1.2×L1
P	Low alloyed steel < 800 N/mm²	6 - 9		**95**	<4°	<1×L1
P	High-alloy steel > 800 N/mm², stainless steel ferr.- marten.	10 - 13		**70**	<3°	<0.8×L1
M	Austenitic stainless steel < 700 N/mm²	14.1-14.2		**85**	<3°	<1×L1
M	Nickel-free stainless steel/DUPLEX >700 N/mm²	14.3-14.4		**60**	<2°	<0.7×L1
K	Grey cast iron < 250 HB	15 - 16		**175**	<8°	<1.5×L1
K	Ductile, malleable, nodular cast iron > 250 HB	17 - 20		**100**	<4°	<1×L1
N	Copper alloy good machinability with Pb	26		**130**	<8°	<1.5×L1
N	Copper alloy with difficult machinability	27 - 28		**120**	<4°	<1×L1
N	Gold, silver	-		**150**	<3°	<1×L1
S	Refractory alloy, Fe, Ni, Co base	31- 35		**60**	<1°	<0.5×L1
S	Titanium, titanium alloy	36 - 37		**110**	<2°	<1×L1

Feed per tooth fz [mm]

Ø D_1 3.00 - 4.00	Ø D_1 5.00 - 6.00	Ø D_1 8.00 - 10.00	Ø D_1 12.00 - 16.00
0.022 - 0.030	0.038 - 0.046	0.060 - 0.070	0.070 - 0.085
0.020 - 0.028	0.034 - 0.040	0.055 - 0.060	0.065 - 0.075
0.018 - 0.024	0.030 - 0.036	0.050 - 0.055	0.060 - 0.065
0.018 - 0.024	0.030 - 0.036	0.050 - 0.055	0.060 - 0.065
0.016 - 0.022	0.026 - 0.032	0.040 - 0.045	0.050 - 0.060
0.028 - 0.036	0.046 - 0.054	0.070 - 0.080	0.085 - 0.100
0.022 - 0.030	0.038 - 0.046	0.060 - 0.070	0.070 - 0.085
0.022 - 0.030	0.038 - 0.046	0.060 - 0.070	0.070 - 0.085
0.020 - 0.028	0.034 - 0.040	0.055 - 0.060	0.065 - 0.075
0.020 - 0.028	0.034 - 0.040	0.055 - 0.060	0.065 - 0.075
0.012 - 0.016	0.018 - 0.022	0.030 - 0.035	0.035 - 0.040
0.022 - 0.030	0.038 - 0.046	0.060 - 0.070	0.070 - 0.085

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 !