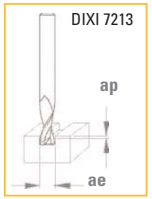
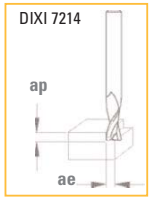
DIXI 7213 - 7214

CUTTING CONDITIONS





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

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

	Materials to be machined		CARBIDE Vc [m/min]	TiAlN Vc [m/min]	ap [mm]	ae [mm]	ap [mm]	ae [mm]
P	Unalloyed steel / Low alloyed steel	< 600 N/mm²	**70** 100	**90** 110	< 1.0 x ØD1	1 x ØD1	< 1 x ØD1	< 0.5 x ØD1
P	Unalloyed steel / Low alloyed steel	600 – 1500 N/mm²		**70** 90	< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
P	Lead alloyed cutting steel		**70** 100		< 1.0 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
P	High alloyed steel	700 – 1500 N/mm²		**40** 60	< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
M	Stainless steel	400 – 700 N/mm²		**80** 100	< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
K	Grey cast iron / Nodular pearlitic iron	< 250 HB	**70** 100	**90** 110	< 1.0 x ØD1	1 x ØD1	< 1 x ØD1	< 0.5 x ØD1
K	Alloyed cast iron / Nodular pearlitic iron	> 250 HB	**40** 70	**70** 90	< 0.4 x ØD1	1 x ØD1	< 1 x ØD1	< 0.4 x ØD1
K	Nodular ferritic cast iron / Malleable cast iron		**70** 100	**90** 110	< 0.4 x ØD1	1 x ØD1	< 1 x ØD1	< 0.4 x ØD1
S	Titanium, titanium alloys		**30** 45		< 0.5 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
N	Copper alloys - easy to machine (brass - bronze)		**140** 160		< 2.0 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
N	Copper alloys - difficult to machine / Aluminium bronze	(CuAlFe) (Ampco)	**120** 140	**170** 190	< 1.0 x ØD1	1 x ØD1	< 1 x ØD1	< 0.3 x ØD1
N	Aluminium alloys	Si < 8%	**180** 260	**230** 340	< 2.0 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
N	Cast aluminium	Si > 8%	**140** 160	**210** 230	< 2.0 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1
N	Gold, silver		**140** 160	**200** 220	< 1.0 x ØD1	1 x ØD1	< 1.5 x ØD1	< 0.5 x ØD1

Feed per tooth **fz [mm]**

Ø D_1 4.00 - 5.00	Ø D_1 5.00 -6.00	Ø D_1 6.00 - 7.00	Ø D_1 7.00 - 8.00	Ø D_1 8.00 - 9.00	Ø D_1 9.00 - 10.00	Ø D_1 10.00 - 12.00	Ø D_1 12.00 - 14.00	Ø D_1 14.00 - 16.00	Ø D_1 16.00 - 20.00
0.008 - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.016** - 0.03	**0.018** - 0.04	**0.020** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.03** - 0.07
0.006 - 0.01	**0.008** - 0.02	**0.009** - 0.02	**0.011** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.015** - 0.03	**0.02** - 0.04	**0.02** - 0.04	**0.02** - 0.05
0.010 - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.018** - 0.04	**0.020** - 0.05	**0.023** - 0.05	**0.025** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.04** - 0.10
0.006 - 0.01	**0.008** - 0.02	**0.009** - 0.02	**0.011** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.015** - 0.03	**0.02** - 0.04	**0.02** - 0.04	**0.02** - 0.05
0.006 - 0.01	**0.008** - 0.02	**0.009** - 0.02	**0.011** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.015** - 0.03	**0.02** - 0.04	**0.02** - 0.04	**0.02** - 0.05
0.008 - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.016** - 0.03	**0.018** - 0.04	**0.020** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.03** - 0.07
0.006 - 0.01	**0.008** - 0.02	**0.009** - 0.02	**0.011** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.015** - 0.03	**0.02** - 0.04	**0.02** - 0.04	**0.02** - 0.05
0.008 - 0.02	**0.010** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.016** - 0.03	**0.018** - 0.04	**0.020** - 0.04	**0.02** - 0.05	**0.03** - 0.06	**0.03** - 0.07
0.006 - 0.01	**0.008** - 0.02	**0.009** - 0.02	**0.011** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.015** - 0.03	**0.02** - 0.04	**0.02** - 0.04	**0.02** - 0.05
0.010 - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.018** - 0.04	**0.020** - 0.05	**0.023** - 0.05	**0.025** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.04** - 0.10
0.006 - 0.01	**0.008** - 0.02	**0.009** - 0.02	**0.011** - 0.02	**0.012** - 0.02	**0.014** - 0.03	**0.015** - 0.03	**0.02** - 0.04	**0.02** - 0.04	**0.02** - 0.05
0.010 - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.018** - 0.04	**0.020** - 0.05	**0.023** - 0.05	**0.025** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.04** - 0.10
0.010 - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.018** - 0.04	**0.020** - 0.05	**0.023** - 0.05	**0.025** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.04** - 0.10
0.010 - 0.03	**0.013** - 0.03	**0.015** - 0.04	**0.018** - 0.04	**0.020** - 0.05	**0.023** - 0.05	**0.025** - 0.06	**0.03** - 0.07	**0.04** - 0.08	**0.04** - 0.10