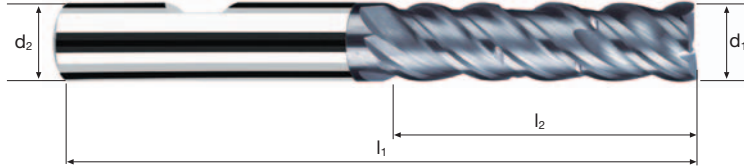
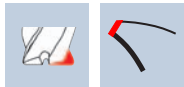
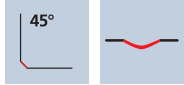


# Zylindrische Fräser NB-NVD

Glattschneidig mit Spanteiler, mittellange Ausführung



**HM**  
**MG10**     $\lambda$  **45°**  
                   $\gamma$  **0°**



Schruppen



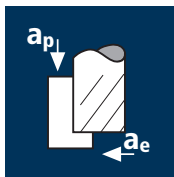
Schichten



|                    |                       |                        |                        |  |  |  |                          |                       |   |
|--------------------|-----------------------|------------------------|------------------------|--|--|--|--------------------------|-----------------------|---|
| <b>Rm</b><br>< 850 | <b>Rm</b><br>850-1100 | <b>Rm</b><br>1100-1300 | <b>Rm</b><br>1300-1500 |  |  |  | <b>Inox</b><br>Stainless | <b>Ti</b><br>Titanium | <b>GG(G)</b><br>Tool Steel<br>Nickel-Alloys |
|--------------------|-----------------------|------------------------|------------------------|--|--|--|--------------------------|-----------------------|---|

|                          |          |          |     |    |      |   | POLYCHROM |  |
|--------------------------|----------|----------|-----|----|------|---|-----------|--|
| Beispiel:<br>Bestell-Nr. |          |          |     |    |      |   | P15310    |  |
|                          |          |          |     |    |      |   | P15210    |  |
| $\emptyset$<br>Code      | d1<br>e8 | d2<br>h6 | l1  | l2 | 45°  | z |           |  |
| .300                     | 6        | 6        | 63  | 21 | 0.15 | 4 | ●         |  |
| .391                     | 8        | 8        | 72  | 31 | 0.15 | 4 | ●         |  |
| .450                     | 10       | 10       | 84  | 37 | 0.20 | 4 | ●         |  |
| .501                     | 12       | 12       | 97  | 44 | 0.20 | 4 | ●         |  |
| .610                     | 16       | 16       | 108 | 53 | 0.20 | 4 | ●         |  |
| .682                     | 20       | 20       | 122 | 62 | 0.20 | 4 | ●         |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |
|                          |          |          |     |    |      |   |           |  |

## Anwendung



## Werkstoff

Stahl  
< 850 N/mm<sup>2</sup>

Stahl  
850 - 1100 N/mm<sup>2</sup>

Kaltarbeitsstahl  
(12% Cr)  
hoch legiert  
[1.2379]

Nichtrostender Stahl  
[Cr-Ni/1.4301]

| d1 [mm] | z | v <sub>c</sub> [m/min] | f <sub>z</sub> [mm] | a <sub>p</sub> [mm] | a <sub>e</sub> [mm] | n [min <sup>-1</sup> ] | v <sub>f</sub> [mm/min] | Q [cm <sup>3</sup> /min] |
|---------|---|------------------------|---------------------|---------------------|---------------------|------------------------|-------------------------|--------------------------|
| 6       | 4 | 180                    | 0.040               | 10.8                | 1.2                 | 9550                   | 1530                    | 20.0                     |
| 8       | 4 | 180                    | 0.050               | 14.4                | 1.6                 | 7160                   | 1430                    | 33.0                     |
| 10      | 4 | 180                    | 0.065               | 18.0                | 2.0                 | 5730                   | 1490                    | 53.5                     |
| 12      | 4 | 180                    | 0.075               | 21.6                | 2.4                 | 4775                   | 1435                    | 74.5                     |
| 16      | 4 | 180                    | 0.085               | 28.8                | 3.2                 | 3580                   | 1215                    | 112.0                    |
| 20      | 4 | 180                    | 0.105               | 36.0                | 4.0                 | 2865                   | 1205                    | 173.5                    |

|    |   |     |       |      |     |      |      |       |
|----|---|-----|-------|------|-----|------|------|-------|
| 6  | 4 | 150 | 0.040 | 10.8 | 1.2 | 7960 | 1275 | 16.5  |
| 8  | 4 | 150 | 0.050 | 14.4 | 1.6 | 5970 | 1195 | 27.5  |
| 10 | 4 | 150 | 0.065 | 18.0 | 2.0 | 4775 | 1240 | 44.5  |
| 12 | 4 | 150 | 0.075 | 21.6 | 2.4 | 3980 | 1195 | 62.0  |
| 16 | 4 | 150 | 0.085 | 28.8 | 3.2 | 2985 | 1015 | 93.5  |
| 20 | 4 | 150 | 0.105 | 36.0 | 4.0 | 2385 | 1000 | 144.0 |

|    |   |    |       |      |     |      |     |      |
|----|---|----|-------|------|-----|------|-----|------|
| 6  | 4 | 70 | 0.035 | 10.8 | 1.2 | 3715 | 520 | 6.5  |
| 8  | 4 | 70 | 0.045 | 14.4 | 1.6 | 2785 | 500 | 11.5 |
| 10 | 4 | 70 | 0.060 | 18.0 | 2.0 | 2230 | 535 | 19.5 |
| 12 | 4 | 70 | 0.070 | 21.6 | 2.4 | 1855 | 520 | 27.0 |
| 16 | 4 | 70 | 0.080 | 28.8 | 3.2 | 1395 | 445 | 41.0 |
| 20 | 4 | 70 | 0.100 | 36.0 | 4.0 | 1115 | 445 | 64.0 |

|    |   |    |       |      |     |      |     |      |
|----|---|----|-------|------|-----|------|-----|------|
| 6  | 4 | 85 | 0.025 | 10.8 | 1.2 | 4510 | 450 | 6.0  |
| 8  | 4 | 85 | 0.030 | 14.4 | 1.6 | 3380 | 405 | 9.5  |
| 10 | 4 | 85 | 0.040 | 18.0 | 2.0 | 2705 | 435 | 15.5 |
| 12 | 4 | 85 | 0.050 | 21.6 | 2.4 | 2255 | 450 | 23.5 |
| 16 | 4 | 85 | 0.055 | 28.8 | 3.2 | 1690 | 370 | 34.0 |
| 20 | 4 | 85 | 0.070 | 36.0 | 4.0 | 1355 | 380 | 54.5 |

## Anwendung



## Werkstoff

Stahl  
< 850 N/mm<sup>2</sup>

Stahl  
850 - 1100 N/mm<sup>2</sup>

Kaltarbeitsstahl  
(12% Cr)  
hoch legiert  
[1.2379]

Nichtrostender Stahl  
[Cr-Ni/1.4301]

| d1 [mm] | z | v <sub>c</sub> [m/min] | f <sub>z</sub> [mm] | a <sub>p</sub> [mm] | a <sub>e</sub> [mm] | n [min <sup>-1</sup> ] | v <sub>f</sub> [mm/min] | Q [cm <sup>3</sup> /min] |
|---------|---|------------------------|---------------------|---------------------|---------------------|------------------------|-------------------------|--------------------------|
| 6       | 4 | 145                    | 0.020               | 8.1                 | 6                   | 7695                   | 615                     | 30.0                     |
| 8       | 4 | 145                    | 0.025               | 10.8                | 8                   | 5770                   | 575                     | 49.5                     |
| 10      | 4 | 145                    | 0.035               | 13.5                | 10                  | 4615                   | 645                     | 87.0                     |
| 12      | 4 | 145                    | 0.040               | 16.2                | 12                  | 3845                   | 615                     | 119.5                    |
| 16      | 4 | 145                    | 0.050               | 19.2                | 16                  | 2885                   | 575                     | 176.5                    |
| 20      | 4 | 145                    | 0.060               | 24.0                | 20                  | 2310                   | 555                     | 266.5                    |

|    |   |     |       |      |    |      |     |       |
|----|---|-----|-------|------|----|------|-----|-------|
| 6  | 4 | 120 | 0.020 | 8.1  | 6  | 6365 | 510 | 25.0  |
| 8  | 4 | 120 | 0.025 | 10.8 | 8  | 4775 | 480 | 41.5  |
| 10 | 4 | 120 | 0.035 | 13.5 | 10 | 3820 | 535 | 72.0  |
| 12 | 4 | 120 | 0.040 | 16.2 | 12 | 3185 | 510 | 99.0  |
| 16 | 4 | 120 | 0.050 | 19.2 | 16 | 2385 | 475 | 146.0 |
| 20 | 4 | 120 | 0.060 | 24.0 | 20 | 1910 | 460 | 221.0 |

|    |   |    |       |      |    |      |     |      |
|----|---|----|-------|------|----|------|-----|------|
| 6  | 4 | 55 | 0.020 | 8.1  | 6  | 2920 | 235 | 11.5 |
| 8  | 4 | 55 | 0.025 | 10.8 | 8  | 2190 | 220 | 19.0 |
| 10 | 4 | 55 | 0.030 | 13.5 | 10 | 1750 | 210 | 28.5 |
| 12 | 4 | 55 | 0.035 | 16.2 | 12 | 1460 | 205 | 40.0 |
| 16 | 4 | 55 | 0.045 | 19.2 | 16 | 1095 | 195 | 60.0 |
| 20 | 4 | 55 | 0.055 | 24.0 | 20 | 875  | 195 | 93.5 |

|    |   |    |       |      |    |      |     |      |
|----|---|----|-------|------|----|------|-----|------|
| 6  | 4 | 65 | 0.015 | 8.1  | 6  | 3450 | 205 | 10.0 |
| 8  | 4 | 65 | 0.020 | 10.8 | 8  | 2585 | 205 | 17.5 |
| 10 | 4 | 65 | 0.025 | 13.5 | 10 | 2070 | 205 | 27.5 |
| 12 | 4 | 65 | 0.030 | 16.2 | 12 | 1725 | 205 | 40.0 |
| 16 | 4 | 65 | 0.035 | 19.2 | 16 | 1295 | 180 | 55.5 |
| 20 | 4 | 65 | 0.045 | 24.0 | 20 | 1035 | 185 | 89.0 |