



# NACHREINER

spanabhebende Werkzeuge



spanabhebende Werkzeuge

## GEWINDESCHNEIDEN

Präzision bedeutet,  
nichts dem Zufall zu überlassen.



## REIBEN

## BOHREN SENKEN

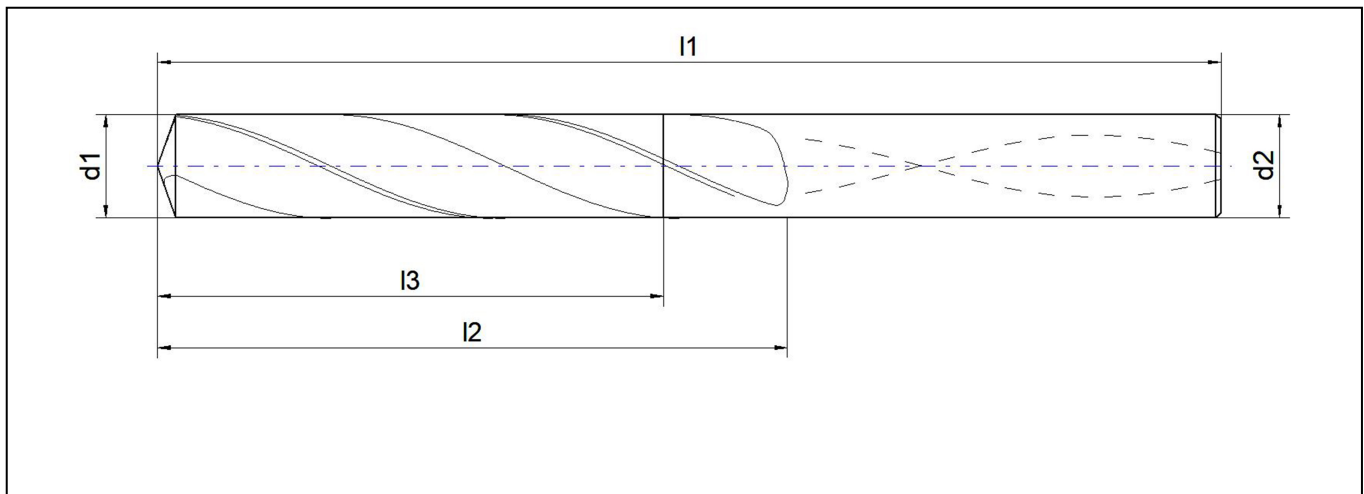
## FRÄSEN



# Bohrer VHM

## Drills solid carbide





## VHM-Inox-Spiralbohrer 5xd mit IK

E.3690.1



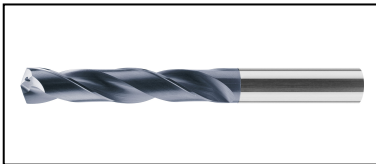
**Schnittdaten** >

### Einsatzrichtwerte

| Material                                                 | Nr. | Vc m/min |
|----------------------------------------------------------|-----|----------|
| allg. Stähle -500 N/mm <sup>2</sup>                      | 1.1 |          |
| allg. Stähle -700 N/mm <sup>2</sup>                      | 1.2 |          |
| allg. Stähle -850N/mm <sup>2</sup>                       | 1.3 |          |
| allg. Stähle -1000 N/mm <sup>2</sup>                     | 1.4 |          |
| allg. Stähle -1400 N/mm <sup>2</sup>                     | 1.5 |          |
| Einsatzstähle < 1000N/mm <sup>2</sup>                    | 1.6 |          |
| Nitrierstähle < 1000N/mm <sup>2</sup>                    | 1.7 |          |
| Vergütungsstähle < 850N/mm <sup>2</sup>                  | 1.8 |          |
| Werkzeugstähle (legiert und unlegiert)                   | 1.9 |          |
| Rost und säurebeständige Stähle bis 700N/mm <sup>2</sup> | 2.1 |          |
| Rost und säurebeständige Stähle ab 700N/mm <sup>2</sup>  | 2.2 |          |
| Gusseisen bis 180 HB                                     | 3.1 |          |
| Temperguss                                               | 3.2 |          |

| Material                             | Nr. | Vc m/min |
|--------------------------------------|-----|----------|
| Gusseisen mit Kugelgraphit           | 3.3 |          |
| AL-und AL-Legierungen bis 6% Si      | 4.1 |          |
| AL-und AL-Legierungen (unter 12% Si) | 4.2 |          |
| AL-Legierung (über 12% Si)           | 4.3 |          |
| Messing, Kupfer, Bronze, Rotguss     | 4.4 |          |
| Duroplaste und Thermoplast           | 4.5 |          |
| Grafit, GFK, Kupfer                  | 4.6 |          |
| Titan und Titanlegierung             | 5.1 |          |
| Nickel                               | 5.2 |          |
| gehärtete Stähle 45-55 HRC           | 6.1 |          |
| gehärtete Stähle 55-60 HRC           | 6.2 |          |
| gehärtete Stähle 60-65 HRC           | 6.3 |          |

## Weitere Ansichten



## Verfügbare Varianten

| Artikel-Nr.   | d1  | l1 | l2 | d2 h6 | Gewindebohrer | Gewindeform | l3  |
|---------------|-----|----|----|-------|---------------|-------------|-----|
| E.3690.1.0100 | 1   | 55 | 10 | 3,0   |               | M 1,1       | 6.5 |
| E.3690.1.0110 | 1.1 | 55 | 12 | 3,0   | M 1,4         | M 1,2       | 9.5 |
| E.3690.1.0120 | 1.2 | 55 | 12 | 3,0   |               |             | 9.5 |
| E.3690.1.0130 | 1.3 | 55 | 12 | 3,0   |               |             | 9.5 |
| E.3690.1.0140 | 1.4 | 55 | 12 | 3,0   |               |             | 9.5 |
| E.3690.1.0150 | 1.5 | 55 | 12 | 3,0   |               |             | 9.5 |
| E.3690.1.0160 | 1.6 | 55 | 16 | 3,0   | M 2           |             | 13  |
| E.3690.1.0170 | 1.7 | 55 | 16 | 3,0   |               |             | 13  |
| E.3690.1.0180 | 1.8 | 55 | 16 | 3,0   | M 2,2         | M 2         | 13  |
| E.3690.1.0190 | 1.9 | 55 | 16 | 3,0   | M 2,3         |             | 13  |

|               |     |    |    |     |                |                |    |
|---------------|-----|----|----|-----|----------------|----------------|----|
| E.3690.1.0200 | 2   | 57 | 21 | 3,0 |                |                | 13 |
| E.3690.1.0210 | 2.1 | 57 | 21 | 3,0 |                |                | 21 |
| E.3690.1.0220 | 2.2 | 57 | 21 | 3,0 |                |                | 21 |
| E.3690.1.0230 | 2.3 | 57 | 21 | 3,0 |                |                | 21 |
| E.3690.1.0240 | 2.4 | 57 | 21 | 3,0 |                |                | 21 |
| E.3690.1.0250 | 2.5 | 57 | 21 | 3,0 | M 3            |                | 21 |
| E.3690.1.0260 | 2.6 | 57 | 21 | 3,0 |                |                | 21 |
| E.3690.1.0270 | 2.7 | 57 | 21 | 3,0 |                |                | 21 |
| E.3690.1.0280 | 2.8 | 57 | 21 | 3,0 |                | M 3            | 21 |
| E.3690.1.0290 | 2.9 | 57 | 21 | 3,0 | M 3,5          | M 3 x<br>0,25  | 21 |
| E.3690.1.0300 | 3   | 66 | 28 | 6,0 |                |                | 23 |
| E.3690.1.0310 | 3.1 | 66 | 28 | 6,0 |                |                | 23 |
| E.3690.1.0320 | 3.2 | 66 | 28 | 6,0 |                |                | 23 |
| E.3690.1.0330 | 3.3 | 66 | 28 | 6,0 | M 4            | M 3,5 x<br>0,5 | 23 |
| E.3690.1.0340 | 3.4 | 66 | 28 | 6,0 |                |                | 23 |
| E.3690.1.0350 | 3.5 | 66 | 28 | 6,0 | M 4 x 0,5      |                | 23 |
| E.3690.1.0360 | 3.6 | 66 | 28 | 6,0 |                |                | 23 |
| E.3690.1.0370 | 3.7 | 66 | 28 | 6,0 | M 4,5          | M 4            | 23 |
| E.3690.1.0380 | 3.8 | 74 | 36 | 6,0 |                | M 4 x 0,5      | 29 |
| E.3690.1.0390 | 3.9 | 74 | 36 | 6,0 |                |                | 29 |
| E.3690.1.0400 | 4   | 74 | 36 | 6,0 | M 4,5 x<br>0,5 |                | 29 |
| E.3690.1.0410 | 4.1 | 74 | 36 | 6,0 |                |                | 29 |
| E.3690.1.0420 | 4.2 | 74 | 36 | 6,0 | M 5            | M 4,5          | 29 |
| E.3690.1.0430 | 4.3 | 74 | 36 | 6,0 |                | M 4,5 x<br>0,5 | 29 |
| E.3690.1.0440 | 4.4 | 74 | 36 | 6,0 |                |                | 29 |
| E.3690.1.0450 | 4.5 | 74 | 36 | 6,0 | M 5 x 0,5      |                | 29 |
|               |     |    |    |     |                |                |    |

|               |     |    |    |     |                |             |    |
|---------------|-----|----|----|-----|----------------|-------------|----|
| E.3690.1.0460 | 4.6 | 74 | 36 | 6,0 | M 5,5          |             | 29 |
| E.3690.1.0470 | 4.7 | 74 | 36 | 6,0 |                | M 5 x 0,75  | 29 |
| E.3690.1.0480 | 4.8 | 82 | 44 | 6,0 |                | M 5 x 0,5   | 35 |
| E.3690.1.0490 | 4.9 | 82 | 44 | 6,0 |                |             | 35 |
| E.3690.1.0500 | 5   | 82 | 44 | 6,0 | M 6 / M5,5x0,5 |             | 35 |
| E.3690.1.0510 | 5.1 | 82 | 44 | 6,0 |                | M 5,5       | 35 |
| E.3690.1.0520 | 5.2 | 82 | 44 | 6,0 | M 6 x 0,75     |             | 35 |
| E.3690.1.0530 | 5.3 | 82 | 44 | 6,0 |                | M 5,5 x 0,5 | 35 |
| E.3690.1.0540 | 5.4 | 82 | 44 | 6,0 |                |             | 35 |
| E.3690.1.0550 | 5.5 | 82 | 44 | 6,0 | M 6 x 0,5      |             | 35 |
| E.3690.1.0560 | 5.6 | 82 | 44 | 6,0 |                | M 6         | 35 |
| E.3690.1.0570 | 5.7 | 82 | 44 | 6,0 |                | M 6 x 0,75  | 35 |
| E.3690.1.0580 | 5.8 | 82 | 44 | 6,0 |                | M 6 x 0,5   | 35 |
| E.3690.1.0590 | 5.9 | 82 | 44 | 6,0 |                |             | 35 |
| E.3690.1.0600 | 6   | 82 | 44 | 6,0 | M 7            |             | 35 |
| E.3690.1.0610 | 6.1 | 91 | 53 | 8,0 |                |             | 43 |
| E.3690.1.0620 | 6.2 | 91 | 53 | 8,0 | M 7 x 0,75     |             | 43 |
| E.3690.1.0630 | 6.3 | 91 | 53 | 8,0 |                |             | 43 |
| E.3690.1.0640 | 6.4 | 91 | 53 | 8,0 |                |             | 43 |
| E.3690.1.0650 | 6.5 | 91 | 53 | 8,0 |                |             | 43 |
| E.3690.1.0660 | 6.6 | 91 | 53 | 8,0 |                | M 7         | 43 |
| E.3690.1.0670 | 6.7 | 91 | 53 | 8,0 |                | M 7 x 0,75  | 43 |
| E.3690.1.0680 | 6.8 | 91 | 53 | 8,0 | M 8            | M 7 x 0,5   | 43 |
| E.3690.1.0690 | 6.9 | 91 | 53 | 8,0 |                |             | 43 |
| E.3690.1.0700 | 7   | 91 | 53 | 8,0 | M 8 x 1        |             | 43 |

|               |     |     |    |      |             |            |    |
|---------------|-----|-----|----|------|-------------|------------|----|
| E.3690.1.0710 | 7.1 | 91  | 53 | 8,0  |             |            | 43 |
| E.3690.1.0720 | 7.2 | 91  | 53 | 8,0  | M 8 x 0,75  |            | 43 |
| E.3690.1.0730 | 7.3 | 91  | 53 | 8,0  |             |            | 43 |
| E.3690.1.0740 | 7.4 | 91  | 53 | 8,0  |             | M 8        | 43 |
| E.3690.1.0750 | 7.5 | 91  | 53 | 8,0  | M 8 x 0,5   |            | 43 |
| E.3690.1.0760 | 7.6 | 91  | 53 | 8,0  |             | M 8 x 1    | 43 |
| E.3690.1.0770 | 7.7 | 91  | 53 | 8,0  |             | M 8 x 0,75 | 43 |
| E.3690.1.0780 | 7.8 | 91  | 53 | 8,0  | M 9         | M 8 x 0,5  | 43 |
| E.3690.1.0790 | 7.9 | 91  | 53 | 8,0  |             |            | 43 |
| E.3690.1.0800 | 8   | 91  | 53 | 8,0  | M 9 x 1     |            | 43 |
| E.3690.1.0810 | 8.1 | 103 | 61 | 10,0 |             |            | 49 |
| E.3690.1.0820 | 8.2 | 103 | 61 | 10,0 | M 9 x 0,75  |            | 49 |
| E.3690.1.0830 | 8.3 | 103 | 61 | 10,0 |             |            | 49 |
| E.3690.1.0840 | 8.4 | 103 | 61 | 10,0 |             | M 9        | 49 |
| E.3690.1.0850 | 8.5 | 103 | 61 | 10,0 | M 10        |            | 49 |
| E.3690.1.0860 | 8.6 | 103 | 61 | 10,0 |             | M 9 x 1    | 49 |
| E.3690.1.0870 | 8.7 | 103 | 61 | 10,0 |             | M 9 x 0,75 | 49 |
| E.3690.1.0880 | 8.8 | 103 | 61 | 10,0 | M 10 x 1,25 | M 9 x 0,5  | 49 |
| E.3690.1.0890 | 8.9 | 103 | 61 | 10,0 |             |            | 49 |
| E.3690.1.0900 | 9   | 103 | 61 | 10,0 | M 10 x 1    |            | 49 |
| E.3690.1.0910 | 9.1 | 103 | 61 | 10,0 |             |            | 49 |
| E.3690.1.0920 | 9.2 | 103 | 61 | 10,0 | M 10 x 0,75 |            | 49 |
| E.3690.1.0930 | 9.3 | 103 | 61 | 10,0 |             | M 10       | 49 |
| E.3690.1.0940 | 9.4 | 103 | 61 | 10,0 |             |            | 49 |
| E.3690.1.0950 | 9.5 | 103 | 61 | 10,0 | M 11        |            | 49 |
| E.3690.1.0960 | 9.6 | 103 | 61 | 10,0 |             | M 10 x 1   | 49 |

|               |      |     |    |      |                 |             |    |
|---------------|------|-----|----|------|-----------------|-------------|----|
| E.3690.1.0970 | 9.7  | 103 | 61 | 10,0 |                 | M 10 x 0,75 | 49 |
| E.3690.1.0980 | 9.8  | 103 | 61 | 10,0 |                 | M 10 x 0,5  | 49 |
| E.3690.1.0990 | 9.9  | 103 | 61 | 10,0 |                 |             | 49 |
| E.3690.1.1000 | 10   | 103 | 61 | 10,0 | M 11 x 1        |             | 49 |
| E.3690.1.1010 | 10.1 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1020 | 10.2 | 118 | 71 | 12,0 | M 12 / M11x0,75 |             | 56 |
| E.3690.1.1030 | 10.3 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1040 | 10.4 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1050 | 10.5 | 118 | 71 | 12,0 | M 12 x 1,5      |             | 56 |
| E.3690.1.1060 | 10.6 | 118 | 71 | 12,0 |                 | M 11 x 1    | 56 |
| E.3690.1.1070 | 10.7 | 118 | 71 | 12,0 |                 | M 11 x 0,75 | 56 |
| E.3690.1.1080 | 10.8 | 118 | 71 | 12,0 | M 12 x 1,25     |             | 56 |
| E.3690.1.1090 | 10.9 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1100 | 11   | 118 | 71 | 12,0 | M 12 x 1        |             | 56 |
| E.3690.1.1110 | 11.1 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1120 | 11.2 | 118 | 71 | 12,0 |                 | M 12        | 56 |
| E.3690.1.1130 | 11.3 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1140 | 11.4 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1150 | 11.5 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1160 | 11.6 | 118 | 71 | 12,0 |                 | M 12 x 1    | 56 |
| E.3690.1.1170 | 11.7 | 118 | 71 | 12,0 |                 | M 12 x 0,75 | 56 |
| E.3690.1.1180 | 11.8 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1190 | 11.9 | 118 | 71 | 12,0 |                 |             | 56 |
| E.3690.1.1200 | 12   | 118 | 71 | 12,0 | M 14            |             | 56 |
| E.3690.1.1220 | 12.2 | 124 | 77 | 14,0 |                 |             | 60 |

|               |      |     |     |      |                 |    |
|---------------|------|-----|-----|------|-----------------|----|
| E.3690.1.1230 | 12.3 | 124 | 77  | 14,0 |                 | 60 |
| E.3690.1.1250 | 12.5 | 124 | 77  | 14,0 | M 14 x 1,5      | 60 |
| E.3690.1.1280 | 12.8 | 124 | 77  | 14,0 | M 14 x 1,25     | 60 |
| E.3690.1.1300 | 13   | 124 | 77  | 14,0 | M 14 x 1        | 60 |
| E.3690.1.1350 | 13.5 | 124 | 77  | 14,0 |                 | 60 |
| E.3690.1.1380 | 13.8 | 124 | 77  | 14,0 |                 | 60 |
| E.3690.1.1400 | 14   | 124 | 77  | 14,0 | M 16 / M 15 x 1 | 60 |
| E.3690.1.1450 | 14.5 | 133 | 83  | 16,0 | M 16 x 1,5      | 63 |
| E.3690.1.1480 | 14.8 | 133 | 83  | 16,0 |                 | 63 |
| E.3690.1.1500 | 15   | 133 | 83  | 16,0 | M 16 x 1        | 63 |
| E.3690.1.1550 | 15.5 | 133 | 83  | 16,0 | M 18            | 63 |
| E.3690.1.1580 | 15.8 | 133 | 83  | 16,0 |                 | 63 |
| E.3690.1.1600 | 16   | 133 | 83  | 16,0 | M 18 x 2        | 63 |
| E.3690.1.1650 | 16.5 | 143 | 93  | 18,0 |                 | 71 |
| E.3690.1.1680 | 16.8 | 143 | 93  | 18,0 |                 | 71 |
| E.3690.1.1700 | 17   | 143 | 93  | 18,0 |                 | 71 |
| E.3690.1.1750 | 17.5 | 143 | 93  | 18,0 | M 20            | 71 |
| E.3690.1.1780 | 17.8 | 143 | 93  | 18,0 |                 | 71 |
| E.3690.1.1800 | 18   | 143 | 93  | 18,0 |                 | 71 |
| E.3690.1.1850 | 18.5 | 153 | 101 | 20,0 |                 | 77 |
| E.3690.1.1900 | 19   | 153 | 101 | 20,0 |                 | 77 |
| E.3690.1.1950 | 19.5 | 153 | 101 | 20,0 | M 22            | 77 |
| E.3690.1.2000 | 20   | 153 | 101 | 20,0 |                 | 77 |

## Verfügbarkeit prüfen unter

<https://www.nachreiner-werkzeuge.de/sortiment/bohrer-vhm/hochleistungsbohrer-3xd-8xd-inox/5-xd/1233/vhm-inox-spiralbohrer-5xd-mit-ik>.





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spanabhebende Werkzeuge

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