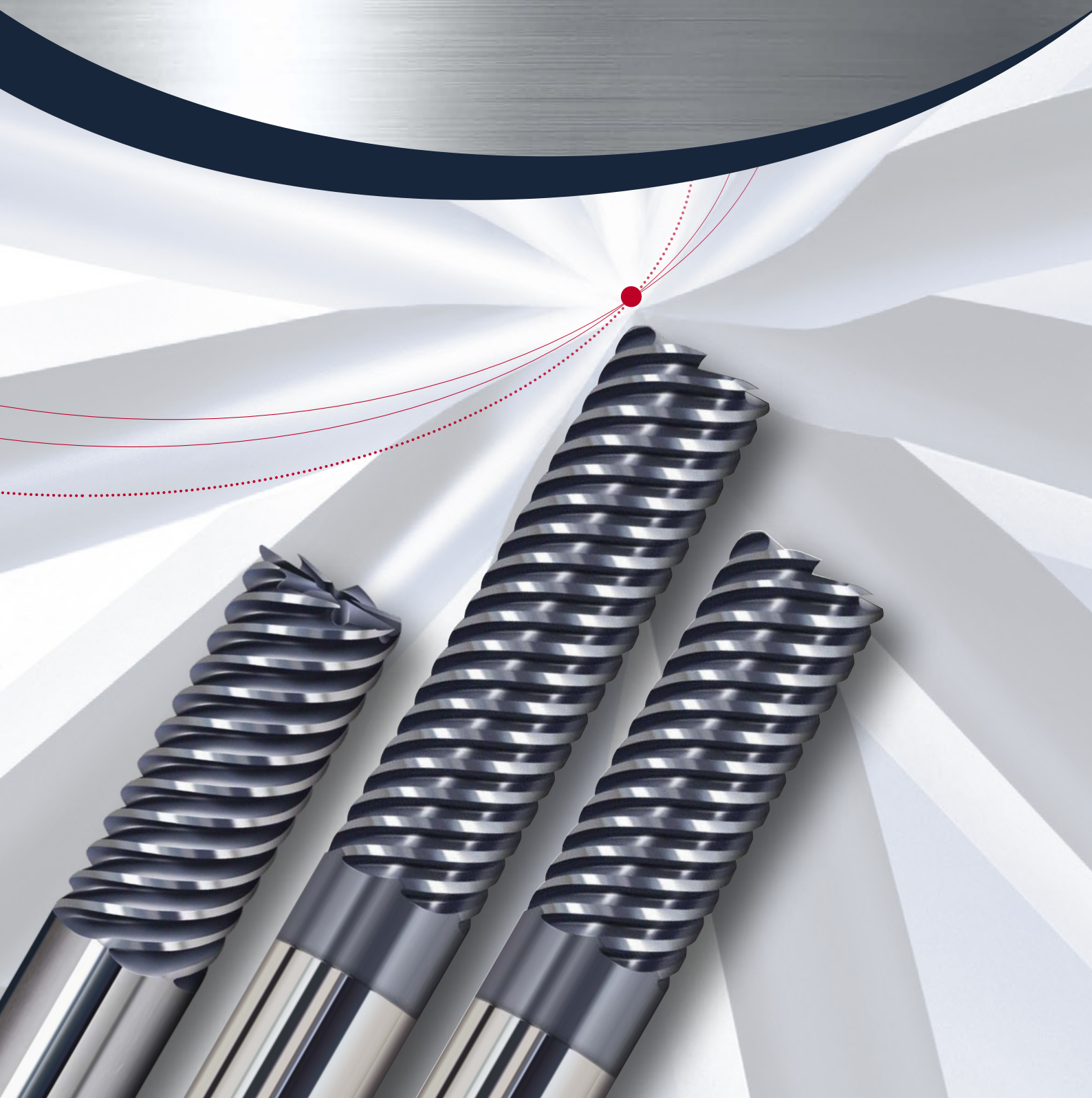


passion
for precision

fraisa

Finishing cutter MulticutXF
Surface Master



MulticutXF

EXtreme Finishing

The new **MulticutXF** can be applied in circumstances with very stringent requirements with regard to shape and positional tolerances, surface qualities or machining productivity. In all three target areas, **MulticutXF** achieves levels of performance that could not be achieved with conventional finishing cutter tools. The advantages compared to conventional finishing cutters become apparent and are reflected in the productivity, the price-performance ratio as well as the improved surface quality. Additionally, thanks to their long service life, **MulticutXF** tools are better suited for automated processes than traditional finishing tools. In some sectors it is even possible to substitute grinding by using **MulticutXF**.

In principle, the **MulticutXF** tools distinguish themselves from conventional finishing cutter tools through their high helix angle, the unequal spacing and their odd number of teeth. These specific

geometric elements ensure a cut with minimal cutting force fluctuations, leading to an extreme running smoothness of these tools.

The vibration-free machining process is the outstanding feature of **MulticutXF**. While conventional finishing cutters vibrate most of the time depending on the infeed and the wrap angle, this does not happen with **MulticutXF** in conjunction with the recommended application data. Experts know that, in practice, vibration lines on finished surfaces cannot be corrected. Because the cutting parameters are perfectly matched to the **MulticutXF**, a reliable finishing cut can be achieved right away.

The advantages:

- **Extreme dimensional and positional accuracy**
- **Extreme surface quality on the component**
- **Extreme process security**
- **No vibrations**
- **Shorter machining times**
- **Lower production costs**



Reduction of the machining costs per workpiece

The ideal feed values are more than 50 % higher compared to conventional tools for finishing operations. Additionally, this tool enables finishing processes to be performed in only one step. These features lead to a reduction of the machining costs by more than 30 %.

Cutting tooling costs

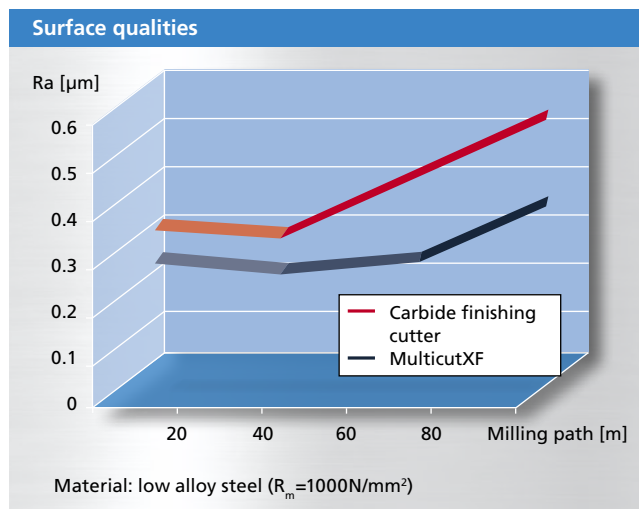
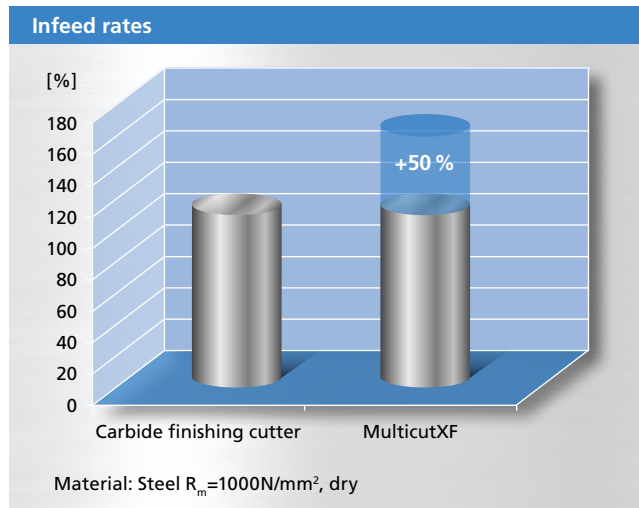
Due to the unequal spacing and the resulting excellent smooth running, as well as the particular hardness of the coating in combination with the highly wear-resistant carbide, better surface qualities can be achieved over a longer service life. The high helix angle assists this as it distributes the wear over a much longer cutting edge. Thus, the tool life is extended by at least 50 %, which results in a reduction of the tool costs by more than 30 %.

The best surface quality of the components

The very robust and rigid geometry enables a more exact dimensional accuracy for the workpiece. Further machining processes can therefore be dispensed with. At the same time, the workpieces are finished with very high surface qualities, which are lower than $Ra=0.4$ even after a milling time of 90 minutes. Thanks to the process safety at the highest surface removal volume, more components per cutting edge can be machined. This increases the degree of automation and reduces the number of tools.

Resharpenering

The **MulticutXF** can be resharpened several times, if handled by experts. The reproduction of the specific and complex geometries requires special knowledge. The resharpening service FRAISA ReTool® makes **MulticutXF** ever more attractive to you.



[3]

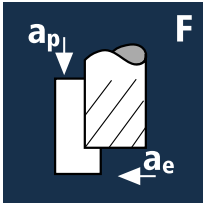
Where is it possible to ask questions concerning the product?

If you have any question, please send an email to mail.ch@fraisa.com. You may also directly contact our local customer consultant.

The FRAISA application engineers will be happy to advise you.

For further information, please refer to www.fraisa.com

Application



Material

Steel
850 - 1100 N/mm²



Steel
1100 - 1300 N/mm²



Hardened tool steel
52 - 56 HRC



Hardened tool steel
56 - 60 HRC



Wrought aluminium
Construction aluminium



Cast iron
(lamellar / spheroidal)



Titanium alloys
> 300 HB
[Ti6Al4V]

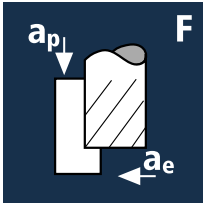


Inox normal
[Cr-Ni/1.4301]
[Cr-Ni-Mo/1.4571]



d1 [mm]	z	v _c [m/min]	f _z [mm]	a _p [mm]	a _e [mm]	n [min ⁻¹]	v _f [mm/min]
3.00	5	160	0.025	8.000	0.030	16975	2120
4.00	5	160	0.029	11.000	0.030	12730	1845
5.00	5	160	0.033	13.000	0.060	10185	1680
6.00	5	160	0.036	13.000	0.060	8490	1530
8.00	7	160	0.041	19.000	0.100	6365	1825
10.00	7	160	0.046	22.000	0.100	5095	1640
12.00	7	160	0.051	26.000	0.120	4245	1515
16.00	7	160	0.059	32.000	0.120	3185	1315
20.00	7	160	0.065	38.000	0.150	2545	1160
3.00	5	140	0.025	8.000	0.030	14855	1855
4.00	5	140	0.029	11.000	0.030	11140	1615
5.00	5	140	0.033	13.000	0.060	8915	1470
6.00	5	140	0.036	13.000	0.060	7425	1335
8.00	7	140	0.041	19.000	0.100	5570	1600
10.00	7	140	0.046	22.000	0.100	4455	1435
12.00	7	140	0.051	26.000	0.120	3715	1325
16.00	7	140	0.059	32.000	0.120	2785	1150
20.00	7	140	0.065	38.000	0.150	2230	1015
3.00	5	120	0.025	8.000	0.030	12730	1590
4.00	5	120	0.029	11.000	0.030	9550	1385
5.00	5	120	0.033	13.000	0.060	7640	1260
6.00	5	120	0.036	13.000	0.060	6365	1145
8.00	7	120	0.041	19.000	0.100	4775	1370
10.00	7	120	0.046	22.000	0.100	3820	1230
12.00	7	120	0.051	26.000	0.120	3185	1135
16.00	7	120	0.059	32.000	0.120	2385	985
20.00	7	120	0.065	38.000	0.150	1910	870
3.00	5	80	0.025	8.000	0.030	8490	1060
4.00	5	80	0.029	11.000	0.030	6365	925
5.00	5	80	0.033	13.000	0.060	5095	840
6.00	5	80	0.036	13.000	0.060	4245	765
8.00	7	80	0.041	19.000	0.100	3185	915
10.00	7	80	0.046	22.000	0.100	2545	820
12.00	7	80	0.051	26.000	0.120	2120	760
16.00	7	80	0.059	32.000	0.120	1590	655
20.00	7	80	0.065	38.000	0.150	1275	580
3.00	5	396	0.025	8.000	0.030	42015	5250
4.00	5	450	0.029	11.000	0.030	35810	5190
5.00	5	450	0.033	13.000	0.060	28650	4725
6.00	5	450	0.036	13.000	0.060	23875	4295
8.00	7	450	0.041	19.000	0.100	17905	5140
10.00	7	450	0.046	22.000	0.100	14325	4610
12.00	7	450	0.051	26.000	0.120	11935	4260
16.00	7	450	0.045	24.000	0.200	8950	2820
20.00	7	450	0.065	38.000	0.150	7160	3260
3.00	5	180	0.025	8.000	0.030	19100	2385
4.00	5	180	0.029	11.000	0.030	14325	2075
5.00	5	180	0.033	13.000	0.060	11460	1890
6.00	5	180	0.036	13.000	0.060	9550	1720
8.00	7	180	0.041	19.000	0.100	7160	2055
10.00	7	180	0.046	22.000	0.100	5730	1845
12.00	7	180	0.051	26.000	0.120	4775	1705
16.00	7	180	0.059	32.000	0.120	3580	1480
20.00	7	180	0.065	38.000	0.150	2865	1305
3.00	5	70	0.025	8.000	0.030	7425	930
4.00	5	70	0.029	11.000	0.030	5570	810
5.00	5	70	0.033	13.000	0.060	4455	735
6.00	5	70	0.036	13.000	0.060	3715	670
8.00	7	70	0.041	19.000	0.100	2785	800
10.00	7	70	0.046	22.000	0.100	2230	715
12.00	7	70	0.051	26.000	0.120	1855	665
16.00	7	70	0.059	32.000	0.120	1395	575
20.00	7	70	0.065	38.000	0.150	1115	505
3.00	5	80	0.025	8.000	0.030	8490	1060
4.00	5	80	0.029	11.000	0.030	6365	925
5.00	5	80	0.033	13.000	0.060	5095	840
6.00	5	80	0.036	13.000	0.060	4245	765
8.00	7	80	0.041	19.000	0.100	3185	915
10.00	7	80	0.046	22.000	0.100	2545	820
12.00	7	80	0.051	26.000	0.120	2120	760
16.00	7	80	0.059	32.000	0.120	1590	655
20.00	7	80	0.065	38.000	0.150	1275	580

Application



Material

Steel
850 - 1100 N/mm²



Steel
1100 - 1300 N/mm²



Hardened tool steel
52 - 56 HRC



Hardened tool steel
56 - 60 HRC



Wrought aluminium
Construction aluminium



Cast iron
(lamellar / spheroidal)



Titanium alloys
> 300 HB
[Ti6Al4V]

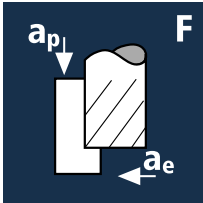


Inox normal
[Cr-Ni/1.4301]
[Cr-Ni-Mo/1.4571]



d1 [mm]	z	v _c [m/min]	f _z [mm]	a _p [mm]	a _e [mm]	n [min ⁻¹]	v _f [mm/min]
3.00	5	130	0.021	14.000	0.030	13795	1450
4.00	5	130	0.024	17.000	0.030	10345	1240
5.00	5	130	0.027	19.000	0.060	8275	1115
6.00	5	130	0.030	19.000	0.060	6895	1035
8.00	7	130	0.034	28.000	0.100	5175	1230
10.00	7	130	0.039	34.000	0.100	4140	1130
12.00	7	130	0.042	40.000	0.120	3450	1015
16.00	7	130	0.049	48.000	0.120	2585	885
20.00	7	130	0.055	56.000	0.150	2070	795
3.00	5	110	0.021	14.000	0.030	11670	1225
4.00	5	110	0.024	17.000	0.030	8755	1050
5.00	5	110	0.027	19.000	0.060	7005	945
6.00	5	110	0.030	19.000	0.060	5835	875
8.00	7	110	0.034	28.000	0.100	4375	1040
10.00	7	110	0.039	34.000	0.100	3500	955
12.00	7	110	0.042	40.000	0.120	2920	860
16.00	7	110	0.049	48.000	0.120	2190	750
20.00	7	110	0.055	56.000	0.150	1750	675
3.00	5	100	0.021	14.000	0.030	10610	1115
4.00	5	100	0.024	17.000	0.030	7960	955
5.00	5	100	0.027	19.000	0.060	6365	860
6.00	5	100	0.030	19.000	0.060	5305	795
8.00	7	100	0.034	28.000	0.100	3980	945
10.00	7	100	0.039	34.000	0.100	3185	870
12.00	7	100	0.042	40.000	0.120	2655	780
16.00	7	100	0.049	48.000	0.120	1990	680
20.00	7	100	0.055	56.000	0.150	1590	615
3.00	5	60	0.021	14.000	0.030	6365	670
4.00	5	60	0.024	17.000	0.030	4775	575
5.00	5	60	0.027	19.000	0.060	3820	515
6.00	5	60	0.030	19.000	0.060	3185	475
8.00	7	60	0.034	28.000	0.100	2385	570
10.00	7	60	0.039	34.000	0.100	1910	520
12.00	7	60	0.042	40.000	0.120	1590	470
16.00	7	60	0.049	48.000	0.120	1195	410
20.00	7	60	0.055	56.000	0.150	955	370
3.00	5	360	0.021	14.000	0.030	38195	4010
4.00	5	360	0.024	17.000	0.030	28650	3440
5.00	5	360	0.027	19.000	0.060	22920	3095
6.00	5	360	0.030	19.000	0.060	19100	2865
8.00	7	360	0.034	28.000	0.100	14325	3410
10.00	7	360	0.039	34.000	0.100	11460	3130
12.00	7	360	0.042	40.000	0.120	9550	2805
16.00	7	360	0.045	40.000	0.250	7160	2255
20.00	7	360	0.055	56.000	0.150	5730	2205
3.00	5	140	0.021	14.000	0.030	14855	1560
4.00	5	140	0.024	17.000	0.030	11140	1335
5.00	5	140	0.027	19.000	0.060	8915	1205
6.00	5	140	0.030	19.000	0.060	7425	1115
8.00	7	140	0.034	28.000	0.100	5570	1325
10.00	7	140	0.039	34.000	0.100	4455	1215
12.00	7	140	0.042	40.000	0.120	3715	1090
16.00	7	140	0.049	48.000	0.120	2785	955
20.00	7	140	0.055	56.000	0.150	2230	860
3.00	5	50	0.021	14.000	0.030	5305	555
4.00	5	50	0.024	17.000	0.030	3980	475
5.00	5	50	0.027	19.000	0.060	3185	430
6.00	5	50	0.030	19.000	0.060	2655	400
8.00	7	50	0.034	28.000	0.100	1990	475
10.00	7	50	0.039	34.000	0.100	1590	435
12.00	7	50	0.042	40.000	0.120	1325	390
16.00	7	50	0.049	48.000	0.120	995	340
20.00	7	50	0.055	56.000	0.150	795	305
3.00	5	60	0.021	14.000	0.030	6365	670
4.00	5	60	0.024	17.000	0.030	4775	575
5.00	5	60	0.027	19.000	0.060	3820	515
6.00	5	60	0.030	19.000	0.060	3185	475
8.00	7	60	0.034	28.000	0.100	2385	570
10.00	7	60	0.039	34.000	0.100	1910	520
12.00	7	60	0.042	40.000	0.120	1590	470
16.00	7	60	0.049	48.000	0.120	1195	410
20.00	7	60	0.055	56.000	0.150	955	370

Application



Material

Steel
850 - 1100 N/mm²



Steel
1100 - 1300 N/mm²



Hardened tool steel
52 - 56 HRC



Hardened tool steel
56 - 60 HRC



Wrought aluminium
Construction aluminium



Cast iron
(lamellar / spheroidal)



Titanium alloys
> 300 HB
[Ti6Al4V]

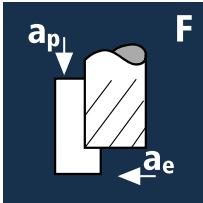


Inox normal
[Cr-Ni/1.4301]
[Cr-Ni-Mo/1.4571]



d1 [mm]	z	v _c [m/min]	f _z [mm]	a _p [mm]	a _e [mm]	n [min ⁻¹]	v _f [mm/min]
6.00	5	100	0.028	26.000	0.060	5305	745
8.00	7	100	0.032	36.000	0.100	3980	890
10.00	7	100	0.036	45.000	0.100	3185	800
12.00	7	100	0.039	53.000	0.120	2655	725
16.00	7	100	0.045	63.000	0.120	1990	625
20.00	7	100	0.050	75.000	0.150	1590	555
6.00	5	90	0.028	26.000	0.060	4775	670
8.00	7	90	0.032	36.000	0.100	3580	800
10.00	7	90	0.036	45.000	0.100	2865	720
12.00	7	90	0.039	53.000	0.120	2385	650
16.00	7	90	0.045	63.000	0.120	1790	565
20.00	7	90	0.050	75.000	0.150	1430	500
6.00	5	80	0.028	26.000	0.060	4245	595
8.00	7	80	0.032	36.000	0.100	3185	715
10.00	7	80	0.036	45.000	0.100	2545	640
12.00	7	80	0.039	53.000	0.120	2120	580
16.00	7	80	0.045	63.000	0.120	1590	500
20.00	7	80	0.050	75.000	0.150	1275	445
6.00	5	50	0.028	26.000	0.060	2655	370
8.00	7	50	0.032	36.000	0.100	1990	445
10.00	7	50	0.036	45.000	0.100	1590	400
12.00	7	50	0.039	53.000	0.120	1325	360
16.00	7	50	0.045	63.000	0.120	995	315
20.00	7	50	0.050	75.000	0.150	795	280
6.00	5	290	0.028	26.000	0.060	15385	2155
8.00	7	290	0.032	36.000	0.100	11540	2585
10.00	7	290	0.036	45.000	0.100	9230	2325
12.00	7	290	0.039	53.000	0.120	7690	2100
16.00	7	360	0.045	56.000	0.250	7160	2255
20.00	7	290	0.050	75.000	0.150	4615	1615
6.00	5	110	0.028	26.000	0.060	5835	815
8.00	7	110	0.032	36.000	0.100	4375	980
10.00	7	110	0.036	45.000	0.100	3500	880
12.00	7	110	0.039	53.000	0.120	2920	795
16.00	7	110	0.045	63.000	0.120	2190	690
20.00	7	110	0.050	75.000	0.150	1750	615
6.00	5	40	0.028	26.000	0.060	2120	295
8.00	7	40	0.032	36.000	0.100	1590	355
10.00	7	40	0.036	45.000	0.100	1275	320
12.00	7	40	0.039	53.000	0.120	1060	290
16.00	7	40	0.045	63.000	0.120	795	250
20.00	7	40	0.050	75.000	0.150	635	225
6.00	5	50	0.028	26.000	0.060	2655	370
8.00	7	50	0.032	36.000	0.100	1990	445
10.00	7	50	0.036	45.000	0.100	1590	400
12.00	7	50	0.039	53.000	0.120	1325	360
16.00	7	50	0.045	63.000	0.120	995	315
20.00	7	50	0.050	75.000	0.150	795	280

Application



Material

Steel
850 - 1100 N/mm²



Steel
1100 - 1300 N/mm²



Hardened tool steel
52 - 56 HRC



Hardened tool steel
56 - 60 HRC



Wrought aluminium
Construction aluminium



Cast iron
(lamellar / spheroidal)



Titanium alloys
> 300 HB
[Ti6Al4V]



Inox normal
[Cr-Ni/1.4301]
[Cr-Ni-Mo/1.4571]



d1 [mm]	z	v _c [m/min]	f _z [mm]	a _p [mm]	a _e [mm]	n [min ⁻¹]	v _f [mm/min]
6.00	5	80	0.026	32.000	0.060	4245	550
8.00	7	80	0.030	42.000	0.100	3185	670
10.00	7	80	0.033	53.000	0.100	2545	590
12.00	7	80	0.036	63.000	0.120	2120	535
16.00	7	80	0.042	84.000	0.120	1590	470
20.00	7	80	0.047	105.000	0.150	1275	420
6.00	5	70	0.026	32.000	0.060	3715	485
8.00	7	70	0.030	42.000	0.100	2785	585
10.00	7	70	0.033	53.000	0.100	2230	515
12.00	7	70	0.036	63.000	0.120	1855	470
16.00	7	70	0.042	84.000	0.120	1395	410
20.00	7	70	0.047	105.000	0.150	1115	365
6.00	5	60	0.026	32.000	0.060	3185	415
8.00	7	60	0.030	42.000	0.100	2385	500
10.00	7	60	0.033	53.000	0.100	1910	440
12.00	7	60	0.036	63.000	0.120	1590	400
16.00	7	60	0.042	84.000	0.120	1195	350
20.00	7	60	0.047	105.000	0.150	955	315
6.00	5	40	0.026	32.000	0.060	2120	275
8.00	7	40	0.030	42.000	0.100	1590	335
10.00	7	40	0.033	53.000	0.100	1275	295
12.00	7	40	0.036	63.000	0.120	1060	265
16.00	7	40	0.042	84.000	0.120	795	235
20.00	7	40	0.047	105.000	0.150	635	210
6.00	5	230	0.026	32.000	0.060	12200	1585
8.00	7	230	0.030	42.000	0.100	9150	1920
10.00	7	230	0.033	53.000	0.100	7320	1690
12.00	7	230	0.036	63.000	0.120	6100	1535
20.00	7	230	0.047	105.000	0.150	3660	1205
6.00	5	90	0.026	32.000	0.060	4775	620
8.00	7	90	0.030	42.000	0.100	3580	750
10.00	7	90	0.033	53.000	0.100	2865	660
12.00	7	90	0.036	63.000	0.120	2385	600
16.00	7	90	0.042	84.000	0.120	1790	525
20.00	7	90	0.047	105.000	0.150	1430	470
6.00	5	30	0.026	32.000	0.060	1590	205
8.00	7	30	0.030	42.000	0.100	1195	250
10.00	7	30	0.033	53.000	0.100	955	220
12.00	7	30	0.036	63.000	0.120	795	200
16.00	7	30	0.042	84.000	0.120	595	175
20.00	7	30	0.047	105.000	0.150	475	155
6.00	5	40	0.026	32.000	0.060	2120	275
8.00	7	40	0.030	42.000	0.100	1590	335
10.00	7	40	0.033	53.000	0.100	1275	295
12.00	7	40	0.036	63.000	0.120	1060	265
16.00	7	40	0.042	84.000	0.120	795	235
20.00	7	40	0.047	105.000	0.150	635	210



Scan this QR code to find more information on the FRAISA Group.



The fastest way to our E-Shop.

FRAISA SA

Gurzelenstr. 7 | 4512 Bellach | Switzerland |
Tel.: +41 (0) 32 617 42 42 |
mail.ch@fraisa.com | fraisa.com |

You can also find us at:

facebook.com/fraisagroup
youtube.com/fraisagroup
linkedin.com/company/fraisa

passion
for precision

