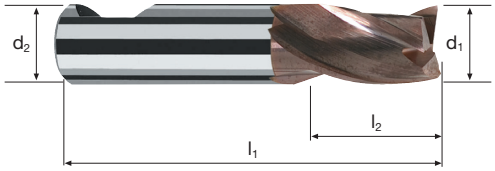
# Zylindrische Fräser

## Glattschneidig, kurze Schaftausführung

Favora® F

| HM | λ 30° γ 12° |
|---|---|
| 90° | |
| | |
| | |




Schruppen

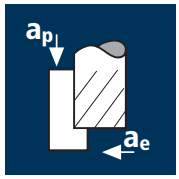
Schlichten

| Rm < 850 | Rm 850-1100 | Rm 1100-1300 | | | | | Inox Stainless | | Aluminium Copper Gold / Platinum |
|---|---|---|---|---|---|---|---|---|---|

Beispiel: **Bestell-Nr.** Beschichtung **U** Artikel-Nr. **45336** ø-Code **120**

| ø Code | $d_1$ e8 | $d_2$ h6 | $l_1$ | $l_2$ | α | z | 5336 / 5236 | UNICUT-4X U45336 |
|---|---|---|---|---|---|---|---|---|
| **120** | 1.5 | 6 | 38 | 3 | 11.5° | 3 | ● | ● |
| **140** | 2.0 | 6 | 38 | 3 | 11.0° | 3 | ● | ● |
| **160** | 2.5 | 6 | 38 | 3 | 10.0° | 3 | ● | ● |
| **180** | 3.0 | 6 | 38 | 4 | 8.0° | 3 | ● | ● |
| **200** | 3.5 | 6 | 38 | 4 | 7.0° | 3 | ● | ● |
| **220** | 4.0 | 6 | 38 | 5 | 5.5° | 3 | ● | ● |
| **240** | 4.5 | 6 | 38 | 5 | 4.5° | 3 | ● | ● |
| **260** | 5.0 | 6 | 38 | 6 | 3.0° | 3 | ● | ● |
| **300** | 6.0 | 6 | 38 | 7 | 0.0° | 3 | ● | ● |
| **331** | 7.0 | 8 | 41 | 8 | 2.5° | 3 | ● | ● |
| **391** | 8.0 | 8 | 41 | 9 | 0.0° | 3 | ● | ● |
| **420** | 9.0 | 10 | 48 | 10 | 2.5° | 3 | ● | ● |
| **450** | 10.0 | 10 | 48 | 11 | 0.0° | 3 | ● | ● |

## Anwendung




| Werkstoff | d1 [mm] | z | $v_c$ [m/min] | $f_z$ [mm] | $a_p$ [mm] | $a_e$ [mm] | n [min⁻¹] | $v_f$ [mm/min] |
|---|---|---|---|---|---|---|---|---|
| Stahl < 850 N/mm² | 2 | 3 | 105 | 0.005 | 2 | 0.1 | 16710 | 250 |
| | 3 | 3 | 105 | 0.010 | 3 | 0.2 | 11140 | 335 |
| | 4 | 3 | 105 | 0.015 | 4 | 0.2 | 8355 | 375 |
| | 5 | 3 | 105 | 0.015 | 5 | 0.3 | 6685 | 300 |
| | 6 | 3 | 105 | 0.020 | 6 | 0.3 | 5570 | 335 |
| | 7 | 3 | 105 | 0.025 | 7 | 0.4 | 4775 | 360 |
| | 8 | 3 | 105 | 0.025 | 8 | 0.4 | 4180 | 315 |
| | 9 | 3 | 105 | 0.030 | 9 | 0.5 | 3715 | 335 |
| | 10 | 3 | 105 | 0.035 | 10 | 0.5 | 3340 | 350 |
| Stahl 850 - 1100 N/mm² | 2 | 3 | 65 | 0.005 | 2 | 0.1 | 10345 | 155 |
| | 3 | 3 | 65 | 0.010 | 3 | 0.2 | 6895 | 205 |
| | 4 | 3 | 65 | 0.015 | 4 | 0.2 | 5175 | 235 |
| | 5 | 3 | 65 | 0.015 | 5 | 0.3 | 4140 | 185 |
| | 6 | 3 | 65 | 0.020 | 6 | 0.3 | 3450 | 205 |
| | 7 | 3 | 65 | 0.025 | 7 | 0.4 | 2955 | 220 |
| | 8 | 3 | 65 | 0.025 | 8 | 0.4 | 2585 | 195 |
| | 9 | 3 | 65 | 0.030 | 9 | 0.5 | 2300 | 205 |
| | 10 | 3 | 65 | 0.035 | 10 | 0.5 | 2070 | 215 |
| Gold | 2 | 3 | 160 | 0.005 | 2 | 0.1 | 25465 | 380 |
| | 3 | 3 | 160 | 0.010 | 3 | 0.2 | 16975 | 510 |
| | 4 | 3 | 160 | 0.015 | 4 | 0.2 | 12735 | 575 |
| | 5 | 3 | 160 | 0.015 | 5 | 0.3 | 10185 | 460 |
| | 6 | 3 | 160 | 0.020 | 6 | 0.3 | 8490 | 510 |
| | 7 | 3 | 160 | 0.025 | 7 | 0.4 | 7275 | 545 |
| | 8 | 3 | 160 | 0.025 | 8 | 0.4 | 6365 | 475 |
| | 9 | 3 | 160 | 0.030 | 9 | 0.5 | 5660 | 510 |
| | 10 | 3 | 160 | 0.035 | 10 | 0.5 | 5095 | 535 |
| Nichtrostender Stahl [Cr-Ni/1.4301] | 2 | 3 | 65 | 0.005 | 2 | 0.1 | 10345 | 155 |
| | 3 | 3 | 65 | 0.010 | 3 | 0.2 | 6895 | 205 |
| | 4 | 3 | 65 | 0.015 | 4 | 0.2 | 5175 | 235 |
| | 5 | 3 | 65 | 0.015 | 5 | 0.3 | 4140 | 185 |
| | 6 | 3 | 65 | 0.020 | 6 | 0.3 | 3450 | 205 |
| | 7 | 3 | 65 | 0.025 | 7 | 0.4 | 2955 | 220 |
| | 8 | 3 | 65 | 0.025 | 8 | 0.4 | 2585 | 195 |
| | 9 | 3 | 65 | 0.030 | 9 | 0.5 | 2300 | 205 |
| | 10 | 3 | 65 | 0.035 | 10 | 0.5 | 2070 | 215 |

## Anwendung


| Werkstoff | d1 [mm] | z | $v_c$ [m/min] | $f_z$ [mm] | $a_p$ [mm] | $a_e$ [mm] | n [min⁻¹] | $v_f$ [mm/min] | Q [cm³/min] |
|---|---|---|---|---|---|---|---|---|---|
| Stahl < 850 N/mm² | 2 | 3 | 75 | 0.005 | 0.8 | 2 | 11935 | 180 | 0.3 |
| | 3 | 3 | 75 | 0.010 | 1.2 | 3 | 7960 | 240 | 0.9 |
| | 4 | 3 | 75 | 0.010 | 1.6 | 4 | 5970 | 180 | 1.2 |
| | 5 | 3 | 75 | 0.015 | 2.0 | 5 | 4775 | 215 | 2.2 |
| | 6 | 3 | 75 | 0.015 | 2.4 | 6 | 3980 | 180 | 2.6 |
| | 7 | 3 | 75 | 0.020 | 2.8 | 7 | 3410 | 205 | 4.0 |
| | 8 | 3 | 75 | 0.020 | 3.2 | 8 | 2985 | 180 | 4.6 |
| | 9 | 3 | 75 | 0.025 | 3.6 | 9 | 2655 | 200 | 6.5 |
| | 10 | 3 | 75 | 0.030 | 4.0 | 10 | 2385 | 215 | 8.6 |
| Stahl 850 - 1100 N/mm² | 2 | 3 | 50 | 0.005 | 0.8 | 2 | 7960 | 120 | 0.2 |
| | 3 | 3 | 50 | 0.010 | 1.2 | 3 | 5305 | 160 | 0.6 |
| | 4 | 3 | 50 | 0.010 | 1.6 | 4 | 3980 | 120 | 0.8 |
| | 5 | 3 | 50 | 0.015 | 2.0 | 5 | 3185 | 145 | 1.5 |
| | 6 | 3 | 50 | 0.015 | 2.4 | 6 | 2655 | 120 | 1.7 |
| | 7 | 3 | 50 | 0.020 | 2.8 | 7 | 2275 | 135 | 2.6 |
| | 8 | 3 | 50 | 0.020 | 3.2 | 8 | 1990 | 120 | 3.1 |
| | 9 | 3 | 50 | 0.025 | 3.6 | 9 | 1770 | 135 | 4.4 |
| | 10 | 3 | 50 | 0.025 | 4.0 | 10 | 1590 | 120 | 4.8 |
| Gold | 2 | 3 | 140 | 0.005 | 0.8 | 2 | 22280 | 335 | 0.5 |
| | 3 | 3 | 140 | 0.010 | 1.2 | 3 | 14855 | 445 | 1.6 |
| | 4 | 3 | 140 | 0.010 | 1.6 | 4 | 11140 | 335 | 2.1 |
| | 5 | 3 | 140 | 0.015 | 2.0 | 5 | 8915 | 400 | 4.0 |
| | 6 | 3 | 140 | 0.020 | 2.4 | 6 | 7425 | 445 | 6.4 |
| | 7 | 3 | 140 | 0.020 | 2.8 | 7 | 6365 | 380 | 7.4 |
| | 8 | 3 | 140 | 0.025 | 3.2 | 8 | 5570 | 420 | 10.8 |
| | 9 | 3 | 140 | 0.030 | 3.6 | 9 | 4950 | 445 | 14.4 |
| | 10 | 3 | 140 | 0.030 | 4.0 | 10 | 4455 | 400 | 16.0 |
| Nichtrostender Stahl [Cr-Ni/1.4301] | 2 | 3 | 50 | 0.005 | 0.8 | 2 | 7960 | 120 | 0.2 |
| | 3 | 3 | 50 | 0.010 | 1.2 | 3 | 5305 | 160 | 0.6 |
| | 4 | 3 | 50 | 0.010 | 1.6 | 4 | 3980 | 120 | 0.8 |
| | 5 | 3 | 50 | 0.015 | 2.0 | 5 | 3185 | 145 | 1.5 |
| | 6 | 3 | 50 | 0.015 | 2.4 | 6 | 2655 | 120 | 1.7 |
| | 7 | 3 | 50 | 0.020 | 2.8 | 7 | 2275 | 135 | 2.6 |
| | 8 | 3 | 50 | 0.020 | 3.2 | 8 | 1990 | 120 | 3.1 |
| | 9 | 3 | 50 | 0.025 | 3.6 | 9 | 1770 | 135 | 4.4 |
| | 10 | 3 | 50 | 0.025 | 4.0 | 10 | 1590 | 120 | 4.8 |