

|  |                              |              |               |     |                               |      |    |                               |       | NC-Anbohrer    |            |               |   |   |   |   |   |
|--|------------------------------|--------------|---------------|-----|-------------------------------|------|----|-------------------------------|-------|----------------|------------|---------------|---|---|---|---|---|
|  | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |     |                               |      |    |                               |       |                | P          | M             | K | N | S | H |   |
|  | E.3631.0                     | 1.00-20.00   | 4             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 90°  | HA | BLANK                         | Z-2   | RT             | ≤45<br>HRC | KURZ<br>SHORT | • | • | • | • |   |
|  | E.3632.0                     | 3.00-16.00°  | 4             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 90°  | HA | BLANK                         | Z-2   | LT             | ≤45<br>HRC | KURZ<br>SHORT | • | • | • | • |   |
|  | E.3636.1                     | 1.00-20.00   | 5             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 90°  | HB | BLUE<br>CUT                   | Z-2   | RT             | ≤60<br>HRC | KURZ<br>SHORT | • | • | • | • | • |
|  | E.3634.0                     | 3.00-12.00   | 5             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 90°  | HA | BLANK                         | RT    | RT             | ≤45<br>HRC | LANG<br>LONG  | • | • | • | • |   |
|  | E.3633.0                     | 3.00-20.00   | 6             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 120° | HA | BLANK                         | Z-2   | RT             | ≤45<br>HRC | KURZ<br>SHORT | • | • | • | • |   |
|  | E.3637.1                     | 3.00-20.00   | 6             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 120° | HB | BLUE<br>CUT                   | Z-2   | RT             | ≤60<br>HRC | KURZ<br>SHORT | • | • | • | • | • |
|  | E.3635.0                     | 3.00°-12.00° | 7             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 120° | HA | BLANK                         | RT    | RT             | ≤45<br>HRC | LANG<br>LONG  | • | • | • | • |   |
|  | E.3671.0                     | 3.00°-20.00° | 7             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 142° | HA | BLANK                         | Z-2   | RT             | ≤45<br>HRC | KURZ<br>SHORT | • | • | • | • |   |
|  | E.3652.1                     | 3.00-20.00   | 8             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 142° | HB | BLUE<br>CUT                   | Z-2   | RT             | ≤60<br>HRC | KURZ<br>SHORT | • | • | • | • | • |
|  |                              |              |               |     |                               |      |    |                               |       | Zentrierbohrer |            |               |   |   |   |   |   |
|  | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |     |                               |      |    |                               |       |                | P          | M             | K | N | S | H |   |
|  | E.3638.0                     | 0.50-6.30    | 8             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 90°  | HA | FORM<br>A                     | BLANK | RT             |            |               | • | • | • | • |   |
|  | E.3653.0                     | 0.50-4.00    | 9             | VHM | DIN<br>333                    | 60°  | HA | FORM<br>R                     | BLANK | RT             |            |               | • | • | • | • |   |
|  |                              |              |               |     |                               |      |    |                               |       | Stufenbohrer   |            |               |   |   |   |   |   |
|  | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |     |                               |      |    |                               |       |                | P          | M             | K | N | S | H |   |
|  | E.3639.1                     | 3.40-11.00   | 9             | VHM | WERKS-NORM<br>CONFORM<br>NORM | 140° | HA | BLUE<br>CUT                   | Z-2   |                |            |               | • | • | • | • |   |
|  | E.3640.1                     | 2.50-14.00   | 10            | VHM | WERKS-NORM<br>CONFORM<br>NORM | 140° | HA | BLUE<br>CUT                   | Z-2   |                |            |               | • | • | • | • |   |
|  | E.3642.0                     | 2.35-11.20   | 10            | VHM | WERKS-NORM<br>CONFORM<br>NORM | 140° | HA | BLANK                         | Z-2   |                |            |               | • | • | • | • |   |
|  | E.3643.1                     | 3.30-14.00°  | 11            | VHM | WERKS-NORM<br>CONFORM<br>NORM | 140° | HA | BLUE<br>CUT                   | Z-2   |                |            |               | • | • | • | • |   |
|  | E.3654.1                     | 2.50-10.20   | 11            | VHM | WERKS-NORM<br>CONFORM<br>NORM | 140° | HA | BLUE<br>CUT                   | Z-2   | RT             | TYP<br>N   |               | • | • | • | • |   |
|  |                              |              |               |     |                               |      |    |                               |       | DIN-Bohrer     |            |               |   |   |   |   |   |
|  | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |     |                               |      |    |                               |       |                | P          | M             | K | N | S | H |   |
|  | E.3603.1                     | 1.00-16.00   | 12-14         | VHM | DIN<br>1897                   | 140° | HA | WERKS-NORM<br>CONFORM<br>NORM | Z-2   | ≤3 x D         | ≤65<br>HRC | KURZ<br>SHORT | • | • | • | • |   |
|  | E.3606.0                     | 2.10°-15.50  | 15-16         | VHM | DIN<br>1897                   | 150° | HA | BLANK                         | Z-2   |                |            | KURZ<br>SHORT | • | • | • | • |   |
|  | E.3607.0                     | 0.40°-17.00° | 17-19         | VHM | DIN<br>338                    | 118° | HA | BLANK                         | Z-2   |                |            | LANG<br>LONG  | • | • | • | • |   |
|  |                              |              |               |     |                               |      |    |                               |       | Werksnorm      |            |               |   |   |   |   |   |
|  | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |     |                               |      |    |                               |       |                | P          | M             | K | N | S | H |   |
|  | E.3673.0                     | 0.10-3.00    | 20-22         | VHM | WERKS-NORM<br>CONFORM<br>NORM | 130° | HA | BLANK                         | 5xD   | λ-30°          | Z-2        | MICRO         | • | • | • | • |   |
|  | E.3676.1                     | 0.78-3.00    | 22-25         | VHM | WERKS-NORM<br>CONFORM<br>NORM | 140° | HA | BLUE<br>CUT                   | 7xD   | λ-30°          | Z-2        | MICRO         | • | • | • | • |   |

Gewinde-  
schneider

Bohrer  
HSS/E

Bohrer  
VHM

Reibahlen  
HSS/E

Reibahlen  
VHM

Frässtifte  
HM

Fräser  
VHM

Spannmittel

Fräser  
HSSE


























Sägen

Lehren

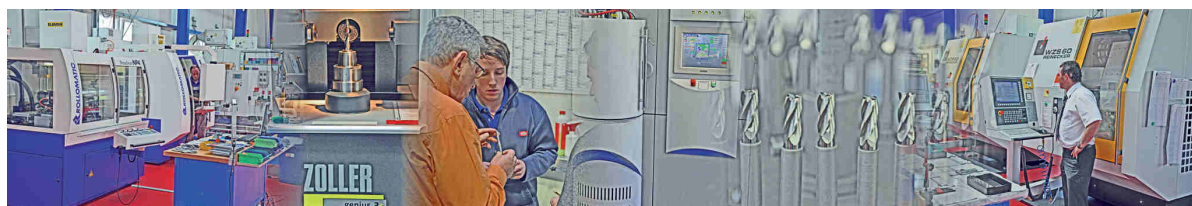
Technik

# Bohrer VHM

## Inhaltsverzeichnis / Table of contents

| Werksnorm                      |  |              |               |     |                                      |      |                    |             |               |               |   |   |   |   |   |
|--------------------------------|--|--------------|---------------|-----|--------------------------------------|------|--------------------|-------------|---------------|---------------|---|---|---|---|---|
|                                | Artikelnummer<br>Article-No.   | Ø            | Seite<br>Page |     |                                      |      |                    |             |               | P             | M | K | N | S | H |
| Bohrer<br>HSS/E                |  E.3615.0   | 0.50-1.90    | 26            | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 120° | HA                 | BLANK       | λ=35°         |               | • | • | • | • |   |
|                                |  E.3601.0   | 0.15-2.00    | 26-30         | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 118° | HA                 | BLANK       | λ=35°         |               | • | • | • | • |   |
| Bohrer<br>VHM                  |  E.3605.0   | 0.30°-20.00° | 31-34         | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 118° | HA                 | BLANK       | KURZ<br>SHARP |               | • | • | • | • |   |
|                                |  E.3677.0   | 0.30-9.00°   | 35-38         | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 118° | HA                 | BLANK       | LH            | KURZ<br>SHARP |   | • | • | • | • |
|                                |  E.3609.0   | 0.97°-13.00° | 38-40         | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 130° | HA                 | BLANK       | LANG<br>LONG  |               | • | • | • | • |   |
| Reibahlen<br>HSS/E             |  E.3611.1   | 1.00-2.90    | 40            | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 140° | HA                 | BLUE<br>CUT | ±3 x D<br>↓   | KURZ<br>SHARP |   | • | • | • | • |
|                                |  E.3684.1   | 2.00-2.90    | 41            | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 140° | HA                 | BLUE<br>CUT | ±3 x D<br>↓   | KURZ<br>SHARP |   | • | • | • | • |
| Reibahlen<br>VHM               |  E.3612.1   | 1.50-2.90    | 41            | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 140° | HA                 | BLUE<br>CUT | ExD           | LANG<br>LONG  |   | • | • | • | • |
|                                |  E.3685.1   | 1.50-2.90    | 42            | VHM | WERKS<br>NORM<br>CONFORM<br>DIN 9136 | 140° | HA                 | BLUE<br>CUT | ExD           | LANG<br>LONG  |   | • | • | • | • |
| Hochleistungsbohrer 3xd - 20xd |  |              |               |     |                                      |      |                    |             |               |               |   |   |   |   |   |
|                                | Artikelnummer<br>Article-No.   | Ø            | Seite<br>Page |     |                                      |      |                    |             |               | P             | M | K | N | S | H |
| Fräsrifte<br>HM                |  E.3645.1 | 3.00-20.00   | 42-45         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ±3 x D<br>↓ | KURZ<br>SHARP |               | • | • | • | • |   |
|                                |  E.3646.1 | 3.00-20.00   | 45-47         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ±3 x D<br>↓ | KURZ<br>SHARP |               | • | • | • | • |   |
| Fräser<br>VHM                  |  E.3647.1 | 3.00-16.50°  | 48-50         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ±3 x D<br>↓ | KURZ<br>SHARP |               | • | • | • | • |   |
|                                |  E.3665.1 | 3.00-20.00   | 51-53         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
| Spannmittel                    |  E.3617.1 | 1.00-20.00   | 54-57         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
|                                |  E.3618.1 | 1.00-16.00   | 57-60         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
|                                |  E.3619.1 | 3.00-20.00°  | 60-62         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
| Fräser<br>HSSE                 |  E.3649.1 | 3.00-20.00   | 63-65         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | 4<br>FLUTES   | LANG<br>LONG  |   | • | • | • | • |
|                                |  E.3650.1 | 3.00-20.00   | 66-68         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | 3<br>FLUTES   | LANG<br>LONG  |   | • | • | • | • |
| Sägen                          |  E.3651.1 | 3.00-20.00   | 69-71         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
|                                |  E.3628.0 | 2.80-19.00°  | 72-73         | VHM | 120°                                 | HA   | POURTE<br>POLISHED | ExD         | 4<br>FLUTES   | LANG<br>LONG  |   | • | • | • | • |
| Lehren                         |  E.3610.1 | 0.50-3.00    | 73-74         | VHM | 120°                                 | HA   | BLUE<br>CUT        | ExD         | Z=2           | λ=35°         |   | • | • | • | • |
|                                |  E.3666.1 | 1.00-19.00°  | 74-77         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | 4<br>FLUTES   | LANG<br>LONG  |   | • | • | • | • |
| Technik                        |  E.3623.1 | 3.00-17.50°  | 77-79         | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
|                                |  E.3624.1 | 3.00°-12.00  | 80            | VHM | 140°                                 | HA   | BLUE<br>CUT        | ExD         | LANG<br>LONG  |               | • | • | • | • |   |
|                                |  E.3629.0 | 2.50°-16.00° | 81            | VHM | 120°                                 | HA   | POURTE<br>POLISHED | ExD         | 4<br>FLUTES   | LANG<br>LONG  |   | • | • | • | • |

| Hochleistungsbohrer 3xd - 20xd  |                              |              |               |                                    |   |   |   |   |   |   |
|---|------------------------------|--------------|---------------|------------------------------------|---|---|---|---|---|---|
|   | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |                                    | P | M | K | N | S | H |
|    | E.3613.1                     | 0.50-3.00    | 82-83         | VHM HA BLUE CUT 12xD XOLANG        |   |   |   |   |   |   |
|    | E.3667.1                     | 1.00-18.00   | 83-85         | VHM 140° HA BLUE CUT 12xD 4 XOLANG | • | • | • | • |   |   |
|    | E.3625.1                     | 1.00°-13.50° | 85-86         | VHM 140° HA BLUE CUT 12xD XOLANG   | • | • | • | • |   |   |
|    | E.3674.1                     | 1.00-15.00   | 86-87         | VHM 140° HA BLUE CUT 15xD XOLANG   | • | • | • | • |   |   |
| Wendeplattenbohrer  |                              |              |               |                                    |   |   |   |   |   |   |
|   | Artikelnummer<br>Article-No. | Ø            | Seite<br>Page |                                    | P | M | K | N | S | H |
|    | E.3661.0                     | 10.00-120.00 | 88-89         |                                    |   |   |   |   |   |   |
|    | E.3662.0                     | 35.00-91.00  | 89            |                                    |   |   |   |   |   |   |
|    | E.3664.2                     | 10.00-66.00  | 90            | VHM BLUE CUT                       | • | • | • | • |   |   |
|    | E.3664.3                     | 10.00-130.00 | 90            | HSSE/PM TIN                        | • | • | • | • |   |   |
|    | E.3664.4                     | 10.00-130.00 | 91            | HSSE/PM BLUE CUT                   | • | • | • | • |   |   |
|  | E.3664.5                     | 46.00-55.50  | 91            | VHM                                |   |   | • | • |   |   |



- Gewinde-schneider
- Bohrer HSS/E
- Bohrer VHM
- Reibahlen HSS/E
- Reibahlen VHM
- Frässtifte HM
- Fräser VHM
- Spannmittel
- Fräser HSSE
- Sägen
- Lehren
- Technik

# Bohrer VHM

## NC-Anbohrer 90°

### VHM-NC-Anbohrer

**E.3631.0**



Solid carbide NC center drills  
 Wiertła centrujące węglka spiekanego  
 Punte in MD da centro NC  
 Brocas de puntear de metal duro integral



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

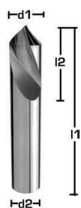
Schnittwerte Seite 3.95  
Cutting data page 3.95

| d1 h6 | l2    | l1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|--------|------------------------------|--------------------|
| 1.00  | 6.00  | 26.00  | E.3631.0.0100                | 9.80               |
| 1.50* | 9.00  | 32.00  | E.3631.0.0150                | 9.50               |
| 2.00  | 12.00 | 38.00  | E.3631.0.0200                | 9.80               |
| 3.00  | 12.00 | 45.00  | E.3631.0.0300                | 9.80               |
| 4.00  | 15.00 | 50.00  | E.3631.0.0400                | 9.80               |
| 5.00  | 18.00 | 50.00  | E.3631.0.0500                | 9.80               |
| 6.00  | 21.00 | 50.00  | E.3631.0.0600                | 9.80               |
| 8.00  | 25.00 | 60.00  | E.3631.0.0800                | 21.00              |
| 10.00 | 27.00 | 70.00  | E.3631.0.1000                | 29.40              |
| 12.00 | 27.00 | 70.00  | E.3631.0.1200                | 39.00              |
| 14.00 | 30.00 | 75.00  | E.3631.0.1400                | 57.40              |
| 16.00 | 30.00 | 75.00  | E.3631.0.1600                | 66.70              |
| 18.00 | 33.00 | 100.00 | E.3631.0.1800                | 115.70             |
| 20.00 | 33.00 | 100.00 | E.3631.0.2000                | 144.20             |

\* = Auslaufartikel / obsolete article

### VHM-NC-Anbohrer

**E.3632.0**



Solid carbide NC center drills  
 Wiertła centrujące węglka spiekanego  
 Punte in MD da centro NC  
 Brocas de puntear de metal duro integral



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |


Schnittwerte Seite 3.95  
Cutting data page 3.95





| d1 h6  | l2    | l1    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-------|-------|------------------------------|--------------------|
| 3.00   | 12.00 | 50.00 | E.3632.0.0300                | 11.20              |
| 4.00   | 14.00 | 50.00 | E.3632.0.0400                | 16.00              |
| 5.00   | 16.00 | 60.00 | E.3632.0.0500                | 18.70              |
| 6.00   | 16.00 | 60.00 | E.3632.0.0600                | 23.50              |
| 8.00   | 25.00 | 60.00 | E.3632.0.0800                | 34.30              |
| 10.00  | 27.00 | 70.00 | E.3632.0.1000                | 48.70              |
| 12.00* | 27.00 | 70.00 | E.3632.0.1200                | 57.75              |
| 14.00  | 30.00 | 75.00 | E.3632.0.1400                | 65.00              |
| 16.00* | 30.00 | 75.00 | E.3632.0.1600                | 86.00              |








\* = Auslaufartikel / obsolete article




**VHM-NC-Anbohrer**  
**E.3636.1**



 Solid carbide NC center drills  
 Wiertła centrujące z węgla spiekane go do materiałów utwardzonych  
 Punte in MD da centro NC  
 Brocas de puntear de metal duro integral








Schnittwerte Seite 3.96  
Cutting data page 3.96








|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

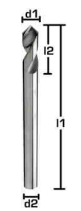
| d1 h6 | l2    | l1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|--------|------------------------------|--------------------|
| 1.00  | 6.00  | 26.00  | E.3636.1.0100                | 11.20              |
| 2.00  | 12.00 | 38.00  | E.3636.1.0200                | 11.20              |
| 3.00  | 12.00 | 45.00  | E.3636.1.0300                | 11.20              |
| 4.00  | 15.00 | 50.00  | E.3636.1.0400                | 13.50              |
| 5.00  | 18.00 | 50.00  | E.3636.1.0500                | 17.40              |
| 6.00  | 21.00 | 50.00  | E.3636.1.0600                | 16.70              |
| 8.00  | 25.00 | 60.00  | E.3636.1.0800                | 23.70              |
| 10.00 | 27.00 | 66.00  | E.3636.1.1000                | 30.30              |
| 12.00 | 27.00 | 70.00  | E.3636.1.1200                | 39.90              |
| 14.00 | 30.00 | 75.00  | E.3636.1.1400                | 60.00              |
| 16.00 | 30.00 | 75.00  | E.3636.1.1600                | 72.80              |
| 18.00 | 33.00 | 100.00 | E.3636.1.1800                | 122.50             |
| 20.00 | 33.00 | 100.00 | E.3636.1.2000                | 139.50             |

**VHM-NC-Anbohrer lang**  
**E.3634.0**



 Solid carbide NC center drills, long  
 Wiertła długie centrujące z węgla spiekane go do materiałów utwardzonych  
 Punte in MD da centro NC serie lunga  
 Brocas de puntear de metal duro integral, serie larga



Schnittwerte Seite 3.95  
Cutting data page 3.95

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | l2    | l1     | d2    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|--------|-------|------------------------------|--------------------|
| 3.00  | 15.00 | 100.00 | 3.00  | E.3634.0.0300                | 19.60              |
| 4.00  | 15.00 | 100.00 | 4.00  | E.3634.0.0400                | 22.40              |
| 5.00  | 20.00 | 100.00 | 5.00  | E.3634.0.0500                | 27.50              |
| 6.00  | 20.00 | 100.00 | 6.00  | E.3634.0.0600                | 29.40              |
| 8.00  | 25.00 | 100.00 | 8.00  | E.3634.0.0800                | 30.00              |
| 10.00 | 25.00 | 100.00 | 10.00 | E.3634.0.1000                | 52.40              |
| 12.00 | 25.00 | 150.00 | 12.00 | E.3634.0.1200                | 89.10              |

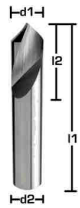
Gewinde-schneider  
 Bohrer HSS/E  
 Bohrer VHM  
 Reibahlen HSS/E  
 Reibahlen VHM  
 Frässtifte HM  
 Fräser VHM  
 Spannmittel  
 Fräser HSSE  
 Sägen  
 Lehren  
 Technik

# Bohrer VHM

## NC-Anbohrer 120°

### VHM-NC-Anbohrer

E.3633.0



Solid carbide NC center drills  
 Wierła centrujące węglika spiekanego  
 Punte in MD da centro NC  
 Brocas de puntear de metal duro integral



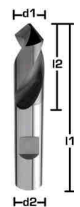
|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.95  
Cutting data page 3.95

| d1 h6 | l2    | l1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|--------|------------------------------|--------------------|
| 3.00  | 12.00 | 45.00  | E.3633.0.0300                | 9.40               |
| 4.00  | 15.00 | 50.00  | E.3633.0.0400                | 11.20              |
| 5.00  | 18.00 | 50.00  | E.3633.0.0500                | 14.60              |
| 6.00  | 21.00 | 50.00  | E.3633.0.0600                | 16.50              |
| 8.00  | 25.00 | 60.00  | E.3633.0.0800                | 23.80              |
| 10.00 | 27.00 | 70.00  | E.3633.0.1000                | 33.70              |
| 12.00 | 27.00 | 70.00  | E.3633.0.1200                | 43.20              |
| 14.00 | 30.00 | 75.00  | E.3633.0.1400                | 64.10              |
| 16.00 | 30.00 | 75.00  | E.3633.0.1600                | 80.50              |
| 18.00 | 33.00 | 100.00 | E.3633.0.1800                | 129.80             |
| 20.00 | 33.00 | 100.00 | E.3633.0.2000                | 143.70             |

### VHM-NC-Anbohrer

E.3637.1



Solid carbide NC center drills  
 Wierła centrujące z węglika spiekanego do materiałów utwardzonych  
 Punte in MD da centro NC  
 Brocas de puntear de metal duro integral








|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |









Schnittwerte Seite 3.96  
Cutting data page 3.96

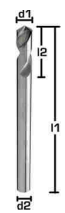
| d1 h6 | l2    | l1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|--------|------------------------------|--------------------|
| 3.00  | 12.00 | 45.00  | E.3637.1.0300                | 14.50              |
| 4.00  | 15.00 | 50.00  | E.3637.1.0400                | 15.60              |
| 5.00  | 18.00 | 50.00  | E.3637.1.0500                | 17.90              |
| 6.00  | 21.00 | 50.00  | E.3637.1.0600                | 19.60              |
| 8.00  | 25.00 | 60.00  | E.3637.1.0800                | 27.00              |
| 10.00 | 27.00 | 70.00  | E.3637.1.1000                | 36.10              |
| 12.00 | 27.00 | 70.00  | E.3637.1.1200                | 46.80              |
| 14.00 | 30.00 | 75.00  | E.3637.1.1400                | 68.90              |
| 16.00 | 30.00 | 75.00  | E.3637.1.1600                | 84.60              |
| 18.00 | 33.00 | 100.00 | E.3637.1.1800                | 131.40             |
| 20.00 | 33.00 | 100.00 | E.3637.1.2000                | 138.60             |

**VHM-NC-Anbohrer lang**  
**E.3635.0**



 Solid carbide NC center drills, long  
 Wiertła długie centrujące z węgla spiekane do materiałów utwardzanych  
 Punta in MD da centro NC serie lunga  
 Brocas de puntaar de metal duro integral, serie larga








| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |










| d1 h6  | l2    | l1     | d2    | Artikelnummer<br>Article-No. | Stück / piece | € |
|--------|-------|--------|-------|------------------------------|---------------|---|
| 3.00*  | 15.00 | 100.00 | 3.00  | E.3635.0.0300                | 24.26         |   |
| 4.00*  | 15.00 | 100.00 | 4.00  | E.3635.0.0400                | 26.57         |   |
| 5.00*  | 20.00 | 100.00 | 5.00  | E.3635.0.0500                | 28.86         |   |
| 6.00*  | 20.00 | 120.00 | 6.00  | E.3635.0.0600                | 34.65         |   |
| 8.00*  | 25.00 | 100.00 | 8.00  | E.3635.0.0800                | 49.67         |   |
| 10.00* | 25.00 | 100.00 | 10.00 | E.3635.0.1000                | 57.75         |   |
| 12.00* | 25.00 | 150.00 | 12.00 | E.3635.0.1200                | 69.30         |   |


\* = Auslaufartikel / obsolete article

**VHM-NC-Anbohrer**  
**E.3671.0**



 Solid carbide NC center drills  
 Wiertła centrujące z węgla spiekane  
 Punta in MD da centro NC  
 Brocas de puntaar de metal duro integral



| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6  | l2    | l1     | Artikelnummer<br>Article-No. | Stück / piece | € |
|--------|-------|--------|------------------------------|---------------|---|
| 3.00*  | 12.00 | 45.00  | E.3671.0.0300                | 8.09          |   |
| 4.00*  | 15.00 | 50.00  | E.3671.0.0400                | 9.82          |   |
| 5.00*  | 18.00 | 50.00  | E.3671.0.0500                | 12.71         |   |
| 6.00*  | 21.00 | 50.00  | E.3671.0.0600                | 13.86         |   |
| 8.00*  | 25.00 | 60.00  | E.3671.0.0800                | 21.95         |   |
| 10.00* | 27.00 | 70.00  | E.3671.0.1000                | 30.03         |   |
| 12.00* | 27.00 | 70.00  | E.3671.0.1200                | 39.27         |   |
| 14.00* | 30.00 | 75.00  | E.3671.0.1400                | 55.44         |   |
| 16.00* | 30.00 | 75.00  | E.3671.0.1600                | 71.61         |   |
| 18.00* | 33.00 | 100.00 | E.3671.0.1800                | 116.66        |   |
| 20.00* | 33.00 | 100.00 | E.3671.0.2000                | 133.98        |   |

\* = Auslaufartikel / obsolete article

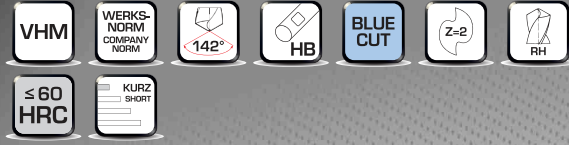
- Gewinde-schneider
- Bohrer HSS/E
- Bohrer VHM
- Reibahlen HSS/E
- Reibahlen VHM
- Frässtifte HM
- Fräser VHM
- Spannmittel
- Fräser HSSE
- Sägen
- Lehren
- Technik

## Bohrer VHM

### Zentrierbohrer / NC-Anbohrer 142°

#### VHM-Pilotzentrierbohrer für Hochleistungsbohrer ab 8xd

E.3652.1



UK Solid carbide pilot center drills for high performance drills from 8xd

PL Wiertła pilotująco-centrujące z węglika spiekanego do zastosowania przed wiertłami powyżej 8xd

IT Punte pilota in MD

ES Broca piloto de central metal duro integral para brocas de alto rendimiento desde 8xd



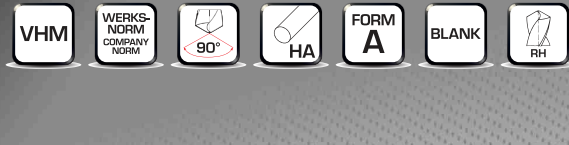
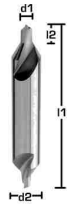
|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.96  
Cutting data page 3.96

| d1 h6 | l2    | l1     | d2    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|--------|-------|------------------------------|--------------------|
| 3.00  | 12.00 | 45.00  | 3.00  | E.3652.1.0300                | 11.00              |
| 4.00  | 15.00 | 50.00  | 4.00  | E.3652.1.0400                | 12.90              |
| 5.00  | 18.00 | 50.00  | 5.00  | E.3652.1.0500                | 15.60              |
| 6.00  | 21.00 | 50.00  | 6.00  | E.3652.1.0600                | 16.70              |
| 8.00  | 25.00 | 60.00  | 8.00  | E.3652.1.0800                | 23.40              |
| 10.00 | 27.00 | 70.00  | 10.00 | E.3652.1.1000                | 32.40              |
| 12.00 | 27.00 | 70.00  | 12.00 | E.3652.1.1200                | 40.60              |
| 16.00 | 30.00 | 75.00  | 16.00 | E.3652.1.1600                | 72.30              |
| 20.00 | 33.00 | 100.00 | 20.00 | E.3652.1.2000                | 130.70             |

#### VHM-Zentrierbohrer 90°

E.3638.0



UK Solid carbide center drills 90°

PL Nawiertaki 90° z węglika spiekanego

IT Punte in MD da centro 90°

ES Brocas de centrar de 90° de metal duro integral




|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |





Schnittwerte Seite 3.92  
Cutting data page 3.92








| d1   | l2   | l1    | d2    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|------|------|-------|-------|------------------------------|--------------------|
| 0.50 | 0.80 | 31.50 | 3.15  | E.3638.0.0050                | 20.20              |
| 0.80 | 1.10 | 31.50 | 3.15  | E.3638.0.0080                | 20.20              |
| 1.00 | 1.30 | 31.50 | 3.15  | E.3638.0.0100                | 20.20              |
| 1.25 | 1.60 | 31.50 | 3.15  | E.3638.0.0125                | 22.10              |
| 1.60 | 2.00 | 35.50 | 4.00  | E.3638.0.0160                | 23.00              |
| 2.00 | 2.50 | 40.00 | 5.00  | E.3638.0.0200                | 25.50              |
| 2.50 | 3.10 | 45.00 | 6.30  | E.3638.0.0250                | 27.20              |
| 3.15 | 3.90 | 50.00 | 8.00  | E.3638.0.0315                | 34.00              |
| 4.00 | 5.00 | 56.00 | 10.00 | E.3638.0.0400                | 41.20              |
| 5.00 | 6.30 | 63.00 | 12.50 | E.3638.0.0500                | 63.20              |
| 6.30 | 8.00 | 71.00 | 16.00 | E.3638.0.0630                | 90.60              |

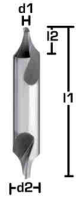
### VHM-Zentrierbohrer 60°

#### E.3653.0



 Solid carbide center drills 60°  
 Nawiertaki 60° z węgla  
 spiekane  
 Punta in MD da centro 60°  
 Brocas de centrar de 60° de  
 metal duro integral



Schnittwerte Seite 3.92  
Cutting data page 3.92


| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |





| d1       | l2          | l1 +1/-1 | d2 h8 | Artikelnummer<br>Article-No. | Stück / piece | €      |
|----------|-------------|----------|-------|------------------------------|---------------|--------|
| 0.50 (x) | 2,3 - 2,6   | 25.00    | 3.15  | E.3653.0.0050                |               | 69.70  |
| 1.00     | 3,0 - 3,3   | 31.00    | 3.15  | E.3653.0.0100                |               | 75.70  |
| 1.25     | 3,3 - 3,6   | 31.00    | 3.15  | E.3653.0.0125                |               | 75.70  |
| 1.60     | 4,2 - 4,7   | 35.00    | 4.00  | E.3653.0.0160                |               | 80.50  |
| 2.00     | 5,0 - 5,4   | 40.00    | 5.00  | E.3653.0.0200                |               | 92.50  |
| 2.50     | 6,3 - 6,8   | 45.00    | 6.30  | E.3653.0.0250                |               | 109.30 |
| 3.15     | 8,0 - 8,5   | 50.00    | 8.00  | E.3653.0.0315                |               | 122.50 |
| 4.00     | 10,0 - 10,6 | 55.00    | 10.00 | E.3653.0.0400                |               | 156.00 |







(x) = nur einseitig / only one side

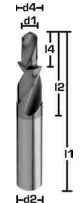
### VHM-Stufenbohrer 180° für Zylinderschrauben

#### E.3639.1



 Solid carbide step drills 180°  
 for cylindrical screws  
 Wiertła stopniowe z węgla  
 spiekane pod śruby z łbem  
 cylindrycznym 180° wykonanie  
 średniodokładne  
 Punta in MD a gradino 180°  
 per viti cilindriche  
 Broca escalonada de metal  
 duro integral de 180° para  
 tornillos cilíndricos



Schnittwerte Seite 3.92  
Cutting data page 3.92

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1    | l4    | d4    | l2    | l1     | d2    | Artikelnummer<br>Article-No. | Stück / piece | €      |
|-------|-------|-------|-------|--------|-------|------------------------------|---------------|--------|
| 3.40  | 9.00  | 6.00  | 28.00 | 64.00  | 6.00  | E.3639.1.0340                |               | 35.60  |
| 4.50  | 11.00 | 8.00  | 37.00 | 79.00  | 8.00  | E.3639.1.0450                |               | 60.00  |
| 5.50  | 13.00 | 10.00 | 43.00 | 89.00  | 10.00 | E.3639.1.0550                |               | 83.40  |
| 6.60  | 15.00 | 12.00 | 55.00 | 102.00 | 12.00 | E.3639.1.0660                |               | 121.00 |
| 9.00  | 19.00 | 16.00 | 65.00 | 115.00 | 16.00 | E.3639.1.0900                |               | 202.30 |
| 11.00 | 23.00 | 18.00 | 62.00 | 123.00 | 18.00 | E.3639.1.1100                |               | 232.80 |

- Gewinde-  
schneider
- Bohrer  
HSS/E
- Bohrer  
VHM
- Reibahlen  
HSS/E
- Reibahlen  
VHM
- Fräsräfte  
HM
- Fräser  
VHM
- Spannmittel
- Fräser  
HSSE
- Sägen
- Lehren
- Technik

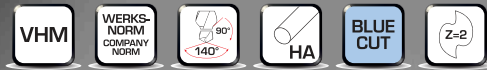


## Bohrer VHM

### Stufenbohrer

#### VHM-Kernloch-Stufenbohrer 90°

E.3640.1



UK Solid carbide step drills 90° for core holes

PL Wiertła z węglika spiekanego pod gwint do śrub z łbem stożkowym 90°

IT Punte in MD a gradino 90° per filettatura

ES Broca escalonada de metal duro integral de 90° para agujeros previos



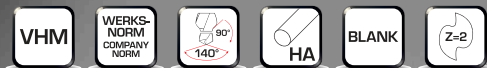
|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.93  
Cutting data page 3.93

| für Gewinde for thread | d1 h8 | l4    | d4    | l2    | l1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | €      |
|------------------------|-------|-------|-------|-------|--------|-------|---------------------------|---------------|--------|
| M 3                    | 2.50  | 8.80  | 6.00  | 20.00 | 66.00  | 6.00  | E.3640.1.M03              |               | 31.00  |
| M 4                    | 3.30  | 11.40 | 6.00  | 24.00 | 66.00  | 6.00  | E.3640.1.M04              |               | 36.00  |
| M 5                    | 4.20  | 13.60 | 6.00  | 28.00 | 66.00  | 6.00  | E.3640.1.M05              |               | 41.00  |
| M 6                    | 5.00  | 16.50 | 8.00  | 34.00 | 79.00  | 8.00  | E.3640.1.M06              |               | 51.00  |
| M 8                    | 6.80  | 21.00 | 10.00 | 47.00 | 89.00  | 10.00 | E.3640.1.M08              |               | 66.00  |
| M 10                   | 8.50  | 25.50 | 12.00 | 55.00 | 102.00 | 12.00 | E.3640.1.M10              |               | 92.00  |
| M 12                   | 10.20 | 30.00 | 14.00 | 60.00 | 107.00 | 14.00 | E.3640.1.M12              |               | 122.00 |
| M 14                   | 12.00 | 34.50 | 16.00 | 65.00 | 115.00 | 16.00 | E.3640.1.M14              |               | 155.00 |
| M 16                   | 14.00 | 38.50 | 18.00 | 73.00 | 123.00 | 18.00 | E.3640.1.M16              |               | 170.00 |

#### VHM-Stufenbohrer 90° für Gewindeformer

E.3642.0



UK Solid carbide step drills 90° for forming taps

PL Wiertła stopniowe z węglika spiekanego pod gwint wygniętaný do śrub z łbem stożkowym 90°

IT Punte in MD a gradino 90° per maschi a rullare

ES Broca escalonada de metal duro integral de 90° para agujeros previos de machos de laminación



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.93  
Cutting data page 3.93

| für Gewinde for thread | d1 h8 | l4 ohne Spitze without center | d4 h8 | l2    | l1     | d2    | Artikelnummer Article-No. | Stück / piece | €     |
|------------------------|-------|-------------------------------|-------|-------|--------|-------|---------------------------|---------------|-------|
| M 2,5                  | 2.35  | 10.00                         | 4.00  | 16.00 | 60.00  | 4.00  | E.3642.0.M025             |               | 23.60 |
| M 3                    | 2.80  | 12.00                         | 4.00  | 20.00 | 62.00  | 4.00  | E.3642.0.M03              |               | 23.60 |
| M 4                    | 3.70  | 14.00                         | 6.00  | 27.00 | 64.00  | 6.00  | E.3642.0.M04              |               | 29.40 |
| M 5                    | 4.65  | 20.00                         | 6.00  | 27.00 | 80.00  | 6.00  | E.3642.0.M05              |               | 29.40 |
| M 6                    | 5.55  | 24.00                         | 8.00  | 35.00 | 80.00  | 8.00  | E.3642.0.M06              |               | 44.10 |
| M 8                    | 7.45  | 30.00                         | 10.00 | 45.00 | 80.00  | 10.00 | E.3642.0.M08              |               | 53.00 |
| M 10                   | 9.30  | 40.00                         | 12.00 | 50.00 | 90.00  | 12.00 | E.3642.0.M10              |               | 72.10 |
| M 12                   | 11.20 | 45.00                         | 14.00 | 55.00 | 100.00 | 14.00 | E.3642.0.M12              |               | 86.80 |



VHM-Kernloch-Stufenbohrer 90° mit Innenkühlung

E.3643.1

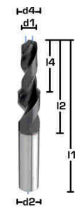
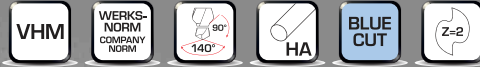


UK Solid carbide step drills 90° for core holes with internal cooling

PL Wiertła stopniowe z węglika spiekanego z chłodzeniem wewnętrznym pod gwint do śrub z łbem stożkowym

IT Punta in MD a gradino 90° con lubrificazione interna

ES Broca escalonada de metal duro integral de 90° para agujeros previos con refrigeración interior



Schnittwerte Seite 3.93  
Cutting data page 3.93

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| für Gewinde for thread | d1 m7  | l4    | d4 h8 | l2    | l1     | d2 h6 | Artikelnummer Article-No. | € Stück / piece |
|------------------------|--------|-------|-------|-------|--------|-------|---------------------------|-----------------|
| M 4                    | 3.30   | 11.40 | 6.00  | 24.00 | 62.00  | 6.00  | E.3643.1.M04              | 57.75           |
| M 5                    | 4.20*  | 13.60 | 6.00  | 28.00 | 66.00  | 6.00  | E.3643.1.M05              | 63.53           |
| M 6                    | 5.00*  | 16.50 | 8.00  | 34.00 | 79.00  | 8.00  | E.3643.1.M06              | 75.08           |
| M 8                    | 6.80*  | 21.00 | 10.00 | 47.00 | 89.00  | 10.00 | E.3643.1.M08              | 80.85           |
| M 10                   | 8.50*  | 25.50 | 12.00 | 55.00 | 102.00 | 12.00 | E.3643.1.M10              | 170.94          |
| M 12                   | 10.20* | 30.00 | 14.00 | 60.00 | 107.00 | 14.00 | E.3643.1.M12              | 227.54          |
| M 14                   | 12.00* | 34.50 | 16.00 | 65.00 | 115.00 | 16.00 | E.3643.1.M14              | 270.27          |
| M 16                   | 14.00* | 38.50 | 18.00 | 73.00 | 123.00 | 18.00 | E.3643.1.M16              | 311.85          |

\* = Auslaufartikel / obsolete article

VHM-Mehrfasenstufenbohrer 90°

E.3654.1



UK Solid carbide subland drills 90°

PL Wiertła z węglika spiekanego stopniowe 90°

IT Punta a gradino con pattini di guida 90°

ES Broca bidiametral de 90° de metal duro



Schnittwerte Seite 3.93  
Cutting data page 3.93

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1    | l4    | l2    | l1     | d2    | Artikelnummer Article-No. | € Stück / piece |
|-------|-------|-------|--------|-------|---------------------------|-----------------|
| 2.50  | 8.80  | 28.00 | 66.00  | 6.00  | E.3654.1.0250             | 49.90           |
| 3.30  | 11.40 | 28.00 | 66.00  | 6.00  | E.3654.1.0330             | 49.90           |
| 4.20  | 13.60 | 28.00 | 66.00  | 6.00  | E.3654.1.0420             | 49.90           |
| 5.00  | 16.50 | 41.00 | 79.00  | 8.00  | E.3654.1.0500             | 80.30           |
| 6.80  | 21.00 | 47.00 | 89.00  | 10.00 | E.3654.1.0680             | 100.70          |
| 8.50  | 25.50 | 55.00 | 102.00 | 12.00 | E.3654.1.0850             | 161.70          |
| 10.20 | 30.00 | 60.00 | 107.00 | 14.00 | E.3654.1.1020             | 202.30          |

Gewinde-schneider

Bohrer HSS/E

Bohrer VHM

Reibahlen HSS/E

Reibahlen VHM

Frässtifte HM

Fräser VHM

Spannmittel

Fräser HSSE

Sägen

Lehren

Technik

# Bohrer VHM

DIN 1897

## VHM-HRC-Hochleistungsbohrer

E.3603.1



Solid carbide HRC heavy duty twist drills

Wiertła z węgla spiekane go do obróbki wysokowydajnej materiałów utwardzonych do 65 HRC

Punte in MD per lavorazioni HRC

Brocas de alto rendimiento de metal duro integral



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.97  
Cutting data page 3.97

| d1 h7 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|-------|-------|-------|------------------------------|--------------------|
| 1.00  | 7.00  | 45.00 | 4.00  | E.3603.1.0100                | 33.99              |
| 1.20  | 7.00  | 45.00 | 4.00  | E.3603.1.0120                | 30.61              |
| 1.30° | 7.00  | 45.00 | 4.00  | E.3603.1.0130                | 30.61              |
| 1.40° | 7.00  | 45.00 | 4.00  | E.3603.1.0140                | 30.61              |
| 1.50  | 14.00 | 45.00 | 4.00  | E.3603.1.0150                | 33.99              |
| 1.60° | 14.00 | 45.00 | 4.00  | E.3603.1.0160                | 32.22              |
| 1.70° | 14.00 | 45.00 | 4.00  | E.3603.1.0170                | 32.22              |
| 1.80  | 14.00 | 45.00 | 4.00  | E.3603.1.0180                | 32.22              |
| 1.90° | 14.00 | 45.00 | 4.00  | E.3603.1.0190                | 32.22              |
| 2.00  | 20.00 | 55.00 | 4.00  | E.3603.1.0200                | 46.66              |
| 2.10° | 20.00 | 55.00 | 4.00  | E.3603.1.0210                | 46.66              |
| 2.20° | 20.00 | 55.00 | 4.00  | E.3603.1.0220                | 46.66              |
| 2.30° | 20.00 | 55.00 | 4.00  | E.3603.1.0230                | 46.66              |
| 2.40  | 20.00 | 55.00 | 4.00  | E.3603.1.0240                | 46.66              |
| 2.50  | 20.00 | 55.00 | 4.00  | E.3603.1.0250                | 46.66              |
| 2.60° | 20.00 | 55.00 | 4.00  | E.3603.1.0260                | 46.66              |
| 2.70° | 20.00 | 55.00 | 4.00  | E.3603.1.0270                | 46.66              |
| 2.80  | 20.00 | 55.00 | 4.00  | E.3603.1.0280                | 46.66              |
| 2.90° | 20.00 | 55.00 | 4.00  | E.3603.1.0290                | 46.66              |
| 3.00  | 20.00 | 62.00 | 6.00  | E.3603.1.0300                | 46.66              |
| 3.10° | 20.00 | 62.00 | 6.00  | E.3603.1.0310                | 46.66              |
| 3.20  | 20.00 | 62.00 | 6.00  | E.3603.1.0320                | 46.66              |
| 3.30  | 20.00 | 62.00 | 6.00  | E.3603.1.0330                | 46.66              |
| 3.50  | 20.00 | 62.00 | 6.00  | E.3603.1.0350                | 46.66              |
| 3.60° | 20.00 | 62.00 | 6.00  | E.3603.1.0360                | 46.66              |
| 3.70° | 20.00 | 62.00 | 6.00  | E.3603.1.0370                | 46.66              |
| 3.80  | 24.00 | 66.00 | 6.00  | E.3603.1.0380                | 46.66              |
| 3.90° | 24.00 | 66.00 | 6.00  | E.3603.1.0390                | 46.66              |
| 4.00  | 24.00 | 66.00 | 6.00  | E.3603.1.0400                | 46.66              |
| 4.10° | 24.00 | 66.00 | 6.00  | E.3603.1.0410                | 46.66              |
| 4.20  | 24.00 | 66.00 | 6.00  | E.3603.1.0420                | 46.66              |
| 4.30  | 24.00 | 66.00 | 6.00  | E.3603.1.0430                | 46.66              |
| 4.40° | 24.00 | 66.00 | 6.00  | E.3603.1.0440                | 46.66              |
| 4.50  | 24.00 | 66.00 | 6.00  | E.3603.1.0450                | 46.66              |
| 4.60° | 24.00 | 66.00 | 6.00  | E.3603.1.0460                | 46.66              |
| 4.70° | 24.00 | 66.00 | 6.00  | E.3603.1.0470                | 46.66              |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1 h7 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-------|-------|-------|------------------------------|---------------|---|
| 4.80  | 28.00 | 66.00 | 6.00  | E.3603.1.0480                | 46.66         |   |
| 4.90* | 28.00 | 66.00 | 6.00  | E.3603.1.0490                | 46.66         |   |
| 5.00  | 28.00 | 66.00 | 6.00  | E.3603.1.0500                | 46.66         |   |
| 5.10* | 28.00 | 66.00 | 6.00  | E.3603.1.0510                | 46.66         |   |
| 5.20* | 28.00 | 66.00 | 6.00  | E.3603.1.0520                | 46.66         |   |
| 5.30* | 28.00 | 66.00 | 6.00  | E.3603.1.0530                | 46.66         |   |
| 5.40* | 28.00 | 66.00 | 6.00  | E.3603.1.0540                | 46.66         |   |
| 5.50  | 28.00 | 66.00 | 6.00  | E.3603.1.0550                | 46.66         |   |
| 5.60* | 28.00 | 66.00 | 6.00  | E.3603.1.0560                | 46.66         |   |
| 5.70* | 28.00 | 66.00 | 6.00  | E.3603.1.0570                | 46.66         |   |
| 5.80  | 28.00 | 66.00 | 6.00  | E.3603.1.0580                | 46.66         |   |
| 5.90* | 28.00 | 66.00 | 6.00  | E.3603.1.0590                | 46.66         |   |
| 6.00  | 28.00 | 66.00 | 6.00  | E.3603.1.0600                | 46.66         |   |
| 6.10* | 34.00 | 79.00 | 8.00  | E.3603.1.0610                | 48.05         |   |
| 6.20* | 34.00 | 79.00 | 8.00  | E.3603.1.0620                | 48.05         |   |
| 6.30* | 34.00 | 79.00 | 8.00  | E.3603.1.0630                | 48.05         |   |
| 6.40* | 34.00 | 79.00 | 8.00  | E.3603.1.0640                | 48.05         |   |
| 6.50  | 34.00 | 79.00 | 8.00  | E.3603.1.0650                | 48.19         |   |
| 6.60* | 34.00 | 79.00 | 8.00  | E.3603.1.0660                | 48.05         |   |
| 6.70* | 34.00 | 79.00 | 8.00  | E.3603.1.0670                | 48.05         |   |
| 6.80  | 34.00 | 79.00 | 8.00  | E.3603.1.0680                | 48.19         |   |
| 7.00  | 34.00 | 79.00 | 8.00  | E.3603.1.0700                | 48.19         |   |
| 7.10* | 41.00 | 79.00 | 8.00  | E.3603.1.0710                | 48.05         |   |
| 7.20* | 41.00 | 79.00 | 8.00  | E.3603.1.0720                | 48.05         |   |
| 7.30* | 41.00 | 79.00 | 8.00  | E.3603.1.0730                | 48.05         |   |
| 7.40* | 41.00 | 79.00 | 8.00  | E.3603.1.0740                | 48.05         |   |
| 7.50  | 41.00 | 79.00 | 8.00  | E.3603.1.0750                | 48.19         |   |
| 7.60* | 41.00 | 79.00 | 8.00  | E.3603.1.0760                | 48.05         |   |
| 7.70* | 41.00 | 79.00 | 8.00  | E.3603.1.0770                | 48.05         |   |
| 7.80  | 41.00 | 79.00 | 8.00  | E.3603.1.0780                | 48.05         |   |
| 7.90* | 41.00 | 79.00 | 8.00  | E.3603.1.0790                | 48.05         |   |
| 8.00  | 41.00 | 79.00 | 8.00  | E.3603.1.0800                | 47.63         |   |
| 8.10* | 47.00 | 89.00 | 10.00 | E.3603.1.0810                | 54.17         |   |
| 8.20  | 47.00 | 89.00 | 10.00 | E.3603.1.0820                | 54.17         |   |
| 8.30* | 47.00 | 89.00 | 10.00 | E.3603.1.0830                | 54.17         |   |
| 8.40  | 47.00 | 89.00 | 10.00 | E.3603.1.0840                | 54.17         |   |
| 8.50  | 47.00 | 89.00 | 10.00 | E.3603.1.0850                | 54.17         |   |
| 8.60* | 47.00 | 89.00 | 10.00 | E.3603.1.0860                | 54.17         |   |
| 8.70  | 47.00 | 89.00 | 10.00 | E.3603.1.0870                | 54.17         |   |
| 8.80  | 47.00 | 89.00 | 10.00 | E.3603.1.0880                | 54.17         |   |
| 8.90* | 47.00 | 89.00 | 10.00 | E.3603.1.0890                | 54.17         |   |
| 9.00  | 47.00 | 89.00 | 10.00 | E.3603.1.0900                | 54.46         |   |
| 9.10  | 47.00 | 89.00 | 10.00 | E.3603.1.0910                | 54.46         |   |
| 9.20  | 47.00 | 89.00 | 10.00 | E.3603.1.0920                | 54.46         |   |
| 9.30  | 47.00 | 89.00 | 10.00 | E.3603.1.0930                | 54.46         |   |
| 9.40  | 47.00 | 89.00 | 10.00 | E.3603.1.0940                | 54.46         |   |
| 9.50  | 47.00 | 89.00 | 10.00 | E.3603.1.0950                | 54.46         |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

## Bohrer VHM

### DIN 1897

|                    | d1 h7  | l2    | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|--------|-------|--------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 9.60   | 47.00 | 89.00  | 10.00 | E.3603.1.0960                | 54.46              |
|                    | 9.70   | 47.00 | 89.00  | 10.00 | E.3603.1.0970                | 54.46              |
|                    | 9.80   | 47.00 | 89.00  | 10.00 | E.3603.1.0980                | 54.46              |
|                    | 9.90   | 47.00 | 89.00  | 10.00 | E.3603.1.0990                | 54.46              |
|                    | 10.00  | 47.00 | 89.00  | 10.00 | E.3603.1.1000                | 54.46              |
| Bohrer<br>VHM      | 10.20  | 55.00 | 102.00 | 12.00 | E.3603.1.1020                | 77.64              |
|                    | 10.50  | 55.00 | 102.00 | 12.00 | E.3603.1.1050                | 77.64              |
|                    | 10.80  | 55.00 | 102.00 | 12.00 | E.3603.1.1080                | 77.64              |
|                    | 11.00  | 55.00 | 102.00 | 12.00 | E.3603.1.1100                | 77.64              |
| Reibahlen<br>HSS/E | 11.20  | 55.00 | 102.00 | 12.00 | E.3603.1.1120                | 77.64              |
|                    | 11.50* | 55.00 | 102.00 | 12.00 | E.3603.1.1150                | 79.58              |
|                    | 11.80* | 55.00 | 102.00 | 12.00 | E.3603.1.1180                | 79.58              |
|                    | 11.90* | 55.00 | 102.00 | 12.00 | E.3603.1.1190                | 79.58              |
|                    | 12.00  | 55.00 | 102.00 | 12.00 | E.3603.1.1200                | 77.64              |
| Reibahlen<br>VHM   | 12.20* | 60.00 | 107.00 | 14.00 | E.3603.1.1220                | 108.91             |
|                    | 12.50* | 60.00 | 107.00 | 14.00 | E.3603.1.1250                | 108.91             |
|                    | 12.80* | 60.00 | 107.00 | 14.00 | E.3603.1.1280                | 108.91             |
|                    | 13.00  | 60.00 | 107.00 | 14.00 | E.3603.1.1300                | 108.11             |
|                    | 13.50* | 60.00 | 107.00 | 14.00 | E.3603.1.1350                | 108.91             |
| Fräsrifte<br>HM    | 14.00  | 60.00 | 107.00 | 14.00 | E.3603.1.1400                | 108.11             |
|                    | 14.50* | 65.00 | 115.00 | 16.00 | E.3603.1.1450                | 141.03             |
|                    | 14.80* | 65.00 | 115.00 | 16.00 | E.3603.1.1480                | 141.03             |
|                    | 15.00  | 65.00 | 115.00 | 16.00 | E.3603.1.1500                | 139.94             |
| Fräser<br>VHM      | 15.80* | 65.00 | 115.00 | 16.00 | E.3603.1.1580                | 141.03             |
|                    | 16.00  | 65.00 | 115.00 | 16.00 | E.3603.1.1600                | 139.94             |

\* = Auslaufartikel / obsolete article

## VHM-Bohrsenker 3xd

E.3606.0



Solid carbide twist drills 3xd  
 Wiertła skrajnie trzyostrzowe z węglika spiekane  
 Punte in MD 3 eliche  
 Broca avellanador de tres labios de metal duro integral



Schnittwerte Seite 3.94  
 Cutting data page 3.94

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l2    | l1    | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|-----------------------|-------------------------------|-------|-------|------------------------------|--------------------|
| 2.10* |                       |                               | 10.00 | 50.00 | E.3606.0.0210                | 21.00              |
| 3.00  |                       |                               | 16.00 | 46.00 | E.3606.0.0300                | 15.20              |
| 3.10  |                       |                               | 18.00 | 49.00 | E.3606.0.0310                | 16.50              |
| 3.20  |                       |                               | 18.00 | 49.00 | E.3606.0.0320                | 16.50              |
| 3.30  | M 4                   | M 3,5 x 0,5                   | 18.00 | 49.00 | E.3606.0.0330                | 16.50              |
| 3.40  |                       |                               | 20.00 | 52.00 | E.3606.0.0340                | 16.50              |
| 3.50  | M 4 x 0,5             |                               | 20.00 | 52.00 | E.3606.0.0350                | 16.50              |
| 3.60  |                       |                               | 20.00 | 52.00 | E.3606.0.0360                | 17.40              |
| 3.70  | M 4,5                 | M 4                           | 20.00 | 52.00 | E.3606.0.0370                | 17.40              |
| 3.80  |                       | M 4 x 0,5                     | 22.00 | 55.00 | E.3606.0.0380                | 17.40              |
| 3.90  |                       |                               | 22.00 | 55.00 | E.3606.0.0390                | 17.40              |
| 4.00  | M 4,5 x 0,5           |                               | 22.00 | 55.00 | E.3606.0.0400                | 17.40              |
| 4.10  |                       |                               | 22.00 | 55.00 | E.3606.0.0410                | 20.00              |
| 4.20  | M 5                   | M 4,5                         | 22.00 | 55.00 | E.3606.0.0420                | 20.00              |
| 4.30  |                       | M 4,5 x 0,5                   | 24.00 | 58.00 | E.3606.0.0430                | 20.00              |
| 4.40  |                       |                               | 24.00 | 58.00 | E.3606.0.0440                | 20.00              |
| 4.50  | M 5 x 0,5             |                               | 24.00 | 58.00 | E.3606.0.0450                | 20.00              |
| 4.60  |                       |                               | 24.00 | 58.00 | E.3606.0.0460                | 21.80              |
| 4.70  |                       | M 5 x 0,75                    | 24.00 | 58.00 | E.3606.0.0470                | 21.80              |
| 4.80  |                       | M 5 x 0,5                     | 26.00 | 62.00 | E.3606.0.0480                | 21.80              |
| 4.90  |                       |                               | 26.00 | 62.00 | E.3606.0.0490                | 21.80              |
| 5.00  | M 6 / M 5,5 x 0,5     |                               | 26.00 | 62.00 | E.3606.0.0500                | 21.80              |
| 5.10  |                       |                               | 26.00 | 62.00 | E.3606.0.0510                | 24.70              |
| 5.20  | M 6 x 0,75            |                               | 26.00 | 62.00 | E.3606.0.0520                | 24.70              |
| 5.30  |                       | M 5,5 x 0,5                   | 26.00 | 62.00 | E.3606.0.0530                | 24.70              |
| 5.40  |                       |                               | 28.00 | 66.00 | E.3606.0.0540                | 24.70              |
| 5.50  | M 6 x 0,5             |                               | 28.00 | 66.00 | E.3606.0.0550                | 24.70              |
| 5.60  |                       | M 6                           | 28.00 | 66.00 | E.3606.0.0560                | 25.90              |
| 5.70  |                       | M 6 x 0,75                    | 28.00 | 66.00 | E.3606.0.0570                | 25.90              |
| 5.80  |                       | M 6 x 0,5                     | 28.00 | 66.00 | E.3606.0.0580                | 25.90              |
| 5.90  |                       |                               | 28.00 | 66.00 | E.3606.0.0590                | 25.90              |
| 6.00  |                       |                               | 28.00 | 66.00 | E.3606.0.0600                | 25.90              |
| 6.05* |                       |                               | 44.00 | 79.00 | E.3606.0.0605                | 23.50              |
| 6.10  |                       |                               | 31.00 | 70.00 | E.3606.0.0610                | 29.00              |
| 6.20  |                       |                               | 31.00 | 70.00 | E.3606.0.0620                | 29.00              |
| 6.30  |                       |                               | 31.00 | 70.00 | E.3606.0.0630                | 29.00              |
| 6.40  |                       |                               | 31.00 | 70.00 | E.3606.0.0640                | 29.00              |
| 6.50  |                       |                               | 31.00 | 70.00 | E.3606.0.0650                | 29.00              |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

### DIN 1897

| d1 h6  | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l2    | l1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-----------------------|-------------------------------|-------|--------|------------------------------|--------------------|
| 6.60   |                       | M 7                           | 31.00 | 70.00  | E.3606.0.0660                | 33.40              |
| 6.70   |                       | M 7 x 0,75                    | 31.00 | 70.00  | E.3606.0.0670                | 33.40              |
| 6.80   | M 8                   | M 7 x 0,5                     | 34.00 | 74.00  | E.3606.0.0680                | 33.40              |
| 6.90   |                       |                               | 34.00 | 74.00  | E.3606.0.0690                | 33.40              |
| 7.00   | M 8 x 1               |                               | 34.00 | 74.00  | E.3606.0.0700                | 33.40              |
| 7.10°  |                       |                               | 34.00 | 74.00  | E.3606.0.0710                | 108.00             |
| 7.20°  | M 8 x 0,75            |                               | 34.00 | 74.00  | E.3606.0.0720                | 108.00             |
| 7.50   | M 8 x 0,5             |                               | 34.00 | 74.00  | E.3606.0.0750                | 37.80              |
| 7.60°  |                       | M 8 x 1                       | 37.00 | 79.00  | E.3606.0.0760                | 116.20             |
| 7.90°  |                       |                               | 37.00 | 79.00  | E.3606.0.0790                | 116.20             |
| 8.00   | M 9 x 1               |                               | 37.00 | 79.00  | E.3606.0.0800                | 40.70              |
| 8.20°  | M 9 x 0,75            |                               | 37.00 | 79.00  | E.3606.0.0820                | 127.60             |
| 8.30°  |                       |                               | 37.00 | 79.00  | E.3606.0.0830                | 127.60             |
| 8.50   | M 10                  |                               | 37.00 | 79.00  | E.3606.0.0850                | 44.70              |
| 8.70°  |                       | M 9 x 0,75                    | 40.00 | 84.00  | E.3606.0.0870                | 140.00             |
| 9.00   | M 10 x 1              |                               | 40.00 | 84.00  | E.3606.0.0900                | 49.00              |
| 9.10°  |                       |                               | 40.00 | 84.00  | E.3606.0.0910                | 149.80             |
| 9.20°  | M 10 x 0,75           |                               | 40.00 | 84.00  | E.3606.0.0920                | 149.80             |
| 9.50   | M 11                  |                               | 40.00 | 84.00  | E.3606.0.0950                | 52.50              |
| 9.60°  |                       | M 10 x 1                      | 43.00 | 89.00  | E.3606.0.0960                | 168.90             |
| 9.70°  |                       | M 10 x 0,75                   | 43.00 | 89.00  | E.3606.0.0970                | 168.90             |
| 9.90°  |                       |                               | 43.00 | 89.00  | E.3606.0.0990                | 168.90             |
| 10.00  | M 11 x 1              |                               | 43.00 | 89.00  | E.3606.0.1000                | 168.90             |
| 10.20° | M 12 / M11 x 0,75     |                               | 43.00 | 89.00  | E.3606.0.1020                | 43.00              |
| 10.50° | M 12 x 1,5            |                               | 43.00 | 89.00  | E.3606.0.1050                | 43.00              |
| 11.00° | M 12 x 1              |                               | 47.00 | 95.00  | E.3606.0.1100                | 48.90              |
| 12.00  | M 14                  |                               | 51.00 | 102.00 | E.3606.0.1200                | 93.10              |
| 12.50° | M 14 x 1,5            |                               | 51.00 | 102.00 | E.3606.0.1250                | 60.40              |
| 13.00  | M 14 x 1              |                               | 51.00 | 102.00 | E.3606.0.1300                | 61.60              |
| 15.00° | M 16 x 1              |                               | 56.00 | 111.00 | E.3606.0.1500                | 82.90              |
| 15.50  | M 18                  |                               | 58.00 | 115.00 | E.3606.0.1550                | 143.00             |

\* = Auslaufartikel / obsolete article



## VHM-Spiralbohrer DIN 338

E.3607.0



Solid carbide twist drills  
DIN 338  
 Wiertła skrotne z weglika  
spiekanego wg DIN 338  
 Punte in MD DIN 338  
 Brocas de metal duro integral,  
DIN 338



Schnittwerte Seite 3.94  
 Cutting data page 3.94

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l2    | l1    | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|-------|------------------------------|---------------|---|
| 0.40* |                       |                               | 5.00  | 20.00 | E.3607.0.0040                | 10.80         |   |
| 0.50* |                       |                               | 6.00  | 26.00 | E.3607.0.0050                | 5.10          |   |
| 0.90* |                       |                               | 11.00 | 32.00 | E.3607.0.0090                | 5.10          |   |
| 1.00  |                       |                               | 12.00 | 34.00 | E.3607.0.0100                | 4.40          |   |
| 1.10  |                       |                               | 14.00 | 36.00 | E.3607.0.0110                | 4.80          |   |
| 1.20  |                       |                               | 16.00 | 38.00 | E.3607.0.0120                | 4.80          |   |
| 1.30  |                       |                               | 16.00 | 38.00 | E.3607.0.0130                | 4.80          |   |
| 1.40  |                       |                               | 18.00 | 40.00 | E.3607.0.0140                | 4.80          |   |
| 1.45  |                       |                               | 18.00 | 40.00 | E.3607.0.0145                | 6.93          |   |
| 1.50  |                       |                               | 18.00 | 40.00 | E.3607.0.0150                | 4.60          |   |
| 1.53  |                       |                               | 18.00 | 40.00 | E.3607.0.0153                | 7.40          |   |
| 1.55* |                       |                               | 20.00 | 43.00 | E.3607.0.0155                | 7.40          |   |
| 1.60  |                       |                               | 20.00 | 43.00 | E.3607.0.0160                | 4.90          |   |
| 1.70  |                       |                               | 20.00 | 43.00 | E.3607.0.0170                | 4.90          |   |
| 1.80  |                       |                               | 22.00 | 46.00 | E.3607.0.0180                | 4.90          |   |
| 1.90  |                       |                               | 22.00 | 46.00 | E.3607.0.0190                | 4.90          |   |
| 2.00  |                       |                               | 24.00 | 49.00 | E.3607.0.0200                | 6.00          |   |
| 2.05* |                       |                               | 24.00 | 49.00 | E.3607.0.0205                | 8.30          |   |
| 2.10  |                       |                               | 24.00 | 49.00 | E.3607.0.0210                | 7.00          |   |
| 2.20  |                       |                               | 27.00 | 53.00 | E.3607.0.0220                | 7.80          |   |
| 2.30  |                       |                               | 27.00 | 53.00 | E.3607.0.0230                | 7.80          |   |
| 2.40  |                       |                               | 30.00 | 57.00 | E.3607.0.0240                | 9.10          |   |
| 2.50  |                       |                               | 30.00 | 57.00 | E.3607.0.0250                | 7.60          |   |
| 2.60  |                       |                               | 30.00 | 57.00 | E.3607.0.0260                | 10.80         |   |
| 2.70  |                       |                               | 33.00 | 61.00 | E.3607.0.0270                | 10.80         |   |
| 2.80  |                       | M 3                           | 33.00 | 61.00 | E.3607.0.0280                | 10.80         |   |
| 2.90  | M 3,5                 | M 3 x 0,25                    | 33.00 | 61.00 | E.3607.0.0290                | 10.80         |   |
| 3.00  |                       |                               | 33.00 | 61.00 | E.3607.0.0300                | 9.80          |   |
| 3.05  |                       |                               | 33.00 | 61.00 | E.3607.0.0305                | 12.60         |   |
| 3.10  |                       |                               | 36.00 | 65.00 | E.3607.0.0310                | 10.20         |   |
| 3.20  |                       |                               | 36.00 | 65.00 | E.3607.0.0320                | 9.80          |   |
| 3.30  | M 4                   | M 3,5 x 0,5                   | 36.00 | 65.00 | E.3607.0.0330                | 9.80          |   |
| 3.40  |                       |                               | 39.00 | 70.00 | E.3607.0.0340                | 11.60         |   |
| 3.50  | M 4 x 0,5             |                               | 39.00 | 70.00 | E.3607.0.0350                | 10.80         |   |
| 3.60  |                       |                               | 39.00 | 70.00 | E.3607.0.0360                | 12.40         |   |
| 3.70  | M 4,5                 | M 4                           | 39.00 | 70.00 | E.3607.0.0370                | 12.40         |   |
| 3.80  |                       | M 4 x 0,5                     | 43.00 | 75.00 | E.3607.0.0380                | 12.40         |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

## Bohrer VHM

### DIN 338

|                       | d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I2    | I1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|-------|-----------------------|-------------------------------|-------|--------|------------------------------|--------------------|
| Gewinde-<br>schneider | 3.90  |                       |                               | 43.00 | 75.00  | E.3607.0.0390                | 12.40              |
|                       | 4.00  | M 4,5 x 0,5           |                               | 43.00 | 75.00  | E.3607.0.0400                | 12.00              |
| Bohrer<br>HSS/E       | 4.10  |                       |                               | 43.00 | 75.00  | E.3607.0.0410                | 13.20              |
|                       | 4.20  | M 5                   | M 4,5                         | 43.00 | 75.00  | E.3607.0.0420                | 12.70              |
| Bohrer<br>VHM         | 4.30  |                       | M 4,5 x 0,5                   | 47.00 | 80.00  | E.3607.0.0430                | 17.10              |
|                       | 4.35° |                       |                               | 47.00 | 80.00  | E.3607.0.0435                | 23.50              |
|                       | 4.40  |                       |                               | 47.00 | 80.00  | E.3607.0.0440                | 17.10              |
|                       | 4.50  | M 5 x 0,5             |                               | 47.00 | 80.00  | E.3607.0.0450                | 15.50              |
|                       | 4.60  |                       |                               | 47.00 | 80.00  | E.3607.0.0460                | 17.90              |
|                       | 4.70  |                       | M 5 x 0,75                    | 47.00 | 80.00  | E.3607.0.0470                | 17.90              |
|                       | 4.80  |                       | M 5 x 0,5                     | 52.00 | 86.00  | E.3607.0.0480                | 17.90              |
|                       | 4.90  |                       |                               | 52.00 | 86.00  | E.3607.0.0490                | 17.90              |
|                       | 5.00  | M 6 / M5,5 x 0,5      |                               | 52.00 | 86.00  | E.3607.0.0500                | 16.50              |
|                       | 5.10  |                       |                               | 52.00 | 86.00  | E.3607.0.0510                | 22.50              |
| Reibahlen<br>HSS/E    | 5.20  | M 6 x 0,75            |                               | 52.00 | 86.00  | E.3607.0.0520                | 22.50              |
|                       | 5.30  |                       | M 5,5 x 0,5                   | 52.00 | 86.00  | E.3607.0.0530                | 22.50              |
|                       | 5.40  |                       |                               | 57.00 | 93.00  | E.3607.0.0540                | 24.60              |
|                       | 5.50  | M 6 x 0,5             |                               | 57.00 | 93.00  | E.3607.0.0550                | 23.30              |
| Reibahlen<br>VHM      | 5.55° |                       |                               | 57.00 | 93.00  | E.3607.0.0555                | 33.90              |
|                       | 5.60  |                       | M 6                           | 57.00 | 93.00  | E.3607.0.0560                | 24.60              |
|                       | 5.70  |                       | M 6 x 0,75                    | 57.00 | 93.00  | E.3607.0.0570                | 26.00              |
|                       | 5.80  |                       | M 6 x 0,5                     | 57.00 | 93.00  | E.3607.0.0580                | 26.00              |
| Frässtifte<br>HM      | 5.90  |                       |                               | 57.00 | 93.00  | E.3607.0.0590                | 26.00              |
|                       | 6.00  | M 7                   |                               | 57.00 | 93.00  | E.3607.0.0600                | 23.20              |
| Fräser<br>VHM         | 6.10  |                       |                               | 63.00 | 101.00 | E.3607.0.0610                | 31.50              |
|                       | 6.20  | M 7 x 0,75            |                               | 63.00 | 101.00 | E.3607.0.0620                | 31.50              |
|                       | 6.30  |                       |                               | 63.00 | 101.00 | E.3607.0.0630                | 31.50              |
|                       | 6.40  |                       |                               | 63.00 | 101.00 | E.3607.0.0640                | 34.10              |
|                       | 6.50  |                       |                               | 63.00 | 101.00 | E.3607.0.0650                | 28.80              |
|                       | 6.60  |                       | M 7                           | 63.00 | 101.00 | E.3607.0.0660                | 34.10              |
|                       | 6.70  |                       | M 7 x 0,75                    | 63.00 | 101.00 | E.3607.0.0670                | 34.10              |
| Spannmittel           | 6.80  | M 8                   | M 7 x 0,5                     | 69.00 | 109.00 | E.3607.0.0680                | 35.70              |
|                       | 6.90  |                       |                               | 69.00 | 109.00 | E.3607.0.0690                | 39.00              |
|                       | 7.00  | M 8 x 1               |                               | 69.00 | 109.00 | E.3607.0.0700                | 35.70              |
|                       | 7.10  |                       |                               | 69.00 | 109.00 | E.3607.0.0710                | 39.00              |
| Fräser<br>HSSE        | 7.20  | M 8 x 0,75            |                               | 69.00 | 109.00 | E.3607.0.0720                | 42.20              |
|                       | 7.30  |                       |                               | 69.00 | 109.00 | E.3607.0.0730                | 42.20              |
|                       | 7.40  |                       |                               | 69.00 | 109.00 | E.3607.0.0740                | 42.20              |
|                       | 7.50  | M 8 x 0,5             |                               | 69.00 | 109.00 | E.3607.0.0750                | 35.70              |
|                       | 7.60  |                       | M 8 x 1                       | 75.00 | 117.00 | E.3607.0.0760                | 45.90              |
| Sägen                 | 7.70  |                       | M 8 x 0,75                    | 75.00 | 117.00 | E.3607.0.0770                | 45.90              |
|                       | 7.80  | M 9                   | M 8 x 0,5                     | 75.00 | 117.00 | E.3607.0.0780                | 45.90              |
|                       | 7.90  |                       |                               | 75.00 | 117.00 | E.3607.0.0790                | 45.90              |
| Lehren                | 8.00  | M 9 x 1               |                               | 75.00 | 117.00 | E.3607.0.0800                | 40.10              |
|                       | 8.10  |                       |                               | 75.00 | 117.00 | E.3607.0.0810                | 50.50              |
|                       | 8.20  | M 9 x 0,75            |                               | 75.00 | 117.00 | E.3607.0.0820                | 50.50              |
| Technik               | 8.30  |                       |                               | 75.00 | 117.00 | E.3607.0.0830                | 50.50              |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1 h6  | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l2     | l1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-----------------------|-------------------------------|--------|--------|------------------------------|--------------------|
| 8.40   |                       |                               | 75.00  | 117.00 | E.3607.0.0840                | 50.50              |
| 8.50   | M 10                  |                               | 75.00  | 117.00 | E.3607.0.0850                | 47.00              |
| 8.60   |                       | M 9 x 1                       | 81.00  | 125.00 | E.3607.0.0860                | 60.00              |
| 8.70   |                       | M 9 x 0,75                    | 81.00  | 125.00 | E.3607.0.0870                | 60.00              |
| 8.80   | M 10 x 1,25           | M 9 x 0,5                     | 81.00  | 125.00 | E.3607.0.0880                | 61.20              |
| 8.90   |                       |                               | 81.00  | 125.00 | E.3607.0.0890                | 61.20              |
| 9.00   | M 10 x 1              |                               | 81.00  | 125.00 | E.3607.0.0900                | 50.70              |
| 9.10   |                       |                               | 81.00  | 125.00 | E.3607.0.0910                | 67.80              |
| 9.20   | M 10 x 0,75           |                               | 81.00  | 125.00 | E.3607.0.0920                | 67.80              |
| 9.30   |                       |                               | 81.00  | 125.00 | E.3607.0.0930                | 67.80              |
| 9.40   |                       |                               | 81.00  | 125.00 | E.3607.0.0940                | 67.80              |
| 9.50   | M 11                  |                               | 81.00  | 125.00 | E.3607.0.0950                | 55.80              |
| 9.60   |                       | M 10 x 1                      | 87.00  | 133.00 | E.3607.0.0960                | 69.30              |
| 9.70   |                       | M 10 x 0,75                   | 87.00  | 133.00 | E.3607.0.0970                | 69.30              |
| 9.80   |                       | M 10 x 0,5                    | 87.00  | 133.00 | E.3607.0.0980                | 69.30              |
| 9.90   |                       |                               | 87.00  | 133.00 | E.3607.0.0990                | 69.30              |
| 10.00  | M 11 x 1              |                               | 87.00  | 133.00 | E.3607.0.1000                | 60.10              |
| 10.20  | M 12 / M11 x 0,75     |                               | 87.00  | 133.00 | E.3607.0.1020                | 71.40              |
| 10.40* |                       |                               | 87.00  | 133.00 | E.3607.0.1040                | 107.80             |
| 10.50  | M 12 x 1,5            |                               | 87.00  | 133.00 | E.3607.0.1050                | 72.70              |
| 10.60* |                       | M 11 x 1                      | 87.00  | 133.00 | E.3607.0.1060                | 110.90             |
| 10.80* | M 12 x 1,25           |                               | 94.00  | 142.00 | E.3607.0.1080                | 104.30             |
| 11.00  | M 12 x 1              |                               | 94.00  | 142.00 | E.3607.0.1100                | 87.00              |
| 11.20  |                       |                               | 94.00  | 142.00 | E.3607.0.1120                | 114.00             |
| 11.50  |                       |                               | 94.00  | 142.00 | E.3607.0.1150                | 92.20              |
| 11.80* |                       |                               | 94.00  | 142.00 | E.3607.0.1180                | 92.17              |
| 12.00  | M 14                  |                               | 101.00 | 151.00 | E.3607.0.1200                | 97.70              |
| 12.50* | M 14 x 1,5            |                               | 101.00 | 151.00 | E.3607.0.1250                | 151.00             |
| 12.80* | M 14 x 1,25           |                               | 101.00 | 151.00 | E.3607.0.1280                | 151.00             |
| 13.00* | M 14 x 1              |                               | 101.00 | 151.00 | E.3607.0.1300                | 151.00             |
| 13.50* |                       |                               | 108.00 | 160.00 | E.3607.0.1350                | 184.80             |
| 14.50* | M 16 x 1,5            |                               | 108.00 | 160.00 | E.3607.0.1450                | 197.20             |
| 15.00* | M 16 x 1              |                               | 114.00 | 169.00 | E.3607.0.1500                | 200.20             |
| 16.00* | M 18 x 2              |                               | 120.00 | 178.00 | E.3607.0.1600                | 209.50             |
| 17.00* |                       |                               | 125.00 | 184.00 | E.3607.0.1700                | 211,10             |

\* = Auslaufartikel / obsolete article

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

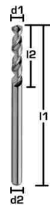
Technik

# Bohrer VHM

## Werksnorm

### VHM-Mikrobohrer 0,01 mm steigend

**E.3673.0**



Solid carbide micro drills rising in steps of 0,01 mm  
 Wiertła miniaturowe z węglika spiekanego - średnice co 0,01 mm  
 Micropunte in MD centesimali 0,01 mm  
 Microbrocas de metal duro integral con incrementos de 0,01 mm



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.93  
Cutting data page 3.93

|                 | d1 h5       | l2          | l1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------|-------------|-------------|-------|-------|------------------------------|--------------------|
| Reibahlen HSS/E | 0,10        | 0.60        | 30.00 | 1.00  | E.3673.0.0010                | 20.10              |
|                 | 0,11 - 0,14 | 0.60        | 30.00 | 1.00  | E.3673.0.0011-0014           | 20.10              |
|                 | 0,15        | 0.80        | 30.00 | 1.00  | E.3673.0.0015                | 16.10              |
| Reibahlen VHM   | 0,16 - 0,19 | 1.00        | 30.00 | 1.00  | E.3673.0.0016-0019           | 17.20              |
|                 | 0,20        | 1.00        | 30.00 | 1.00  | E.3673.0.0020                | 13.20              |
|                 | 0,21 - 0,24 | 1.00        | 30.00 | 1.00  | E.3673.0.0021-0024           | 15.40              |
|                 | 0,25        | 1.00        | 30.00 | 1.00  | E.3673.0.0025                | 12.90              |
| Frässtifte HM   | 0,26 - 0,29 | 1.00        | 30.00 | 1.00  | E.3673.0.0026-0029           | 15.40              |
|                 | 0,30        | 1.50        | 38.00 | 3.00  | E.3673.0.0030                | 20.30              |
|                 | 0,31 - 0,34 | 1.50        | 38.00 | 3.00  | E.3673.0.0031-0034           | 22.90              |
|                 | 0,35        | 1.50        | 38.00 | 3.00  | E.3673.0.0035                | 20.30              |
| Fräser VHM      | 0,36 - 0,39 | 1.50        | 38.00 | 3.00  | E.3673.0.0036-0039           | 22.90              |
|                 | 0,40        | 2.00        | 38.00 | 3.00  | E.3673.0.0040                | 20.30              |
|                 | 0,41 - 0,44 | 2.00        | 38.00 | 3.00  | E.3673.0.0041-0044           | 22.90              |
|                 | 0,45        | 3.50        | 38.00 | 3.00  | E.3673.0.0045                | 19.30              |
| Spannmittel     | 0,46 - 0,49 | 3.50 - 4,00 | 38.00 | 3.00  | E.3673.0.0046-0049           | 22.00              |
|                 | 0,50        | 4.00        | 38.00 | 3.00  | E.3673.0.0050                | 19.30              |
|                 | 0,51 - 0,54 | 4.00 - 4,50 | 38.00 | 3.00  | E.3673.0.0051-0054           | 22.00              |
|                 | 0,55        | 4.50        | 38.00 | 3.00  | E.3673.0.0055                | 19.10              |
| Fräser HSSE     | 0,56 - 0,59 | 4.50        | 38.00 | 3.00  | E.3673.0.0056-0059           | 22.00              |
|                 | 0,60        | 4.50        | 38.00 | 3.00  | E.3673.0.0060                | 19.10              |
|                 | 0,61 - 0,64 | 5.00        | 38.00 | 3.00  | E.3673.0.0061-0064           | 22.00              |
|                 | 0,65        | 5.00        | 38.00 | 3.00  | E.3673.0.0065                | 19.10              |
|                 | 0,66 - 0,69 | 5.00 - 5,60 | 38.00 | 3.00  | E.3673.0.0066-0069           | 22.00              |
|                 | 0,70        | 5.60        | 38.00 | 3.00  | E.3673.0.0070                | 19.10              |
| Sägen           | 0,71 - 0,74 | 5.60        | 38.00 | 3.00  | E.3673.0.0071-0074           | 22.00              |
|                 | 0,75        | 5.60        | 38.00 | 3.00  | E.3673.0.0075                | 19.10              |
|                 | 0,76 - 0,79 | 6.50        | 38.00 | 3.00  | E.3673.0.0076-0079           | 22.00              |
|                 | 0,80        | 6.50        | 38.00 | 3.00  | E.3673.0.0080                | 19.10              |
| Lehren          | 0,81 - 0,84 | 6.50        | 38.00 | 3.00  | E.3673.0.0081-0084           | 22.00              |
|                 | 0,85        | 6.50        | 38.00 | 3.00  | E.3673.0.0085                | 19.10              |
|                 | 0,86 - 0,89 | 7.00        | 38.00 | 3.00  | E.3673.0.0086-0089           | 22.00              |
|                 | 0,90        | 7.00        | 38.00 | 3.00  | E.3673.0.0090                | 19.80              |
| Technik         | 0,91 - 0,94 | 7.00        | 38.00 | 3.00  | E.3673.0.0091-0094           | 22.00              |
|                 | 0,95        | 7.00        | 38.00 | 3.00  | E.3673.0.0095                | 19.80              |
|                 | 0,96 - 0,99 | 8.00        | 38.00 | 3.00  | E.3673.0.0096-0099           | 22.00              |

Fortsetzung nächste Seite / Continued on next page

| d1 h5       | l2            | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------------|---------------|-------|-------|------------------------------|---------------|---|
| 1,00        | 9,00          | 38,00 | 3,00  | E.3673.0.0100                | 19,80         |   |
| 1,01 - 1,04 | 9,00          | 38,00 | 3,00  | E.3673.0.0101-0104           | 22,00         |   |
| 1,05        | 9,00          | 38,00 | 3,00  | E.3673.0.0105                | 19,80         |   |
| 1,06 - 1,09 | 9,00          | 38,00 | 3,00  | E.3673.0.0106-0109           | 22,00         |   |
| 1,10        | 9,00          | 38,00 | 3,00  | E.3673.0.0110                | 20,30         |   |
| 1,11 - 1,14 | 9,00          | 38,00 | 3,00  | E.3673.0.0111-0114           | 22,90         |   |
| 1,15        | 9,00          | 38,00 | 3,00  | E.3673.0.0115                | 20,30         |   |
| 1,16 - 1,19 | 9,00 - 10,00  | 38,00 | 3,00  | E.3673.0.0116-0119           | 22,90         |   |
| 1,20        | 10,00         | 38,00 | 3,00  | E.3673.0.0120                | 20,30         |   |
| 1,21 - 1,24 | 10,00         | 38,00 | 3,00  | E.3673.0.0121-0124           | 22,90         |   |
| 1,25        | 10,00         | 38,00 | 3,00  | E.3673.0.0125                | 20,30         |   |
| 1,26 - 1,29 | 10,00         | 38,00 | 3,00  | E.3673.0.0126-0129           | 22,90         |   |
| 1,30        | 10,00         | 38,00 | 3,00  | E.3673.0.0130                | 21,20         |   |
| 1,31 - 1,34 | 10,00 - 11,50 | 38,00 | 3,00  | E.3673.0.0131-0134           | 24,30         |   |
| 1,35        | 11,50         | 38,00 | 3,00  | E.3673.0.0135                | 21,20         |   |
| 1,36 - 1,39 | 11,50         | 38,00 | 3,00  | E.3673.0.0136-0139           | 24,30         |   |
| 1,40        | 11,50         | 38,00 | 3,00  | E.3673.0.0140                | 21,20         |   |
| 1,41 - 1,44 | 11,50         | 38,00 | 3,00  | E.3673.0.0141-0144           | 24,30         |   |
| 1,45        | 11,50         | 38,00 | 3,00  | E.3673.0.0145                | 22,40         |   |
| 1,46 - 1,49 | 11,50         | 38,00 | 3,00  | E.3673.0.0146-0149           | 25,50         |   |
| 1,50        | 11,50         | 38,00 | 3,00  | E.3673.0.0150                | 22,40         |   |
| 1,51 - 1,54 | 12,00         | 38,00 | 3,00  | E.3673.0.0151-0154           | 25,50         |   |
| 1,55        | 12,00         | 38,00 | 3,00  | E.3673.0.0155                | 22,40         |   |
| 1,56 - 1,59 | 12,00         | 38,00 | 3,00  | E.3673.0.0156-0159           | 25,50         |   |
| 1,60        | 12,00         | 38,00 | 3,00  | E.3673.0.0160                | 22,90         |   |
| 1,61 - 1,64 | 12,00         | 38,00 | 3,00  | E.3673.0.0161-0164           | 26,20         |   |
| 1,65        | 12,00         | 38,00 | 3,00  | E.3673.0.0165                | 22,90         |   |
| 1,66 - 1,69 | 12,00         | 38,00 | 3,00  | E.3673.0.0166-0169           | 26,20         |   |
| 1,70        | 12,00         | 38,00 | 3,00  | E.3673.0.0170                | 22,90         |   |
| 1,71 - 1,74 | 12,00         | 38,00 | 3,00  | E.3673.0.0171-0174           | 26,20         |   |
| 1,75        | 12,00         | 38,00 | 3,00  | E.3673.0.0175                | 22,90         |   |
| 1,76 - 1,79 | 12,00         | 38,00 | 3,00  | E.3673.0.0176-0179           | 26,20         |   |
| 1,80        | 12,00         | 38,00 | 3,00  | E.3673.0.0180                | 23,60         |   |
| 1,81 - 1,84 | 12,00         | 38,00 | 3,00  | E.3673.0.0181-0184           | 27,20         |   |
| 1,85        | 12,00         | 38,00 | 3,00  | E.3673.0.0185                | 23,60         |   |
| 1,86 - 1,89 | 12,00         | 38,00 | 3,00  | E.3673.0.0186-0189           | 27,20         |   |
| 1,90        | 12,00         | 38,00 | 3,00  | E.3673.0.0190                | 23,60         |   |
| 1,91 - 1,94 | 12,00         | 38,00 | 3,00  | E.3673.0.0191-0194           | 27,20         |   |
| 1,95        | 12,00         | 38,00 | 3,00  | E.3673.0.0195                | 23,60         |   |
| 1,96 - 1,99 | 12,00         | 38,00 | 3,00  | E.3673.0.0196-0199           | 27,20         |   |
| 2,00        | 12,00         | 38,00 | 3,00  | E.3673.0.0200                | 23,60         |   |
| 2,05        | 15,00         | 50,00 | 3,00  | E.3673.0.0205                | 27,20         |   |
| 2,10        | 15,00         | 50,00 | 3,00  | E.3673.0.0210                | 27,20         |   |
| 2,20        | 15,00         | 50,00 | 3,00  | E.3673.0.0220                | 27,60         |   |
| 2,25        | 15,00         | 50,00 | 3,00  | E.3673.0.0225                | 27,60         |   |
| 2,30        | 15,00         | 50,00 | 3,00  | E.3673.0.0230                | 27,60         |   |
| 2,35        | 15,00         | 50,00 | 3,00  | E.3673.0.0235                | 27,90         |   |

Fortsetzung nächste Seite / Continued on next page

# Bohrer VHM

## Werksnorm

| d1 h5 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|-------|-------|-------|------------------------------|--------------------|
| 2,40  | 15,00 | 50,00 | 3,00  | E.3673.0.0240                | 27,90              |
| 2,45  | 15,00 | 50,00 | 3,00  | E.3673.0.0245                | 27,90              |
| 2,50  | 15,00 | 50,00 | 3,00  | E.3673.0.0250                | 28,40              |
| 2,55  | 18,00 | 50,00 | 3,00  | E.3673.0.0255                | 30,00              |
| 2,60  | 18,00 | 50,00 | 3,00  | E.3673.0.0260                | 30,00              |
| 2,65  | 18,00 | 50,00 | 3,00  | E.3673.0.0265                | 30,00              |
| 2,70  | 18,00 | 50,00 | 3,00  | E.3673.0.0270                | 30,70              |
| 2,75  | 18,00 | 50,00 | 3,00  | E.3673.0.0275                | 30,70              |
| 2,80  | 18,00 | 50,00 | 3,00  | E.3673.0.0280                | 31,00              |
| 2,85  | 18,00 | 50,00 | 3,00  | E.3673.0.0285                | 31,20              |
| 2,90  | 18,00 | 50,00 | 3,00  | E.3673.0.0290                | 31,90              |
| 2,95  | 18,00 | 50,00 | 3,00  | E.3673.0.0295                | 31,90              |
| 3,00  | 18,00 | 50,00 | 3,00  | E.3673.0.0300                | 31,90              |

## VHM-HSC-Mikrobohrer 0,01 mm steigend

### E.3676.1



Solid carbide HSC micro drills rising in steps of 0,01 mm  
 Wierbla miniaturowe z węglika spiekane go - średnice skokiemi co 0,01 mm  
 Micropunte in MD centesimali 0,01 mm  
 Microbrocas de metal duro integral con incrementos de 0,01 mm para alta velocidad



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.94  
Cutting data page 3.94

| d1 h5 | l2   | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|------|-------|-------|------------------------------|--------------------|
| 0.78  | 5.70 | 53.00 | 3.00  | E.3676.1.0078                | 64.20              |
| 0.79  | 5.70 | 53.00 | 3.00  | E.3676.1.0079                | 64.20              |
| 0.80  | 5.80 | 53.00 | 3.00  | E.3676.1.0080                | 64.20              |
| 0.81  | 5.90 | 53.00 | 3.00  | E.3676.1.0081                | 64.20              |
| 0.82  | 5.90 | 53.00 | 3.00  | E.3676.1.0082                | 64.20              |
| 0.83  | 6.00 | 53.00 | 3.00  | E.3676.1.0083                | 64.20              |
| 0.84  | 6.10 | 53.00 | 3.00  | E.3676.1.0084                | 64.20              |
| 0.85  | 6.20 | 53.00 | 3.00  | E.3676.1.0085                | 60.10              |
| 0.86  | 6.20 | 53.00 | 3.00  | E.3676.1.0086                | 60.10              |
| 0.87  | 6.30 | 53.00 | 3.00  | E.3676.1.0087                | 60.10              |
| 0.88  | 6.40 | 53.00 | 3.00  | E.3676.1.0088                | 60.10              |
| 0.89  | 6.50 | 53.00 | 3.00  | E.3676.1.0089                | 60.10              |
| 0.90  | 6.50 | 53.00 | 3.00  | E.3676.1.0090                | 60.10              |
| 0.91  | 6.60 | 53.00 | 3.00  | E.3676.1.0091                | 60.10              |
| 0.92  | 6.70 | 53.00 | 3.00  | E.3676.1.0092                | 60.10              |
| 0.93  | 6.70 | 53.00 | 3.00  | E.3676.1.0093                | 60.10              |
| 0.94  | 6.80 | 53.00 | 3.00  | E.3676.1.0094                | 60.10              |
| 0.95  | 6.90 | 53.00 | 3.00  | E.3676.1.0095                | 60.10              |
| 0.96  | 7.00 | 53.00 | 3.00  | E.3676.1.0096                | 60.10              |
| 0.97  | 7.00 | 53.00 | 3.00  | E.3676.1.0097                | 60.10              |

Fortsetzung nächste Seite / Continued on next page



| d1 h5 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-------|-------|-------|------------------------------|---------------|---|
| 0.98  | 7.10  | 53.00 | 3.00  | E.3676.1.0098                | 60.10         |   |
| 0.99  | 7.20  | 53.00 | 3.00  | E.3676.1.0099                | 60.10         |   |
| 1.00  | 7.30  | 53.00 | 3.00  | E.3676.1.0100                | 57.30         |   |
| 1.01  | 7.30  | 53.00 | 3.00  | E.3676.1.0101                | 57.30         |   |
| 1.02  | 7.40  | 53.00 | 3.00  | E.3676.1.0102                | 57.30         |   |
| 1.03  | 7.50  | 53.00 | 3.00  | E.3676.1.0103                | 57.30         |   |
| 1.04  | 7.50  | 53.00 | 3.00  | E.3676.1.0104                | 57.30         |   |
| 1.05  | 7.60  | 53.00 | 3.00  | E.3676.1.0105                | 57.30         |   |
| 1.06  | 7.70  | 53.00 | 3.00  | E.3676.1.0106                | 57.30         |   |
| 1.07  | 7.80  | 53.00 | 3.00  | E.3676.1.0107                | 57.30         |   |
| 1.08  | 7.80  | 53.00 | 3.00  | E.3676.1.0108                | 57.30         |   |
| 1.09  | 7.90  | 53.00 | 3.00  | E.3676.1.0109                | 57.30         |   |
| 1.10  | 8.00  | 53.00 | 3.00  | E.3676.1.0110                | 57.30         |   |
| 1.11  | 8.00  | 53.00 | 3.00  | E.3676.1.0111                | 57.30         |   |
| 1.12  | 8.10  | 53.00 | 3.00  | E.3676.1.0112                | 57.30         |   |
| 1.13  | 8.20  | 53.00 | 3.00  | E.3676.1.0113                | 57.30         |   |
| 1.14  | 8.30  | 53.00 | 3.00  | E.3676.1.0114                | 57.30         |   |
| 1.15  | 8.30  | 53.00 | 3.00  | E.3676.1.0115                | 57.30         |   |
| 1.16  | 8.40  | 53.00 | 3.00  | E.3676.1.0116                | 57.30         |   |
| 1.17  | 8.50  | 53.00 | 3.00  | E.3676.1.0117                | 57.30         |   |
| 1.18  | 8.60  | 53.00 | 3.00  | E.3676.1.0118                | 57.30         |   |
| 1.19  | 8.60  | 53.00 | 3.00  | E.3676.1.0119                | 57.30         |   |
| 1.20  | 8.70  | 53.00 | 3.00  | E.3676.1.0120                | 57.30         |   |
| 1.21  | 8.80  | 53.00 | 3.00  | E.3676.1.0121                | 57.30         |   |
| 1.22  | 8.80  | 53.00 | 3.00  | E.3676.1.0122                | 57.30         |   |
| 1.23  | 8.90  | 53.00 | 3.00  | E.3676.1.0123                | 57.30         |   |
| 1.24  | 9.00  | 53.00 | 3.00  | E.3676.1.0124                | 57.30         |   |
| 1.25  | 9.10  | 53.00 | 3.00  | E.3676.1.0125                | 57.30         |   |
| 1.26  | 9.10  | 53.00 | 3.00  | E.3676.1.0126                | 57.30         |   |
| 1.27  | 9.20  | 53.00 | 3.00  | E.3676.1.0127                | 57.30         |   |
| 1.28  | 9.30  | 53.00 | 3.00  | E.3676.1.0128                | 57.30         |   |
| 1.29  | 9.40  | 53.00 | 3.00  | E.3676.1.0129                | 57.30         |   |
| 1.30  | 9.40  | 53.00 | 3.00  | E.3676.1.0130                | 57.30         |   |
| 1.31  | 9.50  | 53.00 | 3.00  | E.3676.1.0131                | 57.30         |   |
| 1.32  | 9.60  | 53.00 | 3.00  | E.3676.1.0132                | 57.30         |   |
| 1.33  | 9.60  | 53.00 | 3.00  | E.3676.1.0133                | 57.30         |   |
| 1.34  | 9.70  | 53.00 | 3.00  | E.3676.1.0134                | 57.30         |   |
| 1.35  | 9.80  | 53.00 | 3.00  | E.3676.1.0135                | 57.30         |   |
| 1.36  | 9.90  | 53.00 | 3.00  | E.3676.1.0136                | 57.30         |   |
| 1.37  | 9.90  | 53.00 | 3.00  | E.3676.1.0137                | 57.30         |   |
| 1.38  | 10.00 | 53.00 | 3.00  | E.3676.1.0138                | 57.30         |   |
| 1.39  | 10.10 | 53.00 | 3.00  | E.3676.1.0139                | 57.30         |   |
| 1.40  | 10.20 | 53.00 | 3.00  | E.3676.1.0140                | 57.30         |   |
| 1.41  | 10.20 | 53.00 | 3.00  | E.3676.1.0141                | 57.30         |   |
| 1.42  | 10.30 | 53.00 | 3.00  | E.3676.1.0142                | 57.30         |   |
| 1.43  | 10.40 | 53.00 | 3.00  | E.3676.1.0143                | 57.30         |   |
| 1.44  | 10.40 | 53.00 | 3.00  | E.3676.1.0144                | 57.30         |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

### Werksnorm

|                    | d1 h5 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|-------|-------|-------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 1.45  | 10.50 | 53.00 | 3.00  | E.3676.1.0145                | 57.30              |
|                    | 1.46  | 10.60 | 53.00 | 3.00  | E.3676.1.0146                | 57.30              |
|                    | 1.47  | 10.70 | 53.00 | 3.00  | E.3676.1.0147                | 57.30              |
|                    | 1.48  | 10.70 | 53.00 | 3.00  | E.3676.1.0148                | 57.30              |
|                    | 1.49  | 10.80 | 53.00 | 3.00  | E.3676.1.0149                | 57.30              |
| Bohrer<br>VHM      | 1.50  | 10.90 | 53.00 | 3.00  | E.3676.1.0150                | 57.30              |
|                    | 1.51  | 10.90 | 53.00 | 3.00  | E.3676.1.0151                | 57.30              |
|                    | 1.52  | 11.00 | 53.00 | 3.00  | E.3676.1.0152                | 57.30              |
|                    | 1.53  | 11.10 | 53.00 | 3.00  | E.3676.1.0153                | 57.30              |
|                    | 1.54  | 11.20 | 53.00 | 3.00  | E.3676.1.0154                | 57.30              |
| Reibahlen<br>HSS/E | 1.55  | 11.20 | 53.00 | 3.00  | E.3676.1.0155                | 64.20              |
|                    | 1.56  | 11.30 | 53.00 | 3.00  | E.3676.1.0156                | 64.20              |
|                    | 1.57  | 11.40 | 53.00 | 3.00  | E.3676.1.0157                | 64.20              |
|                    | 1.58  | 11.50 | 53.00 | 3.00  | E.3676.1.0158                | 64.20              |
|                    | 1.59  | 11.50 | 53.00 | 3.00  | E.3676.1.0159                | 64.20              |
| Reibahlen<br>VHM   | 1.60  | 11.60 | 53.00 | 3.00  | E.3676.1.0160                | 64.20              |
|                    | 1.61  | 11.70 | 53.00 | 3.00  | E.3676.1.0161                | 64.20              |
|                    | 1.62  | 11.70 | 53.00 | 3.00  | E.3676.1.0162                | 64.20              |
|                    | 1.63  | 11.80 | 53.00 | 3.00  | E.3676.1.0163                | 64.20              |
|                    | 1.64  | 11.90 | 53.00 | 3.00  | E.3676.1.0164                | 64.20              |
| Fräsrifte<br>HM    | 1.65  | 12.00 | 53.00 | 3.00  | E.3676.1.0165                | 64.20              |
|                    | 1.66  | 12.00 | 53.00 | 3.00  | E.3676.1.0166                | 64.20              |
|                    | 1.67  | 12.10 | 53.00 | 3.00  | E.3676.1.0167                | 64.20              |
|                    | 1.68  | 12.20 | 53.00 | 3.00  | E.3676.1.0168                | 64.20              |
|                    | 1.69  | 12.30 | 53.00 | 3.00  | E.3676.1.0169                | 64.20              |
| Fräser<br>VHM      | 1.70  | 12.30 | 53.00 | 3.00  | E.3676.1.0170                | 64.20              |
|                    | 1.71  | 12.40 | 53.00 | 3.00  | E.3676.1.0171                | 64.20              |
|                    | 1.72  | 12.50 | 53.00 | 3.00  | E.3676.1.0172                | 64.20              |
|                    | 1.73  | 12.50 | 53.00 | 3.00  | E.3676.1.0173                | 64.20              |
|                    | 1.74  | 12.60 | 53.00 | 3.00  | E.3676.1.0174                | 64.20              |
| Spannmittel        | 1.75  | 12.70 | 53.00 | 3.00  | E.3676.1.0175                | 67.90              |
|                    | 1.76  | 12.80 | 53.00 | 3.00  | E.3676.1.0176                | 67.90              |
|                    | 1.77  | 12.80 | 53.00 | 3.00  | E.3676.1.0177                | 67.90              |
|                    | 1.78  | 12.90 | 53.00 | 3.00  | E.3676.1.0178                | 67.90              |
|                    | 1.79  | 13.00 | 53.00 | 3.00  | E.3676.1.0179                | 67.90              |
| Fräser<br>HSSE     | 1.80  | 13.10 | 53.00 | 3.00  | E.3676.1.0180                | 67.90              |
|                    | 1.81  | 13.10 | 53.00 | 3.00  | E.3676.1.0181                | 67.90              |
|                    | 1.82  | 13.20 | 53.00 | 3.00  | E.3676.1.0182                | 67.90              |
|                    | 1.83  | 13.30 | 53.00 | 3.00  | E.3676.1.0183                | 67.90              |
|                    | 1.84  | 13.30 | 53.00 | 3.00  | E.3676.1.0184                | 67.90              |
| Sägen              | 1.85  | 13.40 | 53.00 | 3.00  | E.3676.1.0185                | 67.90              |
|                    | 1.86  | 13.50 | 53.00 | 3.00  | E.3676.1.0186                | 67.90              |
|                    | 1.87  | 13.60 | 53.00 | 3.00  | E.3676.1.0187                | 67.90              |
|                    | 1.88  | 13.60 | 53.00 | 3.00  | E.3676.1.0188                | 67.90              |
|                    | 1.89  | 13.70 | 53.00 | 3.00  | E.3676.1.0189                | 67.90              |
| Lehren             | 1.90  | 13.80 | 53.00 | 3.00  | E.3676.1.0190                | 67.90              |
|                    | 1.91  | 13.80 | 53.00 | 3.00  | E.3676.1.0191                | 67.90              |
|                    |       |       |       |       |                              |                    |
| Technik            |       |       |       |       |                              |                    |
|                    |       |       |       |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page

**Bohrer VHM**

**Werksnorm**

| d1 h5 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|-------|-------|------------------------------|--------------------|
| 1.92  | 13.90 | 53.00 | 3.00  | E.3676.1.0192                | 67.90              |
| 1.93  | 14.00 | 53.00 | 3.00  | E.3676.1.0193                | 67.90              |
| 1.94  | 14.10 | 53.00 | 3.00  | E.3676.1.0194                | 67.90              |
| 1.95  | 14.10 | 53.00 | 3.00  | E.3676.1.0195                | 67.90              |
| 1.96  | 14.20 | 53.00 | 3.00  | E.3676.1.0196                | 67.90              |
| 1.97  | 14.30 | 53.00 | 3.00  | E.3676.1.0197                | 67.90              |
| 1.98  | 14.40 | 53.00 | 3.00  | E.3676.1.0198                | 67.90              |
| 1.99  | 14.40 | 53.00 | 3.00  | E.3676.1.0199                | 67.90              |
| 2.00  | 14.50 | 53.00 | 3.00  | E.3676.1.0200                | 67.90              |
| 2.05  | 14.90 | 53.00 | 3.00  | E.3676.1.0205                | 67.90              |
| 2.10  | 15.20 | 53.00 | 3.00  | E.3676.1.0210                | 70.50              |
| 2.15  | 15.60 | 53.00 | 3.00  | E.3676.1.0215                | 70.50              |
| 2.20  | 16.00 | 53.00 | 3.00  | E.3676.1.0220                | 70.50              |
| 2.25  | 16.30 | 53.00 | 3.00  | E.3676.1.0225                | 70.50              |
| 2.30  | 16.70 | 53.00 | 3.00  | E.3676.1.0230                | 73.20              |
| 2.35  | 17.00 | 53.00 | 3.00  | E.3676.1.0235                | 73.20              |
| 2.40  | 17.40 | 53.00 | 3.00  | E.3676.1.0240                | 73.20              |
| 2.45  | 17.80 | 53.00 | 3.00  | E.3676.1.0245                | 73.20              |
| 2.50  | 18.10 | 53.00 | 3.00  | E.3676.1.0250                | 75.80              |
| 2.55  | 18.50 | 53.00 | 3.00  | E.3676.1.0255                | 75.80              |
| 2.60  | 18.90 | 53.00 | 3.00  | E.3676.1.0260                | 77.00              |
| 2.65  | 19.20 | 53.00 | 3.00  | E.3676.1.0265                | 77.00              |
| 2.70  | 19.60 | 53.00 | 3.00  | E.3676.1.0270                | 77.00              |
| 2.75  | 19.90 | 53.00 | 3.00  | E.3676.1.0275                | 77.00              |
| 2.80  | 20.30 | 53.00 | 3.00  | E.3676.1.0280                | 79.80              |
| 2.85  | 20.70 | 53.00 | 3.00  | E.3676.1.0285                | 79.80              |
| 2.90  | 21.00 | 53.00 | 3.00  | E.3676.1.0290                | 79.80              |
| 2.95  | 21.40 | 53.00 | 3.00  | E.3676.1.0295                | 79.80              |
| 3.00  | 21.80 | 53.00 | 3.00  | E.3676.1.0300                | 79.80              |

|                       |
|-----------------------|
| Gewinde-<br>schneider |
| Bohrer<br>HSS/E       |
| Bohrer<br>VHM         |
| Reibahlen<br>HSS/E    |
| Reibahlen<br>VHM      |
| Frässtifte<br>HM      |
| Fräser<br>VHM         |
| Spannmittel           |
| Fräser<br>HSSE        |
| Sägen                 |
| Lehren                |
| Technik               |

# Bohrer VHM

## Werksnorm

### VHM-Spiralbohrer

#### E.3615.0



Solid carbide twist drills  
 Wiertła skrętna z węglika spiekanego  
 Punte in MD  
 Brocas de metal duro integral



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.93  
Cutting data page 3.93

| d1 h5 | l2    | l1    | d2   | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|-------|-------|------|------------------------------|--------------------|
| 0.50  | 4.00  | 30.00 | 1.00 | E.3615.0.0050                | 14.20              |
| 0.60  | 4.50  | 30.00 | 1.00 | E.3615.0.0060                | 14.20              |
| 0.70  | 5.60  | 30.00 | 1.00 | E.3615.0.0070                | 14.20              |
| 0.80  | 6.30  | 30.00 | 1.50 | E.3615.0.0080                | 15.40              |
| 0.90  | 7.10  | 30.00 | 1.50 | E.3615.0.0090                | 15.40              |
| 1.00  | 9.00  | 30.00 | 1.50 | E.3615.0.0100                | 16.30              |
| 1.10  | 9.00  | 30.00 | 1.50 | E.3615.0.0110                | 16.30              |
| 1.20  | 10.00 | 30.00 | 1.50 | E.3615.0.0120                | 16.60              |
| 1.30  | 10.00 | 30.00 | 1.50 | E.3615.0.0130                | 16.60              |
| 1.40  | 11.20 | 30.00 | 1.50 | E.3615.0.0140                | 17.00              |
| 1.50  | 12.00 | 38.00 | 2.00 | E.3615.0.0150                | 20.10              |
| 1.60  | 12.00 | 38.00 | 2.00 | E.3615.0.0160                | 20.10              |
| 1.70  | 12.00 | 38.00 | 2.00 | E.3615.0.0170                | 22.40              |
| 1.80  | 12.00 | 38.00 | 2.00 | E.3615.0.0180                | 22.40              |
| 1.90  | 12.00 | 38.00 | 2.00 | E.3615.0.0190                | 22.40              |

### VHM-Kleinstbohrer

#### E.3601.0



Solid carbide micro drills  
 Wiertła miniaturowe z węglika spiekanego  
 Micropunte in MD  
 Microbrocas de metal duro integral



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.93  
Cutting data page 3.93

| d1 h6 | l2   | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|------|-------|-------|------------------------------|--------------------|
| 0.15  | 1.00 | 30.00 | 1.00  | E.3601.0.0015                | 13.80              |
| 0.16  | 1.00 | 30.00 | 1.00  | E.3601.0.0016                | 13.80              |
| 0.17  | 1.00 | 30.00 | 1.00  | E.3601.0.0017                | 13.80              |
| 0.18  | 1.00 | 30.00 | 1.00  | E.3601.0.0018                | 13.80              |
| 0.19  | 1.00 | 30.00 | 1.00  | E.3601.0.0019                | 13.80              |
| 0.20  | 2.00 | 30.00 | 1.00  | E.3601.0.0020                | 13.80              |
| 0.21  | 2.00 | 30.00 | 1.00  | E.3601.0.0021                | 10.90              |
| 0.22  | 2.00 | 30.00 | 1.00  | E.3601.0.0022                | 10.90              |
| 0.23  | 2.00 | 30.00 | 1.00  | E.3601.0.0023                | 10.90              |
| 0.24  | 2.00 | 30.00 | 1.00  | E.3601.0.0024                | 10.90              |
| 0.25  | 2.00 | 30.00 | 1.00  | E.3601.0.0025                | 10.90              |

Fortsetzung nächste Seite / Continued on next page

| d1 h6 | l2   | l1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|------|-------|-------|------------------------------|---------------|---|
| 0.26  | 2.50 | 30.00 | 1.00  | E.3601.0.0026                | 10.90         |   |
| 0.27  | 2.50 | 30.00 | 1.00  | E.3601.0.0027                | 10.90         |   |
| 0.28  | 2.50 | 30.00 | 1.00  | E.3601.0.0028                | 10.90         |   |
| 0.29  | 2.50 | 30.00 | 1.00  | E.3601.0.0029                | 10.90         |   |
| 0.30  | 2.50 | 30.00 | 1.00  | E.3601.0.0030                | 10.90         |   |
| 0.31  | 3.00 | 30.00 | 1.00  | E.3601.0.0031                | 10.90         |   |
| 0.32  | 3.00 | 30.00 | 1.00  | E.3601.0.0032                | 10.90         |   |
| 0.33  | 3.00 | 30.00 | 1.00  | E.3601.0.0033                | 10.90         |   |
| 0.34  | 3.00 | 30.00 | 1.00  | E.3601.0.0034                | 10.90         |   |
| 0.35  | 4.00 | 30.00 | 1.00  | E.3601.0.0035                | 10.90         |   |
| 0.36  | 4.00 | 30.00 | 1.00  | E.3601.0.0036                | 10.00         |   |
| 0.37  | 4.00 | 30.00 | 1.00  | E.3601.0.0037                | 10.00         |   |
| 0.38  | 4.00 | 30.00 | 1.00  | E.3601.0.0038                | 10.00         |   |
| 0.39  | 4.00 | 30.00 | 1.00  | E.3601.0.0039                | 10.00         |   |
| 0.40  | 4.00 | 30.00 | 1.00  | E.3601.0.0040                | 10.00         |   |
| 0.41  | 4.00 | 30.00 | 1.00  | E.3601.0.0041                | 8.00          |   |
| 0.42  | 4.00 | 30.00 | 1.00  | E.3601.0.0042                | 8.00          |   |
| 0.43  | 4.00 | 30.00 | 1.00  | E.3601.0.0043                | 8.00          |   |
| 0.44  | 4.00 | 30.00 | 1.00  | E.3601.0.0044                | 8.00          |   |
| 0.45  | 6.00 | 30.00 | 1.00  | E.3601.0.0045                | 8.00          |   |
| 0.46  | 6.00 | 30.00 | 1.00  | E.3601.0.0046                | 8.00          |   |
| 0.47  | 6.00 | 30.00 | 1.00  | E.3601.0.0047                | 8.00          |   |
| 0.48  | 6.00 | 30.00 | 1.00  | E.3601.0.0048                | 8.00          |   |
| 0.49  | 6.00 | 30.00 | 1.00  | E.3601.0.0049                | 8.00          |   |
| 0.50  | 6.00 | 30.00 | 1.00  | E.3601.0.0050                | 8.00          |   |
| 0.51  | 6.00 | 30.00 | 1.00  | E.3601.0.0051                | 7.30          |   |
| 0.52  | 6.00 | 30.00 | 1.00  | E.3601.0.0052                | 7.30          |   |
| 0.53  | 6.00 | 30.00 | 1.00  | E.3601.0.0053                | 7.30          |   |
| 0.54  | 6.00 | 30.00 | 1.00  | E.3601.0.0054                | 7.30          |   |
| 0.55  | 6.00 | 30.00 | 1.00  | E.3601.0.0055                | 7.30          |   |
| 0.56  | 6.00 | 30.00 | 1.00  | E.3601.0.0056                | 7.30          |   |
| 0.57  | 6.00 | 30.00 | 1.00  | E.3601.0.0057                | 7.30          |   |
| 0.58  | 6.00 | 30.00 | 1.00  | E.3601.0.0058                | 7.30          |   |
| 0.59  | 6.00 | 30.00 | 1.00  | E.3601.0.0059                | 7.30          |   |
| 0.60  | 6.00 | 30.00 | 1.00  | E.3601.0.0060                | 7.30          |   |
| 0.61  | 6.00 | 30.00 | 1.00  | E.3601.0.0061                | 7.30          |   |
| 0.62  | 6.00 | 30.00 | 1.00  | E.3601.0.0062                | 7.30          |   |
| 0.63  | 6.00 | 30.00 | 1.00  | E.3601.0.0063                | 7.30          |   |
| 0.64  | 6.00 | 30.00 | 1.00  | E.3601.0.0064                | 7.30          |   |
| 0.65  | 7.00 | 30.00 | 1.00  | E.3601.0.0065                | 7.30          |   |
| 0.66  | 7.00 | 30.00 | 1.00  | E.3601.0.0066                | 7.30          |   |
| 0.67  | 7.00 | 30.00 | 1.00  | E.3601.0.0067                | 7.30          |   |
| 0.68  | 7.00 | 30.00 | 1.00  | E.3601.0.0068                | 7.30          |   |
| 0.69  | 7.00 | 30.00 | 1.00  | E.3601.0.0069                | 7.30          |   |
| 0.70  | 7.00 | 30.00 | 1.00  | E.3601.0.0070                | 7.30          |   |
| 0.71  | 7.00 | 30.00 | 1.00  | E.3601.0.0071                | 7.30          |   |
| 0.72  | 7.00 | 30.00 | 1.00  | E.3601.0.0072                | 7.30          |   |

Fortsetzung nächste Seite / Continued on next page

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

## Bohrer VHM

### Werksnorm

|                    | d1 h6          | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |  |
|--------------------|----------------|-------|-------|-------|------------------------------|--------------------|--|
| Bohrer<br>HSS/E    | 0.73           | 7.00  | 30.00 | 1.00  | E.3601.0.0073                | 7.30               |  |
|                    | 0.74           | 7.00  | 30.00 | 1.00  | E.3601.0.0074                | 7.30               |  |
|                    | 0.75           | 8.00  | 30.00 | 1.00  | E.3601.0.0075                | 7.30               |  |
| Bohrer<br>VHM      | 0.76           | 8.00  | 30.00 | 1.00  | E.3601.0.0076                | 7.00               |  |
|                    | 0.77           | 8.00  | 30.00 | 1.00  | E.3601.0.0077                | 7.00               |  |
|                    | 0.78           | 8.00  | 30.00 | 1.00  | E.3601.0.0078                | 7.00               |  |
|                    | 0.79           | 8.00  | 30.00 | 1.00  | E.3601.0.0079                | 7.00               |  |
|                    | 0.80           | 8.00  | 30.00 | 1.50  | E.3601.0.0080                | 7.00               |  |
|                    | 0.81           | 8.00  | 30.00 | 1.50  | E.3601.0.0081                | 7.00               |  |
|                    | 0.82           | 8.00  | 30.00 | 1.50  | E.3601.0.0082                | 7.00               |  |
|                    | 0.83           | 8.00  | 30.00 | 1.50  | E.3601.0.0083                | 7.00               |  |
|                    | 0.84           | 8.00  | 30.00 | 1.50  | E.3601.0.0084                | 7.00               |  |
|                    | 0.85           | 8.00  | 30.00 | 1.50  | E.3601.0.0085                | 7.00               |  |
| Reibahlen<br>HSS/E | 0.86           | 8.00  | 30.00 | 1.50  | E.3601.0.0086                | 7.00               |  |
|                    | 0.87           | 8.00  | 30.00 | 1.50  | E.3601.0.0087                | 7.00               |  |
|                    | 0.88           | 8.00  | 30.00 | 1.50  | E.3601.0.0088                | 7.00               |  |
|                    | 0.89           | 8.00  | 30.00 | 1.50  | E.3601.0.0089                | 7.00               |  |
|                    | 0.90           | 8.00  | 30.00 | 1.50  | E.3601.0.0090                | 7.00               |  |
|                    | 0.91           | 8.00  | 30.00 | 1.50  | E.3601.0.0091                | 7.00               |  |
|                    | 0.92           | 8.00  | 30.00 | 1.50  | E.3601.0.0092                | 7.00               |  |
|                    | 0.93           | 8.00  | 30.00 | 1.50  | E.3601.0.0093                | 7.00               |  |
|                    | 0.94           | 8.00  | 30.00 | 1.50  | E.3601.0.0094                | 7.00               |  |
|                    | 0.95           | 10.00 | 30.00 | 1.50  | E.3601.0.0095                | 7.00               |  |
| Reibahlen<br>VHM   | 0.96           | 10.00 | 30.00 | 1.50  | E.3601.0.0096                | 7.00               |  |
|                    | 0.97           | 10.00 | 30.00 | 1.50  | E.3601.0.0097                | 7.00               |  |
|                    | 0.98           | 10.00 | 30.00 | 1.50  | E.3601.0.0098                | 7.00               |  |
|                    | 0.99           | 10.00 | 30.00 | 1.50  | E.3601.0.0099                | 7.00               |  |
|                    | 1.00           | 10.00 | 30.00 | 1.50  | E.3601.0.0100                | 7.00               |  |
|                    | 1.01           | 10.00 | 30.00 | 1.50  | E.3601.0.0101                | 7.00               |  |
|                    | 1.02           | 10.00 | 30.00 | 1.50  | E.3601.0.0102                | 7.00               |  |
|                    | 1.03           | 10.00 | 30.00 | 1.50  | E.3601.0.0103                | 7.00               |  |
|                    | 1.04           | 10.00 | 30.00 | 1.50  | E.3601.0.0104                | 7.00               |  |
|                    | 1.05           | 10.00 | 30.00 | 1.50  | E.3601.0.0105                | 7.00               |  |
| Frässtifte<br>HM   | 1.06           | 10.00 | 30.00 | 1.50  | E.3601.0.0106                | 7.00               |  |
|                    | 1.07           | 10.00 | 30.00 | 1.50  | E.3601.0.0107                | 7.00               |  |
|                    | 1.08           | 10.00 | 30.00 | 1.50  | E.3601.0.0108                | 7.00               |  |
|                    | 1.09           | 10.00 | 30.00 | 1.50  | E.3601.0.0109                | 7.00               |  |
|                    | 1.10           | 10.00 | 30.00 | 1.50  | E.3601.0.0110                | 7.00               |  |
|                    | 1.11           | 10.00 | 30.00 | 1.50  | E.3601.0.0111                | 7.00               |  |
|                    | 1.12           | 10.00 | 30.00 | 1.50  | E.3601.0.0112                | 7.00               |  |
|                    | 1.13           | 10.00 | 30.00 | 1.50  | E.3601.0.0113                | 7.00               |  |
|                    | 1.14           | 10.00 | 30.00 | 1.50  | E.3601.0.0114                | 7.00               |  |
|                    | 1.15           | 12.00 | 30.00 | 1.50  | E.3601.0.0115                | 7.00               |  |
| Fräser<br>VHM      | 1.16           | 12.00 | 30.00 | 1.50  | E.3601.0.0116                | 7.00               |  |
|                    | 1.17           | 12.00 | 30.00 | 1.50  | E.3601.0.0117                | 7.00               |  |
|                    | 1.18           | 12.00 | 30.00 | 1.50  | E.3601.0.0118                | 7.00               |  |
|                    | 1.19           | 12.00 | 30.00 | 1.50  | E.3601.0.0119                | 7.00               |  |
|                    | Fräser<br>HSSE |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
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|                    |                |       |       |       |                              |                    |  |
| Spannmittel        |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
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|                    |                |       |       |       |                              |                    |  |
| Sägen              |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
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|                    |                |       |       |       |                              |                    |  |
| Lehren             |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
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|                    |                |       |       |       |                              |                    |  |
| Technik            |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |
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|                    |                |       |       |       |                              |                    |  |
|                    |                |       |       |       |                              |                    |  |

Fortsetzung nächste Seite / Continued on next page



| d1 h6 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|-------|-------|------------------------------|--------------------|
| 1.20  | 12.00 | 30.00 | 1.50  | E.3601.0.0120                | 7.00               |
| 1.21  | 12.00 | 30.00 | 1.50  | E.3601.0.0121                | 7.40               |
| 1.22  | 12.00 | 30.00 | 1.50  | E.3601.0.0122                | 7.40               |
| 1.23  | 12.00 | 30.00 | 1.50  | E.3601.0.0123                | 7.40               |
| 1.24  | 12.00 | 30.00 | 1.50  | E.3601.0.0124                | 7.40               |
| 1.25  | 12.00 | 30.00 | 1.50  | E.3601.0.0125                | 7.40               |
| 1.26  | 12.00 | 30.00 | 1.50  | E.3601.0.0126                | 7.40               |
| 1.27  | 12.00 | 30.00 | 1.50  | E.3601.0.0127                | 7.40               |
| 1.28  | 12.00 | 30.00 | 1.50  | E.3601.0.0128                | 7.40               |
| 1.29  | 12.00 | 30.00 | 1.50  | E.3601.0.0129                | 7.40               |
| 1.30  | 12.00 | 30.00 | 1.50  | E.3601.0.0130                | 7.40               |
| 1.31  | 12.00 | 30.00 | 1.50  | E.3601.0.0131                | 7.40               |
| 1.32  | 12.00 | 30.00 | 1.50  | E.3601.0.0132                | 7.40               |
| 1.33  | 12.00 | 30.00 | 1.50  | E.3601.0.0133                | 7.40               |
| 1.34  | 12.00 | 30.00 | 1.50  | E.3601.0.0134                | 7.40               |
| 1.35  | 12.00 | 30.00 | 1.50  | E.3601.0.0135                | 7.40               |
| 1.36  | 12.00 | 30.00 | 1.50  | E.3601.0.0136                | 7.40               |
| 1.37  | 12.00 | 30.00 | 1.50  | E.3601.0.0137                | 7.40               |
| 1.38  | 12.00 | 30.00 | 1.50  | E.3601.0.0138                | 7.40               |
| 1.39  | 12.00 | 30.00 | 1.50  | E.3601.0.0139                | 7.40               |
| 1.40  | 12.00 | 30.00 | 1.50  | E.3601.0.0140                | 7.40               |
| 1.41  | 12.00 | 30.00 | 1.50  | E.3601.0.0141                | 7.40               |
| 1.42  | 12.00 | 30.00 | 1.50  | E.3601.0.0142                | 7.40               |
| 1.43  | 12.00 | 30.00 | 1.50  | E.3601.0.0143                | 7.40               |
| 1.44  | 12.00 | 30.00 | 1.50  | E.3601.0.0144                | 7.40               |
| 1.45  | 12.00 | 30.00 | 1.50  | E.3601.0.0145                | 7.40               |
| 1.46  | 12.00 | 30.00 | 1.50  | E.3601.0.0146                | 7.40               |
| 1.47  | 12.00 | 30.00 | 1.50  | E.3601.0.0147                | 7.40               |
| 1.48  | 12.00 | 30.00 | 1.50  | E.3601.0.0148                | 7.40               |
| 1.49  | 12.00 | 30.00 | 1.50  | E.3601.0.0149                | 7.40               |
| 1.50  | 12.00 | 30.00 | 2.00  | E.3601.0.0150                | 7.40               |
| 1.51  | 12.00 | 30.00 | 2.00  | E.3601.0.0151                | 7.40               |
| 1.52  | 12.00 | 30.00 | 2.00  | E.3601.0.0152                | 7.40               |
| 1.53  | 12.00 | 30.00 | 2.00  | E.3601.0.0153                | 7.40               |
| 1.54  | 12.00 | 30.00 | 2.00  | E.3601.0.0154                | 7.40               |
| 1.55  | 12.00 | 30.00 | 2.00  | E.3601.0.0155                | 7.40               |
| 1.56  | 12.00 | 30.00 | 2.00  | E.3601.0.0156                | 7.40               |
| 1.57  | 12.00 | 30.00 | 2.00  | E.3601.0.0157                | 7.40               |
| 1.58  | 12.00 | 30.00 | 2.00  | E.3601.0.0158                | 7.40               |
| 1.59  | 12.00 | 30.00 | 2.00  | E.3601.0.0159                | 7.40               |
| 1.60  | 12.00 | 30.00 | 2.00  | E.3601.0.0160                | 7.40               |
| 1.61  | 12.00 | 30.00 | 2.00  | E.3601.0.0161                | 7.40               |
| 1.62  | 12.00 | 30.00 | 2.00  | E.3601.0.0162                | 7.40               |
| 1.63  | 12.00 | 30.00 | 2.00  | E.3601.0.0163                | 7.40               |
| 1.64  | 12.00 | 30.00 | 2.00  | E.3601.0.0164                | 7.40               |
| 1.65  | 12.00 | 30.00 | 2.00  | E.3601.0.0165                | 7.40               |
| 1.66  | 12.00 | 30.00 | 2.00  | E.3601.0.0166                | 7.40               |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

### Werksnorm

|                       | d1 h6 | l2    | l1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|-------|-------|-------|-------|------------------------------|--------------------|
| Gewinde-<br>schneider | 1.67  | 12.00 | 30.00 | 2.00  | E.3601.0.0167                | 7.40               |
|                       | 1.68  | 12.00 | 30.00 | 2.00  | E.3601.0.0168                | 7.40               |
| Bohrer<br>HSS/E       | 1.69  | 12.00 | 30.00 | 2.00  | E.3601.0.0169                | 7.40               |
|                       | 1.70  | 12.00 | 30.00 | 2.00  | E.3601.0.0170                | 7.40               |
| Bohrer<br>VHM         | 1.71  | 12.00 | 30.00 | 2.00  | E.3601.0.0171                | 7.40               |
|                       | 1.72  | 12.00 | 30.00 | 2.00  | E.3601.0.0172                | 7.40               |
|                       | 1.73  | 12.00 | 30.00 | 2.00  | E.3601.0.0173                | 7.40               |
|                       | 1.74  | 12.00 | 30.00 | 2.00  | E.3601.0.0174                | 7.40               |
|                       | 1.75  | 12.00 | 30.00 | 2.00  | E.3601.0.0175                | 7.40               |
|                       | 1.76  | 12.00 | 30.00 | 2.00  | E.3601.0.0176                | 7.40               |
|                       | 1.77  | 12.00 | 30.00 | 2.00  | E.3601.0.0177                | 7.40               |
|                       | 1.78  | 12.00 | 30.00 | 2.00  | E.3601.0.0178                | 7.40               |
| Reibahlen<br>HSS/E    | 1.79  | 12.00 | 30.00 | 2.00  | E.3601.0.0179                | 7.40               |
|                       | 1.80  | 12.00 | 30.00 | 2.00  | E.3601.0.0180                | 7.40               |
| Reibahlen<br>VHM      | 1.81  | 12.00 | 30.00 | 2.00  | E.3601.0.0181                | 7.40               |
|                       | 1.82  | 12.00 | 30.00 | 2.00  | E.3601.0.0182                | 7.40               |
|                       | 1.83  | 12.00 | 30.00 | 2.00  | E.3601.0.0183                | 7.40               |
|                       | 1.84  | 12.00 | 30.00 | 2.00  | E.3601.0.0184                | 7.40               |
| Frässtifte<br>HM      | 1.85  | 12.00 | 30.00 | 2.00  | E.3601.0.0185                | 7.40               |
|                       | 1.86  | 12.00 | 30.00 | 2.00  | E.3601.0.0186                | 7.40               |
|                       | 1.87  | 12.00 | 30.00 | 2.00  | E.3601.0.0187                | 7.40               |
| Fräser<br>VHM         | 1.88  | 12.00 | 30.00 | 2.00  | E.3601.0.0188                | 7.40               |
|                       | 1.89  | 12.00 | 30.00 | 2.00  | E.3601.0.0189                | 7.40               |
|                       | 1.90  | 12.00 | 30.00 | 2.00  | E.3601.0.0190                | 7.40               |
|                       | 1.91  | 12.00 | 30.00 | 2.00  | E.3601.0.0191                | 7.40               |
| Spannmittel           | 1.92  | 12.00 | 30.00 | 2.00  | E.3601.0.0192                | 7.40               |
|                       | 1.93  | 12.00 | 30.00 | 2.00  | E.3601.0.0193                | 7.40               |
|                       | 1.94  | 12.00 | 30.00 | 2.00  | E.3601.0.0194                | 7.40               |
|                       | 1.95  | 12.00 | 30.00 | 2.00  | E.3601.0.0195                | 7.40               |
|                       | 1.96  | 12.00 | 30.00 | 2.00  | E.3601.0.0196                | 7.40               |
| Fräser<br>HSSE        | 1.97  | 12.00 | 30.00 | 2.00  | E.3601.0.0197                | 7.40               |
|                       | 1.98  | 12.00 | 30.00 | 2.00  | E.3601.0.0198                | 7.40               |
|                       | 1.99  | 12.00 | 30.00 | 2.00  | E.3601.0.0199                | 7.40               |
|                       | 2.00  | 12.00 | 30.00 | 2.50  | E.3601.0.0200                | 7.40               |
| Sägen                 |       |       |       |       |                              |                    |
| Lehren                |       |       |       |       |                              |                    |
| Technik               |       |       |       |       |                              |                    |

## VHM-Spiralbohrer

E.3605.0



Solid carbide twist drills  
 Wiertła skrotne z weglika spiekanego  
 Punte in MD  
 Brocas de metal duro integral



Schnittwerte Seite 3.94  
 Cutting data page 3.94

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1    | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|-------|---------------------------|---------------|---|
| 0.30* |                    |                            | 4.00  | 28.00 | E.3605.0.0030             | 6.40          |   |
| 0.35* |                    |                            | 5.00  | 30.00 | E.3605.0.0035             | 6.40          |   |
| 0.40* |                    |                            | 5.00  | 30.00 | E.3605.0.0040             | 6.40          |   |
| 0.50  |                    |                            | 5.00  | 30.00 | E.3605.0.0050             | 4.50          |   |
| 0.55  |                    |                            | 5.00  | 30.00 | E.3605.0.0055             | 4.50          |   |
| 0.60  |                    |                            | 5.50  | 30.00 | E.3605.0.0060             | 4.50          |   |
| 0.65  |                    |                            | 6.00  | 30.00 | E.3605.0.0065             | 4.50          |   |
| 0.70  |                    |                            | 6.00  | 30.00 | E.3605.0.0070             | 4.50          |   |
| 0.75  |                    |                            | 8.00  | 30.00 | E.3605.0.0075             | 4.50          |   |
| 0.80  |                    |                            | 8.00  | 30.00 | E.3605.0.0080             | 4.50          |   |
| 0.85  |                    |                            | 9.00  | 30.00 | E.3605.0.0085             | 4.50          |   |
| 0.90  |                    |                            | 9.00  | 30.00 | E.3605.0.0090             | 4.50          |   |
| 0.95  |                    |                            | 10.00 | 30.00 | E.3605.0.0095             | 4.50          |   |
| 1.00  |                    |                            | 6.00  | 26.00 | E.3605.0.0100             | 3.90          |   |
| 1.05  |                    |                            | 10.00 | 30.00 | E.3605.0.0105             | 4.50          |   |
| 1.10  |                    |                            | 7.00  | 28.00 | E.3605.0.0110             | 4.40          |   |
| 1.15  |                    |                            | 12.00 | 30.00 | E.3605.0.0115             | 4.50          |   |
| 1.20  |                    |                            | 8.00  | 30.00 | E.3605.0.0120             | 4.40          |   |
| 1.25  |                    |                            | 12.00 | 30.00 | E.3605.0.0125             | 4.50          |   |
| 1.30  |                    |                            | 8.00  | 30.00 | E.3605.0.0130             | 4.40          |   |
| 1.35  |                    |                            | 12.00 | 30.00 | E.3605.0.0135             | 4.50          |   |
| 1.40  |                    |                            | 9.00  | 32.00 | E.3605.0.0140             | 4.40          |   |
| 1.45  |                    |                            | 12.00 | 32.00 | E.3605.0.0145             | 4.50          |   |
| 1.50  |                    |                            | 9.00  | 32.00 | E.3605.0.0150             | 4.20          |   |
| 1.55  |                    |                            | 16.00 | 40.00 | E.3605.0.0155             | 4.70          |   |
| 1.60  |                    |                            | 10.00 | 34.00 | E.3605.0.0160             | 5.20          |   |
| 1.65  |                    |                            | 16.00 | 40.00 | E.3605.0.0165             | 5.20          |   |
| 1.70  |                    |                            | 10.00 | 34.00 | E.3605.0.0170             | 5.20          |   |
| 1.75  |                    |                            | 16.00 | 40.00 | E.3605.0.0175             | 5.20          |   |
| 1.80  |                    |                            | 11.00 | 36.00 | E.3605.0.0180             | 5.20          |   |
| 1.85  |                    |                            | 11.00 | 36.00 | E.3605.0.0185             | 5.20          |   |
| 1.90  |                    |                            | 11.00 | 36.00 | E.3605.0.0190             | 5.20          |   |
| 1.95  |                    |                            | 16.00 | 40.00 | E.3605.0.0195             | 5.20          |   |
| 2.00  |                    |                            | 12.00 | 38.00 | E.3605.0.0200             | 5.10          |   |
| 2.04* |                    |                            | 12.00 | 38.00 | E.3605.0.0204             | 6.00          |   |
| 2.05  |                    |                            | 18.00 | 40.00 | E.3605.0.0205             | 5.40          |   |
| 2.10  |                    |                            | 12.00 | 38.00 | E.3605.0.0210             | 5.10          |   |
| 2.15  |                    |                            | 18.00 | 40.00 | E.3605.0.0215             | 5.40          |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

### Werksnorm

|                       | d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I2    | I1    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|-------|-----------------------|-------------------------------|-------|-------|------------------------------|--------------------|
| Gewinde-<br>schneider | 2.20  |                       |                               | 13.00 | 40.00 | E.3605.0.0220                | 5.10               |
|                       | 2.25  |                       |                               | 18.00 | 40.00 | E.3605.0.0225                | 5.40               |
|                       | 2.30  |                       |                               | 13.00 | 40.00 | E.3605.0.0230                | 5.10               |
|                       | 2.35  |                       |                               | 18.00 | 40.00 | E.3605.0.0235                | 5.40               |
|                       | 2.40  |                       |                               | 14.00 | 43.00 | E.3605.0.0240                | 5.10               |
| Bohrer<br>HSS/E       | 2.45  |                       |                               | 18.00 | 40.00 | E.3605.0.0245                | 5.40               |
|                       | 2.50  |                       |                               | 14.00 | 43.00 | E.3605.0.0250                | 4.90               |
|                       | 2.52* |                       |                               | 17.00 | 43.00 | E.3605.0.0252                | 8.00               |
|                       | 2.55  |                       |                               | 18.00 | 45.00 | E.3605.0.0255                | 7.90               |
|                       | 2.60  |                       |                               | 14.00 | 43.00 | E.3605.0.0260                | 5.10               |
| Reibahlen<br>HSS/E    | 2.65  |                       |                               | 18.00 | 45.00 | E.3605.0.0265                | 7.90               |
|                       | 2.70  |                       |                               | 16.00 | 46.00 | E.3605.0.0270                | 7.50               |
|                       | 2.75  |                       |                               | 18.00 | 45.00 | E.3605.0.0275                | 7.90               |
|                       | 2.80  |                       | M 3                           | 16.00 | 46.00 | E.3605.0.0280                | 7.50               |
|                       | 2.85  |                       |                               | 18.00 | 45.00 | E.3605.0.0285                | 7.90               |
| Reibahlen<br>VHM      | 2.90  | M 3,5                 | M 3 x 0,25                    | 16.00 | 46.00 | E.3605.0.0290                | 7.50               |
|                       | 2.95  |                       |                               | 18.00 | 45.00 | E.3605.0.0295                | 7.90               |
|                       | 3.00  |                       |                               | 16.00 | 46.00 | E.3605.0.0300                | 6.90               |
|                       | 3.05  |                       |                               | 18.00 | 49.00 | E.3605.0.0305                | 11.00              |
|                       | 3.10  |                       |                               | 18.00 | 49.00 | E.3605.0.0310                | 7.50               |
| Frässtifte<br>HM      | 3.15  | M 3,5 x 0,35          |                               | 22.00 | 50.00 | E.3605.0.0315                | 13.10              |
|                       | 3.20  |                       |                               | 18.00 | 49.00 | E.3605.0.0320                | 7.50               |
|                       | 3.25  |                       | M 3,5                         | 22.00 | 50.00 | E.3605.0.0325                | 13.10              |
|                       | 3.30  | M 4                   | M 3,5 x 0,5                   | 18.00 | 49.00 | E.3605.0.0330                | 7.50               |
|                       | 3.35  |                       |                               | 22.00 | 50.00 | E.3605.0.0335                | 13.10              |
| Fräser<br>VHM         | 3.40  |                       |                               | 20.00 | 52.00 | E.3605.0.0340                | 7.80               |
|                       | 3.45  |                       |                               | 22.00 | 50.00 | E.3605.0.0345                | 11.60              |
|                       | 3.50  | M 4 x 0,5             |                               | 20.00 | 52.00 | E.3605.0.0350                | 7.60               |
|                       | 3.55  |                       |                               | 22.00 | 50.00 | E.3605.0.0355                | 13.60              |
|                       | 3.60  |                       |                               | 20.00 | 52.00 | E.3605.0.0360                | 8.50               |
| Spannmittel           | 3.65  | M 4 x 0,35            |                               | 22.00 | 50.00 | E.3605.0.0365                | 13.60              |
|                       | 3.70  | M 4,5                 | M 4                           | 20.00 | 52.00 | E.3605.0.0370                | 8.50               |
|                       | 3.75  |                       |                               | 22.00 | 50.00 | E.3605.0.0375                | 15.60              |
|                       | 3.80  |                       | M 4 x 0,5                     | 22.00 | 55.00 | E.3605.0.0380                | 9.30               |
|                       | 3.85  |                       |                               | 22.00 | 50.00 | E.3605.0.0385                | 18.10              |
| Fräser<br>HSSE        | 3.90  |                       |                               | 22.00 | 55.00 | E.3605.0.0390                | 9.30               |
|                       | 3.90  |                       |                               | 22.00 | 50.00 | E.3605.0.0395                | 18.10              |
|                       | 4.00  | M 4,5 x 0,5           |                               | 22.00 | 55.00 | E.3605.0.0400                | 9.00               |
|                       | 4.05  |                       |                               | 25.00 | 50.00 | E.3605.0.0405                | 18.10              |
|                       | 4.10  |                       |                               | 22.00 | 55.00 | E.3605.0.0410                | 10.20              |
| Sägen                 | 4.15  |                       |                               | 25.00 | 60.00 | E.3605.0.0415                | 19.60              |
|                       | 4.20  | M 5                   | M 4,5                         | 22.00 | 55.00 | E.3605.0.0420                | 9.80               |
|                       | 4.25  |                       |                               | 25.00 | 60.00 | E.3605.0.0425                | 19.60              |
|                       | 4.30  |                       | M 4,5 x 0,5                   | 24.00 | 58.00 | E.3605.0.0430                | 10.20              |
|                       | 4.35  |                       |                               | 25.00 | 60.00 | E.3605.0.0435                | 21.00              |
| Lehren                | 4.40  |                       |                               | 24.00 | 58.00 | E.3605.0.0440                | 10.20              |
|                       | 4.45  |                       |                               | 25.00 | 60.00 | E.3605.0.0445                | 21.00              |
|                       | 4.45  |                       |                               | 25.00 | 60.00 | E.3605.0.0445                | 21.00              |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l2    | l1    | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|-------|------------------------------|---------------|---|
| 4.50  | M 5 x 0,5             |                               | 24.00 | 58.00 | E.3605.0.0450                | 9.80          |   |
| 4.55  |                       |                               | 25.00 | 60.00 | E.3605.0.0455                | 21.00         |   |
| 4.60  |                       |                               | 24.00 | 58.00 | E.3605.0.0460                | 10.20         |   |
| 4.65  |                       | M 5                           | 25.00 | 60.00 | E.3605.0.0465                | 21.00         |   |
| 4.70  |                       | M 5 x 0,75                    | 24.00 | 58.00 | E.3605.0.0470                | 10.80         |   |
| 4.75  |                       |                               | 26.00 | 60.00 | E.3605.0.0475                | 21.00         |   |
| 4.80  |                       | M 5 x 0,5                     | 26.00 | 62.00 | E.3605.0.0480                | 10.80         |   |
| 4.85  |                       |                               | 26.00 | 60.00 | E.3605.0.0485                | 21.00         |   |
| 4.90  |                       |                               | 26.00 | 62.00 | E.3605.0.0490                | 10.80         |   |
| 4.95  |                       |                               | 26.00 | 60.00 | E.3605.0.0495                | 22.50         |   |
| 5.00  | M 6 / M5,5 x 0,5      |                               | 26.00 | 62.00 | E.3605.0.0500                | 10.80         |   |
| 5.05  |                       |                               | 26.00 | 60.00 | E.3605.0.0505                | 24.00         |   |
| 5.10  |                       |                               | 26.00 | 62.00 | E.3605.0.0510                | 18.30         |   |
| 5.15  |                       |                               | 26.00 | 60.00 | E.3605.0.0515                | 24.00         |   |
| 5.20  | M 6 x 0,75            |                               | 26.00 | 62.00 | E.3605.0.0520                | 18.30         |   |
| 5.25  |                       |                               | 26.00 | 60.00 | E.3605.0.0525                | 24.00         |   |
| 5.30  |                       | M 5,5 x 0,5                   | 26.00 | 62.00 | E.3605.0.0530                | 18.30         |   |
| 5.35  |                       |                               | 28.00 | 60.00 | E.3605.0.0535                | 25.20         |   |
| 5.40  |                       |                               | 28.00 | 66.00 | E.3605.0.0540                | 20.50         |   |
| 5.45  |                       |                               | 28.00 | 60.00 | E.3605.0.0545                | 25.20         |   |
| 5.50  |                       | M 6 x 0,5                     | 28.00 | 66.00 | E.3605.0.0550                | 13.90         |   |
| 5.55  |                       |                               | 28.00 | 60.00 | E.3605.0.0555                | 25.20         |   |
| 5.60  |                       | M 6                           | 28.00 | 66.00 | E.3605.0.0560                | 20.20         |   |
| 5.65  |                       |                               | 28.00 | 60.00 | E.3605.0.0565                | 25.70         |   |
| 5.70  |                       | M 6 x 0,75                    | 28.00 | 66.00 | E.3605.0.0570                | 20.20         |   |
| 5.75  |                       |                               | 28.00 | 60.00 | E.3605.0.0575                | 26.20         |   |
| 5.80  |                       | M 6 x 0,5                     | 28.00 | 66.00 | E.3605.0.0580                | 18.10         |   |
| 5.85  |                       |                               | 28.00 | 60.00 | E.3605.0.0585                | 26.20         |   |
| 5.90  |                       |                               | 28.00 | 66.00 | E.3605.0.0590                | 20.20         |   |
| 5.95  |                       |                               | 28.00 | 60.00 | E.3605.0.0595                | 26.20         |   |
| 6.00  | M 7                   |                               | 28.00 | 66.00 | E.3605.0.0600                | 14.20         |   |
| 6.05* |                       |                               | 31.00 | 70.00 | E.3605.0.0605                | 22.88         |   |
| 6.10  |                       |                               | 31.00 | 70.00 | E.3605.0.0610                | 23.40         |   |
| 6.20  | M 7 x 0,75            |                               | 31.00 | 70.00 | E.3605.0.0620                | 23.40         |   |
| 6.30  |                       |                               | 31.00 | 70.00 | E.3605.0.0630                | 23.40         |   |
| 6.40  |                       |                               | 31.00 | 70.00 | E.3605.0.0640                | 23.40         |   |
| 6.50  |                       |                               | 31.00 | 70.00 | E.3605.0.0650                | 17.90         |   |
| 6.60  |                       |                               | 31.00 | 70.00 | E.3605.0.0660                | 26.30         |   |
| 6.70  |                       |                               | 31.00 | 70.00 | E.3605.0.0670                | 26.30         |   |
| 6.80  | M 8                   | M 7 x 0,5                     | 34.00 | 74.00 | E.3605.0.0680                | 22.50         |   |
| 6.90  |                       |                               | 34.00 | 74.00 | E.3605.0.0690                | 26.30         |   |
| 7.00  | M 8 x 1               |                               | 34.00 | 74.00 | E.3605.0.0700                | 22.40         |   |
| 7.10  |                       |                               | 34.00 | 74.00 | E.3605.0.0710                | 28.60         |   |
| 7.20  | M 8 x 0,75            |                               | 34.00 | 74.00 | E.3605.0.0720                | 28.60         |   |
| 7.30  |                       |                               | 34.00 | 74.00 | E.3605.0.0730                | 28.60         |   |
| 7.40  |                       |                               | 34.00 | 74.00 | E.3605.0.0740                | 28.60         |   |
| 7.50  | M 8 x 0,5             |                               | 34.00 | 74.00 | E.3605.0.0750                | 26.00         |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

## Bohrer VHM

### Werksnorm

|                       | d1 h6  | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I2    | I1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|--------|-----------------------|-------------------------------|-------|--------|------------------------------|--------------------|
| Gewinde-<br>schneider | 7.60   |                       | M 8 x 1                       | 37.00 | 79.00  | E.3605.0.0760                | 33.80              |
|                       | 7.70   |                       | M 8 x 0,75                    | 37.00 | 79.00  | E.3605.0.0770                | 33.80              |
| Bohrer<br>HSS/E       | 7.80   | M 9                   | M 8 x 0,5                     | 37.00 | 79.00  | E.3605.0.0780                | 33.80              |
|                       | 7.90   |                       |                               | 37.00 | 79.00  | E.3605.0.0790                | 29.90              |
| Bohrer<br>VHM         | 8.00   |                       | M 9 x 1                       | 37.00 | 79.00  | E.3605.0.0800                | 28.80              |
|                       | 8.10   |                       |                               | 37.00 | 79.00  | E.3605.0.0810                | 38.10              |
|                       | 8.20   | M 9 x 0,75            |                               | 37.00 | 79.00  | E.3605.0.0820                | 38.10              |
|                       | 8.30   |                       |                               | 37.00 | 79.00  | E.3605.0.0830                | 38.10              |
|                       | 8.40   |                       |                               | 37.00 | 79.00  | E.3605.0.0840                | 38.10              |
| Reibahlen<br>HSS/E    | 8.50   | M 10                  |                               | 37.00 | 79.00  | E.3605.0.0850                | 38.10              |
|                       | 8.60   |                       | M 9 x 1                       | 40.00 | 84.00  | E.3605.0.0860                | 41.50              |
|                       | 8.70   |                       | M 9 x 0,75                    | 40.00 | 84.00  | E.3605.0.0870                | 43.00              |
|                       | 8.80   | M 10 x 1,25           | M 9 x 0,5                     | 40.00 | 84.00  | E.3605.0.0880                | 43.00              |
|                       | 8.90   |                       |                               | 40.00 | 84.00  | E.3605.0.0890                | 41.50              |
| Reibahlen<br>VHM      | 9.00   | M 10 x 1              |                               | 40.00 | 84.00  | E.3605.0.0900                | 43.00              |
|                       | 9.10   |                       |                               | 40.00 | 84.00  | E.3605.0.0910                | 41.50              |
|                       | 9.20   | M 10 x 0,75           |                               | 40.00 | 84.00  | E.3605.0.0920                | 43.00              |
|                       | 9.30   |                       |                               | 40.00 | 84.00  | E.3605.0.0930                | 43.00              |
|                       | 9.40   |                       |                               | 40.00 | 84.00  | E.3605.0.0940                | 43.00              |
| Frässtifte<br>HM      | 9.50   | M 11                  |                               | 40.00 | 84.00  | E.3605.0.0950                | 43.00              |
|                       | 9.60   |                       | M 10 x 1                      | 43.00 | 89.00  | E.3605.0.0960                | 47.30              |
| Fräser<br>VHM         | 9.70   |                       | M 10 x 0,75                   | 43.00 | 89.00  | E.3605.0.0970                | 49.10              |
|                       | 9.80   |                       | M 10 x 0,5                    | 43.00 | 89.00  | E.3605.0.0980                | 49.10              |
|                       | 9.90   |                       |                               | 43.00 | 89.00  | E.3605.0.0990                | 49.10              |
|                       | 10.00  | M 11 x 1              |                               | 43.00 | 89.00  | E.3605.0.1000                | 51.80              |
|                       | 10.20  | M 12 / M11 x 0,75     |                               | 43.00 | 89.00  | E.3605.0.1020                | 50.10              |
| Spannmittel           | 10.50  | M 12 x 1,5            |                               | 43.00 | 89.00  | E.3605.0.1050                | 50.10              |
|                       | 10.80  | M 12 x 1,25           |                               | 47.00 | 95.00  | E.3605.0.1080                | 61.60              |
|                       | 11.00  | M 12 x 1              |                               | 47.00 | 95.00  | E.3605.0.1100                | 57.10              |
|                       | 11.20  |                       |                               | 47.00 | 95.00  | E.3605.0.1120                | 67.80              |
|                       | 11.30* |                       |                               | 47.00 | 95.00  | E.3605.0.1130                | 72.00              |
| Fräser<br>HSSE        | 11.50  |                       |                               | 47.00 | 95.00  | E.3605.0.1150                | 64.90              |
|                       | 11.80  |                       |                               | 47.00 | 95.00  | E.3605.0.1180                | 75.50              |
|                       | 12.00  | M 14                  |                               | 51.00 | 102.00 | E.3605.0.1200                | 62.60              |
|                       | 12.20* |                       |                               | 51.00 | 102.00 | E.3605.0.1220                | 80,20              |
|                       | 12.50  | M 14 x 1,5            |                               | 51.00 | 102.00 | E.3605.0.1250                | 86.30              |
| Sägen                 | 12.70  |                       |                               | 51.00 | 102.00 | E.3605.0.1270                | 93.80              |
|                       | 12.80  | M 14 x 1,25           |                               | 51.00 | 102.00 | E.3605.0.1280                | 89.40              |
|                       | 13.00  | M 14 x 1              |                               | 51.00 | 102.00 | E.3605.0.1300                | 97.50              |
|                       | 13.50  |                       |                               | 54.00 | 107.00 | E.3605.0.1350                | 92.40              |
|                       | 14.00  | M 16 / M15x1          |                               | 54.00 | 107.00 | E.3605.0.1400                | 97.40              |
| Lehren                | 14.50  | M 16 x 1,5            |                               | 56.00 | 111.00 | E.3605.0.1450                | 104.80             |
|                       | 15.00  | M 16 x 1              |                               | 56.00 | 111.00 | E.3605.0.1500                | 113.40             |
|                       | 16.00  | M 18 x 2              |                               | 58.00 | 115.00 | E.3605.0.1600                | 144.00             |
| Technik               | 16.50* |                       |                               | 60.00 | 119.00 | E.3605.0.1650                | 106.00             |
|                       | 18.00* |                       |                               | 62.00 | 123.00 | E.3605.0.1800                | 128.00             |
|                       | 20.00* |                       |                               | 66.00 | 131.00 | E.3605.0.2000                | 130.00             |

\* = Auslaufartikel / obsolete article



## VHM-Spiralbohrer links ähnl. DIN 1897 (6539)

E.3677.0



Solid carbide twist drills, left hand cutting, sim. to DIN 1897 (6539)

Wiertła lewoskrętne z węglika spiekaneego, odpowiednik wiertel wg DIN 1897 (6539)

Punta in MD simile DIN 1897 (6539) elica sinistra

Brocas de metal duro integral, izquierdas, sim. DIN 1897 (6539)



Schnittwerte Seite 3.94  
Cutting data page 3.94

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1    | Artikelnummer Article-No. | € Stück / piece |
|-------|--------------------|----------------------------|-------|-------|---------------------------|-----------------|
| 0.30  |                    |                            | 4.00  | 30.00 | E.3677.0.0030             | 9.10            |
| 0.35  |                    |                            | 4.00  | 30.00 | E.3677.0.0035             | 9.10            |
| 0.40  |                    |                            | 6.00  | 30.00 | E.3677.0.0040             | 9.10            |
| 0.45  |                    |                            | 6.00  | 30.00 | E.3677.0.0045             | 9.10            |
| 0.50  |                    |                            | 6.00  | 30.00 | E.3677.0.0050             | 9.10            |
| 0.55  |                    |                            | 6.00  | 30.00 | E.3677.0.0055             | 9.10            |
| 0.60  |                    |                            | 6.00  | 30.00 | E.3677.0.0060             | 9.10            |
| 0.65  |                    |                            | 6.00  | 30.00 | E.3677.0.0065             | 9.10            |
| 0.70  |                    |                            | 6.00  | 30.00 | E.3677.0.0070             | 9.10            |
| 0.75  |                    |                            | 8.00  | 30.00 | E.3677.0.0075             | 9.10            |
| 0.80  |                    |                            | 8.00  | 30.00 | E.3677.0.0080             | 9.10            |
| 0.85  |                    |                            | 8.00  | 30.00 | E.3677.0.0085             | 9.10            |
| 0.90  |                    |                            | 9.00  | 30.00 | E.3677.0.0090             | 9.10            |
| 0.95  |                    |                            | 9.00  | 30.00 | E.3677.0.0095             | 9.10            |
| 1.00  |                    |                            | 10.00 | 30.00 | E.3677.0.0100             | 8.30            |
| 1.05  |                    |                            | 10.00 | 30.00 | E.3677.0.0105             | 8.30            |
| 1.10  |                    |                            | 10.00 | 30.00 | E.3677.0.0110             | 8.30            |
| 1.15  |                    |                            | 10.00 | 30.00 | E.3677.0.0115             | 8.30            |
| 1.20  |                    |                            | 12.00 | 30.00 | E.3677.0.0120             | 8.30            |
| 1.25  |                    |                            | 12.00 | 30.00 | E.3677.0.0125             | 8.30            |
| 1.30  |                    |                            | 12.00 | 30.00 | E.3677.0.0130             | 8.30            |
| 1.35  |                    |                            | 12.00 | 30.00 | E.3677.0.0135             | 8.30            |
| 1.40  |                    |                            | 12.00 | 30.00 | E.3677.0.0140             | 8.30            |
| 1.45  |                    |                            | 12.00 | 30.00 | E.3677.0.0145             | 8.30            |
| 1.50  |                    |                            | 12.00 | 30.00 | E.3677.0.0150             | 8.30            |
| 1.55  |                    |                            | 16.00 | 40.00 | E.3677.0.0155             | 8.50            |
| 1.60  |                    |                            | 16.00 | 40.00 | E.3677.0.0160             | 8.50            |
| 1.65  |                    |                            | 16.00 | 40.00 | E.3677.0.0165             | 8.50            |
| 1.70  |                    |                            | 16.00 | 40.00 | E.3677.0.0170             | 8.50            |
| 1.75  |                    |                            | 16.00 | 40.00 | E.3677.0.0175             | 8.50            |
| 1.80  |                    |                            | 16.00 | 40.00 | E.3677.0.0180             | 8.50            |
| 1.85  |                    |                            | 16.00 | 40.00 | E.3677.0.0185             | 8.50            |
| 1.90  |                    |                            | 16.00 | 40.00 | E.3677.0.0190             | 9.50            |
| 1.95  |                    |                            | 16.00 | 40.00 | E.3677.0.0195             | 9.50            |
| 2.00  |                    |                            | 18.00 | 40.00 | E.3677.0.0200             | 9.50            |

Fortsetzung nächste Seite / Continued on next page

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

## Bohrer VHM

### Werksnorm

|                    | d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I2    | I1    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|-------|-----------------------|-------------------------------|-------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 2.05  |                       |                               | 18.00 | 40.00 | E.3677.0.0205                | 9.50               |
|                    | 2.10  |                       |                               | 18.00 | 40.00 | E.3677.0.0210                | 9.50               |
|                    | 2.15  |                       |                               | 18.00 | 40.00 | E.3677.0.0215                | 9.50               |
|                    | 2.20  |                       |                               | 18.00 | 40.00 | E.3677.0.0220                | 9.50               |
|                    | 2.25  |                       |                               | 18.00 | 40.00 | E.3677.0.0225                | 9.50               |
| Bohrer<br>VHM      | 2.30  |                       |                               | 18.00 | 40.00 | E.3677.0.0230                | 9.50               |
|                    | 2.35  |                       |                               | 18.00 | 40.00 | E.3677.0.0235                | 9.80               |
|                    | 2.40  |                       |                               | 18.00 | 40.00 | E.3677.0.0240                | 9.80               |
|                    | 2.45  |                       |                               | 18.00 | 40.00 | E.3677.0.0245                | 9.80               |
|                    | 2.50  |                       |                               | 18.00 | 40.00 | E.3677.0.0250                | 9.80               |
| Reibahlen<br>HSS/E | 2.55  |                       |                               | 18.00 | 40.00 | E.3677.0.0255                | 11.00              |
|                    | 2.60  |                       |                               | 18.00 | 40.00 | E.3677.0.0260                | 11.00              |
|                    | 2.65  |                       |                               | 18.00 | 40.00 | E.3677.0.0265                | 11.00              |
|                    | 2.70  |                       |                               | 20.00 | 50.00 | E.3677.0.0270                | 11.60              |
|                    | 2.75  |                       |                               | 20.00 | 50.00 | E.3677.0.0275                | 11.60              |
| Reibahlen<br>VHM   | 2.80  |                       | M 3                           | 20.00 | 50.00 | E.3677.0.0280                | 11.60              |
|                    | 2.85  |                       |                               | 20.00 | 50.00 | E.3677.0.0285                | 11.60              |
|                    | 2.90  | M 3,5                 | M 3 x 0,25                    | 20.00 | 50.00 | E.3677.0.0290                | 11.60              |
|                    | 2.95  |                       |                               | 20.00 | 50.00 | E.3677.0.0295                | 11.60              |
|                    | 3.00  |                       |                               | 20.00 | 50.00 | E.3677.0.0300                | 11.60              |
| Frässtifte<br>HM   | 3.05  |                       |                               | 22.00 | 50.00 | E.3677.0.0305                | 12.50              |
|                    | 3.10  |                       |                               | 22.00 | 50.00 | E.3677.0.0310                | 12.50              |
|                    | 3.15  | M 3,5 x 0,35          |                               | 22.00 | 50.00 | E.3677.0.0315                | 13.50              |
|                    | 3.20  |                       |                               | 22.00 | 50.00 | E.3677.0.0320                | 13.50              |
|                    | 3.25  |                       | M 3,5                         | 22.00 | 50.00 | E.3677.0.0325                | 13.50              |
| Fräser<br>VHM      | 3.30  | M 4                   | M 3,5 x 0,5                   | 22.00 | 50.00 | E.3677.0.0330                | 13.50              |
|                    | 3.35  |                       |                               | 22.00 | 50.00 | E.3677.0.0335                | 13.50              |
|                    | 3.40  |                       |                               | 22.00 | 50.00 | E.3677.0.0340                | 13.50              |
|                    | 3.45  |                       |                               | 22.00 | 50.00 | E.3677.0.0345                | 13.50              |
|                    | 3.50  | M 4 x 0,5             |                               | 22.00 | 50.00 | E.3677.0.0350                | 13.50              |
| Spannmittel        | 3.55  |                       |                               | 22.00 | 50.00 | E.3677.0.0355                | 14.50              |
|                    | 3.60  |                       |                               | 22.00 | 50.00 | E.3677.0.0360                | 14.50              |
|                    | 3.65  | M 4 x 0,35            |                               | 22.00 | 50.00 | E.3677.0.0365                | 14.50              |
|                    | 3.70  | M 4,5                 | M 4                           | 22.00 | 50.00 | E.3677.0.0370                | 19.60              |
|                    | 3.75  |                       |                               | 22.00 | 50.00 | E.3677.0.0375                | 19.60              |
| Fräser<br>HSSE     | 3.80  |                       | M 4 x 0,5                     | 22.00 | 50.00 | E.3677.0.0380                | 19.60              |
|                    | 3.85  |                       |                               | 22.00 | 50.00 | E.3677.0.0385                | 19.60              |
|                    | 3.90  |                       |                               | 22.00 | 50.00 | E.3677.0.0390                | 19.60              |
|                    | 3.95  |                       |                               | 22.00 | 50.00 | E.3677.0.0395                | 19.60              |
|                    | 4.00  | M 4,5 x 0,5           |                               | 22.00 | 50.00 | E.3677.0.0400                | 19.60              |
| Sägen              | 4.05  |                       |                               | 25.00 | 50.00 | E.3677.0.0405                | 19.60              |
|                    | 4.10  |                       |                               | 25.00 | 50.00 | E.3677.0.0410                | 19.60              |
|                    | 4.15  |                       |                               | 25.00 | 60.00 | E.3677.0.0415                | 21.10              |
|                    | 4.20  | M 5                   | M 4,5                         | 25.00 | 60.00 | E.3677.0.0420                | 21.10              |
|                    | 4.25  |                       |                               | 25.00 | 60.00 | E.3677.0.0425                | 21.10              |
| Lehren             | 4.30  |                       | M 4,5 x 0,5                   | 25.00 | 60.00 | E.3677.0.0430                | 21.10              |
|                    | 4.35  |                       |                               | 25.00 | 60.00 | E.3677.0.0435                | 21.90              |
|                    | 4.35  |                       |                               | 25.00 | 60.00 | E.3677.0.0435                | 21.90              |

Fortsetzung nächste Seite / Continued on next page

| d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l2    | l1    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|-------|-------|------------------------------|--------------------|
| 4.40  |                       |                               | 25.00 | 60.00 | E.3677.0.0440                | 21.90              |
| 4.45  |                       |                               | 25.00 | 60.00 | E.3677.0.0445                | 21.90              |
| 4.50  | M 5 x 0,5             |                               | 25.00 | 60.00 | E.3677.0.0450                | 21.90              |
| 4.55  |                       |                               | 25.00 | 60.00 | E.3677.0.0455                | 21.90              |
| 4.60  |                       |                               | 25.00 | 60.00 | E.3677.0.0460                | 21.90              |
| 4.65  |                       | M 5                           | 25.00 | 60.00 | E.3677.0.0465                | 21.90              |
| 4.70  |                       | M 5 x 0,75                    | 25.00 | 60.00 | E.3677.0.0470                | 21.90              |
| 4.75  |                       |                               | 26.00 | 60.00 | E.3677.0.0475                | 21.90              |
| 4.80  |                       | M 5 x 0,5                     | 26.00 | 60.00 | E.3677.0.0480                | 21.90              |
| 4.85  |                       |                               | 26.00 | 60.00 | E.3677.0.0485                | 21.90              |
| 4.90  |                       |                               | 26.00 | 60.00 | E.3677.0.0490                | 21.90              |
| 4.95  |                       |                               | 26.00 | 60.00 | E.3677.0.0495                | 23.20              |
| 5.00  | M 6 / M5,5 x 0,5      |                               | 26.00 | 60.00 | E.3677.0.0500                | 23.20              |
| 5.05  |                       |                               | 26.00 | 60.00 | E.3677.0.0505                | 23.20              |
| 5.10  |                       |                               | 26.00 | 60.00 | E.3677.0.0510                | 25.80              |
| 5.15  |                       |                               | 26.00 | 60.00 | E.3677.0.0515                | 25.80              |
| 5.20  | M 6 x 0,75            |                               | 26.00 | 60.00 | E.3677.0.0520                | 25.80              |
| 5.25  |                       |                               | 26.00 | 60.00 | E.3677.0.0525                | 25.80              |
| 5.30  |                       | M 5,5 x 0,5                   | 26.00 | 60.00 | E.3677.0.0530                | 25.80              |
| 5.35  |                       |                               | 28.00 | 60.00 | E.3677.0.0535                | 25.80              |
| 5.40  |                       |                               | 28.00 | 60.00 | E.3677.0.0540                | 26.70              |
| 5.45  |                       |                               | 28.00 | 60.00 | E.3677.0.0545                | 26.70              |
| 5.50  |                       | M 6 x 0,5                     | 28.00 | 60.00 | E.3677.0.0550                | 26.70              |
| 5.55  |                       |                               | 28.00 | 60.00 | E.3677.0.0555                | 26.70              |
| 5.60  |                       | M 6                           | 28.00 | 60.00 | E.3677.0.0560                | 26.70              |
| 5.65  |                       |                               | 28.00 | 60.00 | E.3677.0.0565                | 27.60              |
| 5.70  |                       | M 6 x 0,75                    | 28.00 | 60.00 | E.3677.0.0570                | 27.60              |
| 5.75  |                       |                               | 28.00 | 60.00 | E.3677.0.0575                | 30.60              |
| 5.80  |                       | M 6 x 0,5                     | 28.00 | 60.00 | E.3677.0.0580                | 30.60              |
| 5.85  |                       |                               | 28.00 | 60.00 | E.3677.0.0585                | 30.60              |
| 5.90  |                       |                               | 28.00 | 60.00 | E.3677.0.0590                | 30.60              |
| 5.95  |                       |                               | 28.00 | 60.00 | E.3677.0.0595                | 30.60              |
| 6.00  | M 7                   |                               | 28.00 | 60.00 | E.3677.0.0600                | 30.60              |
| 6.10  |                       |                               | 31.00 | 70.00 | E.3677.0.0610                | 37.50              |
| 6.20  | M 7 x 0,75            |                               | 31.00 | 70.00 | E.3677.0.0620                | 37.50              |
| 6.30  |                       |                               | 31.00 | 70.00 | E.3677.0.0630                | 37.50              |
| 6.40  |                       |                               | 31.00 | 70.00 | E.3677.0.0640                | 37.50              |
| 6.50  |                       |                               | 31.00 | 70.00 | E.3677.0.0650                | 37.50              |
| 6.60  |                       | M 7                           | 31.00 | 70.00 | E.3677.0.0660                | 37.50              |
| 6.70  |                       | M 7 x 0,75                    | 31.00 | 70.00 | E.3677.0.0670                | 37.50              |
| 6.80  | M 8                   | M 7 x 0,5                     | 34.00 | 74.00 | E.3677.0.0680                | 41.80              |
| 6.90  |                       |                               | 34.00 | 74.00 | E.3677.0.0690                | 41.80              |
| 7.00  | M 8 x 1               |                               | 34.00 | 74.00 | E.3677.0.0700                | 41.80              |
| 7.10  |                       |                               | 34.00 | 74.00 | E.3677.0.0710                | 46.90              |
| 7.20  | M 8 x 0,75            |                               | 34.00 | 74.00 | E.3677.0.0720                | 46.90              |
| 7.30  |                       |                               | 34.00 | 74.00 | E.3677.0.0730                | 46.90              |
| 7.40  |                       |                               | 34.00 | 74.00 | E.3677.0.0740                | 46.90              |

Fortsetzung nächste Seite / Continued on next page

# Bohrer VHM

## Werksnorm

| d1 h6 | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1    | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|-------|---------------------------|---------------|---|
| 7.50  | M 8 x 0,5          |                            | 34.00 | 74.00 | E.3677.0.0750             | 46.90         |   |
| 7.60  |                    | M 8 x 1                    | 37.00 | 79.00 | E.3677.0.0760             | 51.20         |   |
| 7.70  |                    | M 8 x 0,75                 | 37.00 | 79.00 | E.3677.0.0770             | 51.20         |   |
| 7.80  | M 9                | M 8 x 0,5                  | 37.00 | 79.00 | E.3677.0.0780             | 51.20         |   |
| 7.90  |                    |                            | 37.00 | 79.00 | E.3677.0.0790             | 51.20         |   |
| 8.00  | M 9 x 1            |                            | 37.00 | 79.00 | E.3677.0.0800             | 51.20         |   |
| 9.00* | M 10 x 1           |                            | 40.00 | 85.00 | E.3677.0.0900             | 51.20         |   |

\* = Auslaufartikel / obsolete article

## VHM-Spiralbohrer ähnl. DIN 340

E.3609.0



UK Solid carbide twist drills sim. to DIN 340

PL Wiertła skrotne dlugie z weglika spiekanego odpowiednik wiertel wg DIN 340

IT Punta in MD simile DIN 340

ES Brocas de metal duro integral, sim. DIN 340



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.94  
Cutting data page 3.94

| d1 h6 | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1     | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|--------|---------------------------|---------------|---|
| 0.97* |                    |                            | 25.00 | 75.00  | E.3609.0.0097             | 16.10         |   |
| 1.00  |                    |                            | 25.00 | 75.00  | E.3609.0.0100             | 12.90         |   |
| 1.10  |                    |                            | 25.00 | 75.00  | E.3609.0.0110             | 12.90         |   |
| 1.20  |                    |                            | 25.00 | 75.00  | E.3609.0.0120             | 12.90         |   |
| 1.30  |                    |                            | 25.00 | 75.00  | E.3609.0.0130             | 12.90         |   |
| 1.40  |                    |                            | 30.00 | 75.00  | E.3609.0.0140             | 13.70         |   |
| 1.50  |                    |                            | 30.00 | 75.00  | E.3609.0.0150             | 13.70         |   |
| 1.60  |                    |                            | 30.00 | 75.00  | E.3609.0.0160             | 13.70         |   |
| 1.70  |                    |                            | 30.00 | 75.00  | E.3609.0.0170             | 13.70         |   |
| 1.80  |                    |                            | 30.00 | 75.00  | E.3609.0.0180             | 13.70         |   |
| 1.90  |                    |                            | 30.00 | 75.00  | E.3609.0.0190             | 13.70         |   |
| 2.00  |                    |                            | 30.00 | 75.00  | E.3609.0.0200             | 16.40         |   |
| 2.10  |                    |                            | 30.00 | 75.00  | E.3609.0.0210             | 16.40         |   |
| 2.20  |                    |                            | 30.00 | 75.00  | E.3609.0.0220             | 16.40         |   |
| 2.30  |                    |                            | 30.00 | 75.00  | E.3609.0.0230             | 16.40         |   |
| 2.40  |                    |                            | 35.00 | 100.00 | E.3609.0.0240             | 19.60         |   |
| 2.50  |                    |                            | 35.00 | 100.00 | E.3609.0.0250             | 19.60         |   |
| 2.60  |                    |                            | 35.00 | 100.00 | E.3609.0.0260             | 19.60         |   |
| 2.70  |                    |                            | 35.00 | 100.00 | E.3609.0.0270             | 19.60         |   |
| 2.80  |                    | M 3                        | 35.00 | 100.00 | E.3609.0.0280             | 19.60         |   |
| 2.90  | M 3,5              | M 3 x 0,25                 | 35.00 | 100.00 | E.3609.0.0290             | 19.60         |   |
| 3.00  |                    |                            | 50.00 | 100.00 | E.3609.0.0300             | 23.60         |   |
| 3.10  |                    |                            | 50.00 | 100.00 | E.3609.0.0310             | 23.60         |   |
| 3.20  |                    |                            | 50.00 | 100.00 | E.3609.0.0320             | 23.60         |   |
| 3.30  | M 4                | M 3,5 x 0,5                | 50.00 | 100.00 | E.3609.0.0330             | 23.60         |   |
| 3.40  |                    |                            | 50.00 | 100.00 | E.3609.0.0340             | 23.60         |   |
| 3.50  | M 4 x 0,5          |                            | 50.00 | 100.00 | E.3609.0.0350             | 28.30         |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1 h6 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I2    | I1     | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|--------|------------------------------|---------------|---|
| 3.60  |                       |                               | 50.00 | 100.00 | E.3609.0.0360                | 25.40         |   |
| 3.70  | M 4,5                 | M 4                           | 50.00 | 100.00 | E.3609.0.0370                | 25.40         |   |
| 3.80  |                       | M 4 x 0,5                     | 50.00 | 100.00 | E.3609.0.0380                | 25.40         |   |
| 3.90  |                       |                               | 50.00 | 100.00 | E.3609.0.0390                | 25.40         |   |
| 4.00  | M 4,5 x 0,5           |                               | 50.00 | 100.00 | E.3609.0.0400                | 27.40         |   |
| 4.10  |                       |                               | 50.00 | 100.00 | E.3609.0.0410                | 27.40         |   |
| 4.20  | M 5                   | M 4,5                         | 50.00 | 100.00 | E.3609.0.0420                | 27.40         |   |
| 4.30  |                       | M 4,5 x 0,5                   | 50.00 | 100.00 | E.3609.0.0430                | 27.40         |   |
| 4.40  |                       |                               | 50.00 | 100.00 | E.3609.0.0440                | 28.40         |   |
| 4.50  | M 5 x 0,5             |                               | 50.00 | 100.00 | E.3609.0.0450                | 28.40         |   |
| 4.60  |                       |                               | 50.00 | 100.00 | E.3609.0.0460                | 30.20         |   |
| 4.70  |                       | M 5 x 0,75                    | 50.00 | 100.00 | E.3609.0.0470                | 30.20         |   |
| 4.80  |                       | M 5 x 0,5                     | 50.00 | 100.00 | E.3609.0.0480                | 30.20         |   |
| 4.90  |                       |                               | 50.00 | 100.00 | E.3609.0.0490                | 30.20         |   |
| 5.00  | M 6/M 5,5 x 0,5       |                               | 75.00 | 150.00 | E.3609.0.0500                | 46.30         |   |
| 5.10  |                       |                               | 75.00 | 150.00 | E.3609.0.0510                | 48.70         |   |
| 5.20  | M 6 x 0,75            |                               | 75.00 | 150.00 | E.3609.0.0520                | 48.70         |   |
| 5.30  |                       | M 5,5 x 0,5                   | 75.00 | 150.00 | E.3609.0.0530                | 48.70         |   |
| 5.40  |                       |                               | 75.00 | 150.00 | E.3609.0.0540                | 48.70         |   |
| 5.50  | M 6 x 0,5             |                               | 75.00 | 150.00 | E.3609.0.0550                | 48.70         |   |
| 5.60  |                       | M 6                           | 75.00 | 150.00 | E.3609.0.0560                | 50.90         |   |
| 5.70  |                       | M 6 x 0,75                    | 75.00 | 150.00 | E.3609.0.0570                | 50.90         |   |
| 5.80  |                       | M 6 x 0,5                     | 75.00 | 150.00 | E.3609.0.0580                | 50.90         |   |
| 5.90  |                       |                               | 75.00 | 150.00 | E.3609.0.0590                | 50.90         |   |
| 6.00  | M 7                   |                               | 75.00 | 150.00 | E.3609.0.0600                | 50.90         |   |
| 6.10  |                       |                               | 75.00 | 150.00 | E.3609.0.0610                | 56.40         |   |
| 6.20  | M 7 x 0,75            |                               | 75.00 | 150.00 | E.3609.0.0620                | 56.40         |   |
| 6.30  |                       |                               | 75.00 | 150.00 | E.3609.0.0630                | 56.40         |   |
| 6.40  |                       |                               | 75.00 | 150.00 | E.3609.0.0640                | 56.40         |   |
| 6.50  |                       |                               | 75.00 | 150.00 | E.3609.0.0650                | 52.70         |   |
| 6.60  |                       | M 7                           | 75.00 | 150.00 | E.3609.0.0660                | 62.50         |   |
| 6.70  |                       | M 7 x 0,75                    | 75.00 | 150.00 | E.3609.0.0670                | 62.50         |   |
| 6.80  | M 8                   | M 7 x 0,5                     | 75.00 | 150.00 | E.3609.0.0680                | 62.50         |   |
| 6.90  |                       |                               | 75.00 | 150.00 | E.3609.0.0690                | 62.50         |   |
| 7.00  | M 8 x 1               |                               | 75.00 | 150.00 | E.3609.0.0700                | 59.60         |   |
| 7.10° |                       |                               | 75.00 | 150.00 | E.3609.0.0710                | 63.10         |   |
| 7.20° | M 8 x 0,75            |                               | 75.00 | 150.00 | E.3609.0.0720                | 63.10         |   |
| 7.30° |                       |                               | 75.00 | 150.00 | E.3609.0.0730                | 63.10         |   |
| 7.50  | M 8 x 0,5             |                               | 75.00 | 150.00 | E.3609.0.0750                | 64.20         |   |
| 7.60° |                       | M 8 x 1                       | 75.00 | 150.00 | E.3609.0.0760                | 66.00         |   |
| 7.70° |                       | M 8 x 0,75                    | 75.00 | 150.00 | E.3609.0.0770                | 66.00         |   |
| 7.90° |                       |                               | 75.00 | 150.00 | E.3609.0.0790                | 66.00         |   |
| 8.00  | M 9 x 1               |                               | 75.00 | 150.00 | E.3609.0.0800                | 69.70         |   |
| 8.20° | M 9 x 0,75            |                               | 75.00 | 150.00 | E.3609.0.0820                | 76.40         |   |
| 8.30° |                       |                               | 75.00 | 150.00 | E.3609.0.0830                | 76.40         |   |
| 8.40° |                       |                               | 75.00 | 150.00 | E.3609.0.0840                | 76.40         |   |
| 8.50  | M 10                  |                               | 75.00 | 150.00 | E.3609.0.0850                | 79.10         |   |

° = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

# Bohrer VHM

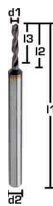
## Werksnorm

| d1 h6  | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I2    | I1     | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-----------------------|-------------------------------|-------|--------|------------------------------|--------------------|
| 8.60°  |                       | M 9 x 1                       | 75.00 | 150.00 | E.3609.0.0860                | 85.90              |
| 8.70°  |                       | M 9 x 0,75                    | 75.00 | 150.00 | E.3609.0.0870                | 85.90              |
| 8.80°  | M 10 x 1,25           | M 9 x 0,5                     | 75.00 | 150.00 | E.3609.0.0880                | 85.90              |
| 8.90°  |                       |                               | 75.00 | 150.00 | E.3609.0.0890                | 85.90              |
| 9.00   | M 10 x 1              |                               | 75.00 | 150.00 | E.3609.0.0900                | 85.00              |
| 9.10°  |                       |                               | 75.00 | 150.00 | E.3609.0.0910                | 89.20              |
| 9.20°  | M 10 x 0,75           |                               | 75.00 | 150.00 | E.3609.0.0920                | 89.20              |
| 9.50   | M 11                  |                               | 75.00 | 150.00 | E.3609.0.0950                | 93.20              |
| 9.60°  |                       | M 10 x 1                      | 75.00 | 150.00 | E.3609.0.0960                | 93.30              |
| 9.70°  |                       | M 10 x 0,75                   | 75.00 | 150.00 | E.3609.0.0970                | 93.30              |
| 9.90°  |                       |                               | 75.00 | 150.00 | E.3609.0.0990                | 93.30              |
| 10.00  | M 11 x 1              |                               | 75.00 | 150.00 | E.3609.0.1000                | 99.20              |
| 10.50° | M 12 x 1,5            |                               | 90.00 | 200.00 | E.3609.0.1050                | 117.00             |
| 11.00° | M 12 x 1              |                               | 90.00 | 200.00 | E.3609.0.1100                | 127.50             |
| 11.50° |                       |                               | 90.00 | 200.00 | E.3609.0.1150                | 134.20             |
| 12.00  | M 14                  |                               | 90.00 | 200.00 | E.3609.0.1200                | 154.40             |
| 13.00° | M 14 x 1              |                               | 90.00 | 200.00 | E.3609.0.1300                | 166.70             |

\* = Auslaufartikel / obsolete article

## VHM-Universal-Spiralbohrer 3xd

E.3611.1



Solid carbide twist drills 3xd  
 Wiertła skrętne z węglika spiekaneego 3xd  
 Punte in MD 3xd  
 Brocas de metal duro integral, 3xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.95  
Cutting data page 3.95

| d1 h6 | I3    | I2    | I1    | d2   | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-------|-------|-------|------|------------------------------|--------------------|
| 1.00  | 3.00  | 8.00  | 38.00 | 3.00 | E.3611.1.0100                | 14.60              |
| 1.10  | 3.00  | 8.00  | 38.00 | 3.00 | E.3611.1.0110                | 14.60              |
| 1.20  | 3.00  | 8.00  | 38.00 | 3.00 | E.3611.1.0120                | 14.60              |
| 1.30  | 3.00  | 8.00  | 38.00 | 3.00 | E.3611.1.0130                | 14.60              |
| 1.40  | 3.00  | 8.00  | 38.00 | 3.00 | E.3611.1.0140                | 14.60              |
| 2.00  | 10.00 | 16.00 | 50.00 | 3.00 | E.3611.1.0200                | 19.20              |
| 2.10  | 10.00 | 16.00 | 50.00 | 3.00 | E.3611.1.0210                | 19.20              |
| 2.20  | 10.00 | 16.00 | 50.00 | 3.00 | E.3611.1.0220                | 19.20              |
| 2.30  | 10.00 | 16.00 | 50.00 | 3.00 | E.3611.1.0230                | 19.20              |
| 2.40  | 10.00 | 16.00 | 50.00 | 3.00 | E.3611.1.0240                | 19.20              |
| 2.50  | 14.00 | 20.00 | 50.00 | 3.00 | E.3611.1.0250                | 19.20              |
| 2.60  | 14.00 | 20.00 | 50.00 | 3.00 | E.3611.1.0260                | 19.20              |
| 2.70  | 14.00 | 20.00 | 50.00 | 3.00 | E.3611.1.0270                | 19.20              |
| 2.80  | 14.00 | 20.00 | 50.00 | 3.00 | E.3611.1.0280                | 19.20              |
| 2.90  | 14.00 | 20.00 | 50.00 | 3.00 | E.3611.1.0290                | 19.20              |



## VHM-Universal-Spiralbohrer 3xd

E.3684.1



Solid carbide twist drills 3xd  
 Wiertła skrotne z weglika spiekanego 3xd  
 Punte in MD 3xd  
 Brocas de metal duro integral, 3xd, ranuras helicoidales



Schnittwerte Seite 3.95  
 Cutting data page 3.95

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | l3    | l2    | l1    | d2   | Artikelnummer<br>Article-No. | Stück / piece | €     |
|-------|-------|-------|-------|------|------------------------------|---------------|-------|
| 2.00  | 10.00 | 16.00 | 50.00 | 6.00 | E.3684.1.0200                |               | 25.80 |
| 2.10  | 10.00 | 16.00 | 50.00 | 6.00 | E.3684.1.0210                |               | 25.80 |
| 2.20  | 10.00 | 16.00 | 50.00 | 6.00 | E.3684.1.0220                |               | 25.80 |
| 2.30  | 10.00 | 16.00 | 50.00 | 6.00 | E.3684.1.0230                |               | 25.80 |
| 2.40  | 10.00 | 16.00 | 50.00 | 6.00 | E.3684.1.0240                |               | 25.80 |
| 2.50  | 14.00 | 20.00 | 50.00 | 6.00 | E.3684.1.0250                |               | 25.80 |
| 2.60  | 14.00 | 20.00 | 50.00 | 6.00 | E.3684.1.0260                |               | 25.80 |
| 2.70  | 14.00 | 20.00 | 50.00 | 6.00 | E.3684.1.0270                |               | 25.80 |
| 2.80  | 14.00 | 20.00 | 50.00 | 6.00 | E.3684.1.0280                |               | 25.80 |
| 2.90  | 14.00 | 20.00 | 50.00 | 6.00 | E.3684.1.0290                |               | 25.80 |

## VHM-Universal-Spiralbohrer 5xd

E.3612.1



Solid carbide twist drills 5xd  
 Wiertła skrotne z weglika spiekanego 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



Schnittwerte Seite 3.95  
 Cutting data page 3.95

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 h6 | l3    | l2    | l1    | d2   | Artikelnummer<br>Article-No. | Stück / piece | €     |
|-------|-------|-------|-------|------|------------------------------|---------------|-------|
| 1.50  | 10.00 | 13.00 | 38.00 | 3.00 | E.3612.1.0150                |               | 14.60 |
| 1.60  | 10.00 | 13.00 | 38.00 | 3.00 | E.3612.1.0160                |               | 14.60 |
| 1.70  | 10.00 | 13.00 | 38.00 | 3.00 | E.3612.1.0170                |               | 14.60 |
| 1.80  | 10.00 | 13.00 | 38.00 | 3.00 | E.3612.1.0180                |               | 14.60 |
| 1.90  | 10.00 | 13.00 | 38.00 | 3.00 | E.3612.1.0190                |               | 14.60 |
| 2.00  | 14.00 | 20.00 | 60.00 | 3.00 | E.3612.1.0200                |               | 19.80 |
| 2.10  | 14.00 | 20.00 | 60.00 | 3.00 | E.3612.1.0210                |               | 19.80 |
| 2.20  | 14.00 | 20.00 | 60.00 | 3.00 | E.3612.1.0220                |               | 19.80 |
| 2.30  | 14.00 | 20.00 | 60.00 | 3.00 | E.3612.1.0230                |               | 19.80 |
| 2.40  | 14.00 | 20.00 | 60.00 | 3.00 | E.3612.1.0240                |               | 19.80 |
| 2.45  | 14.00 | 20.00 | 60.00 | 3.00 | E.3612.1.0245                |               | 19.80 |
| 2.50  | 20.00 | 26.00 | 60.00 | 3.00 | E.3612.1.0250                |               | 19.80 |
| 2.60  | 20.00 | 26.00 | 60.00 | 3.00 | E.3612.1.0260                |               | 19.80 |
| 2.70  | 20.00 | 26.00 | 60.00 | 3.00 | E.3612.1.0270                |               | 19.80 |
| 2.80  | 20.00 | 26.00 | 60.00 | 3.00 | E.3612.1.0280                |               | 19.80 |
| 2.90  | 20.00 | 26.00 | 60.00 | 3.00 | E.3612.1.0290                |               | 19.80 |

# Bohrer VHM

Werksnorm / 3xd

## VHM-Universal-Spiralbohrer 5xd

E.3685.1



Solid carbide twist drills 5xd  
 Vrtácká skrutka z Weglika spiekaného 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.95  
Cutting data page 3.95

| d1 h6 | I3    | I2    | I1    | d2   | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|-------|-------|-------|-------|------|------------------------------|--------------------|
| 1.50  | 10.00 | 13.00 | 38.00 | 6.00 | E.3685.1.0150                | 25.40              |
| 1.60  | 10.00 | 13.00 | 38.00 | 6.00 | E.3685.1.0160                | 25.40              |
| 1.70  | 10.00 | 13.00 | 38.00 | 6.00 | E.3685.1.0170                | 25.40              |
| 1.80  | 10.00 | 13.00 | 38.00 | 6.00 | E.3685.1.0180                | 25.40              |
| 1.90  | 10.00 | 13.00 | 38.00 | 6.00 | E.3685.1.0190                | 25.40              |
| 2.00  | 14.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0200                | 31.30              |
| 2.10  | 14.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0210                | 31.30              |
| 2.20  | 14.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0220                | 31.30              |
| 2.30  | 14.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0230                | 31.30              |
| 2.40  | 14.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0240                | 31.30              |
| 2.45  | 14.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0245                | 31.30              |
| 2.50  | 20.00 | 26.00 | 60.00 | 6.00 | E.3685.1.0250                | 31.30              |
| 2.60  | 20.00 | 26.00 | 60.00 | 6.00 | E.3685.1.0260                | 31.30              |
| 2.70  | 26.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0270                | 31.30              |
| 2.80  | 26.00 | 20.00 | 60.00 | 6.00 | E.3685.1.0280                | 31.30              |
| 2.90  | 20.00 | 26.00 | 60.00 | 6.00 | E.3685.1.0290                | 31.30              |

## VHM-Universal-Spiralbohrer 3xd ohne IK

E.3645.1



Solid carbide twist drills 3xd  
 Vrtácká skrutka z Weglika spiekaného 3xd  
 Punte in MD 3xd  
 Brocas de metal duro integral, 3xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.96  
Cutting data page 3.96

| d1   | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece<br>€ |
|------|-----------------------|-------------------------------|-------|-------|-------|-------|------------------------------|--------------------|
| 3.00 |                       |                               | 14.00 | 20.00 | 62.00 | 6.00  | E.3645.1.0300                | 18.00              |
| 3.10 |                       |                               | 14.00 | 20.00 | 66.00 | 6.00  | E.3645.1.0310                | 18.00              |
| 3.20 |                       |                               | 14.00 | 20.00 | 66.00 | 6.00  | E.3645.1.0320                | 18.00              |
| 3.30 | M 4                   | M 3,5 x 0,5                   | 14.00 | 20.00 | 62.00 | 6.00  | E.3645.1.0330                | 18.00              |
| 3.40 |                       |                               | 14.00 | 20.00 | 66.00 | 6.00  | E.3645.1.0340                | 18.00              |
| 3.50 | M 4 x 0,5             |                               | 14.00 | 20.00 | 62.00 | 6.00  | E.3645.1.0350                | 18.00              |
| 3.60 |                       |                               | 14.00 | 20.00 | 66.00 | 6.00  | E.3645.1.0360                | 18.00              |
| 3.70 | M 4,5                 | M 4                           | 14.00 | 20.00 | 66.00 | 6.00  | E.3645.1.0370                | 18.00              |
| 3.80 |                       | M 4 x 0,5                     | 17.00 | 24.00 | 66.00 | 6.00  | E.3645.1.0380                | 18.00              |
| 3.90 |                       |                               | 17.00 | 24.00 | 66.00 | 6.00  | E.3645.1.0390                | 18.00              |

Fortsetzung nächste Seite / Continued on next page

| d1   | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|------|-----------------------|-------------------------------|-------|-------|-------|-------|------------------------------|---------------|---|
| 4.00 | M 4,5 x 0,5           |                               | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0400                 | 18.00         |   |
| 4.10 |                       |                               | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0410                 | 18.00         |   |
| 4.20 | M 5                   | M 4,5                         | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0420                 | 18.00         |   |
| 4.30 |                       | M 4,5 x 0,5                   | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0430                 | 18.00         |   |
| 4.40 |                       |                               | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0440                 | 18.00         |   |
| 4.50 | M 5 x 0,5             |                               | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0450                 | 18.00         |   |
| 4.60 |                       |                               | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0460                 | 18.00         |   |
| 4.70 |                       | M 5 x 0,75                    | 17.00 | 24.00 | 66.00 | 6.00  | E.36451.0470                 | 18.00         |   |
| 4.80 |                       | M 5 x 0,5                     | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0480                 | 18.00         |   |
| 4.90 |                       |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0490                 | 18.00         |   |
| 5.00 | M 6 /M 5,5x0,5        |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0500                 | 18.00         |   |
| 5.10 |                       |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0510                 | 18.00         |   |
| 5.20 | M 6 x 0,75            |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0520                 | 18.00         |   |
| 5.30 |                       | M 5,5 x 0,5                   | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0530                 | 18.00         |   |
| 5.40 |                       |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0540                 | 18.00         |   |
| 5.50 | M 6 x 0,5             |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0550                 | 18.00         |   |
| 5.60 |                       | M 6                           | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0560                 | 18.00         |   |
| 5.70 |                       | M 6 x 0,75                    | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0570                 | 18.00         |   |
| 5.80 |                       | M 6 x 0,5                     | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0580                 | 18.00         |   |
| 5.90 |                       |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0590                 | 18.00         |   |
| 6.00 | M 7                   |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36451.0600                 | 18.00         |   |
| 6.10 |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0610                 | 30.00         |   |
| 6.20 | M 7 x 0,75            |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0620                 | 30.00         |   |
| 6.30 |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0630                 | 30.00         |   |
| 6.40 |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0640                 | 30.00         |   |
| 6.50 |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0650                 | 30.00         |   |
| 6.60 |                       | M 7                           | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0660                 | 30.00         |   |
| 6.70 |                       | M 7 x 0,75                    | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0670                 | 30.00         |   |
| 6.80 | M 8                   | M 7 x 0,5                     | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0680                 | 30.00         |   |
| 6.90 |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0690                 | 30.00         |   |
| 7.00 | M 8 x 1               |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36451.0700                 | 30.00         |   |
| 7.10 |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0710                 | 30.00         |   |
| 7.20 | M 8 x 0,75            |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0720                 | 30.00         |   |
| 7.30 |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0730                 | 30.00         |   |
| 7.40 |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0740                 | 30.00         |   |
| 7.50 | M 8 x 0,5             |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0750                 | 30.00         |   |
| 7.60 |                       | M 8 x 1                       | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0760                 | 30.00         |   |
| 7.70 |                       | M 8 x 0,75                    | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0770                 | 30.00         |   |
| 7.80 | M 9                   | M 8 x 0,5                     | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0780                 | 30.00         |   |
| 7.90 |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0790                 | 30.00         |   |
| 8.00 | M 9 x 1               |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36451.0800                 | 30.00         |   |
| 8.10 |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36451.0810                 | 39.00         |   |
| 8.20 | M 9 x 0,75            |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36451.0820                 | 39.00         |   |
| 8.30 |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36451.0830                 | 39.00         |   |
| 8.40 |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36451.0840                 | 39.00         |   |
| 8.50 | M 10                  |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36451.0850                 | 39.00         |   |
| 8.60 |                       | M 9 x 1                       | 35.00 | 47.00 | 89.00 | 10.00 | E.36451.0860                 | 39.00         |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

3xd

|                       | d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| Gewinde-<br>schneider | 8.70  |                       | M 9 x 0,75                    | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0870                 | 39.00              |
|                       | 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0880                 | 39.00              |
|                       | 8.90  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0890                 | 39.00              |
| Bohrer<br>HSS/E       | 9.00  | M 10 x 1              |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0900                 | 39.00              |
|                       | 9.10  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0910                 | 39.00              |
|                       | 9.20  | M 10 x 0,75           |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0920                 | 39.00              |
| Bohrer<br>VHM         | 9.30  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0930                 | 39.00              |
|                       | 9.40  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0940                 | 39.00              |
|                       | 9.50  | M 11                  |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0950                 | 39.00              |
| Reibahlen<br>HSS/E    | 9.60  |                       | M 10 x 1                      | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0960                 | 39.00              |
|                       | 9.70  |                       | M 10 x 0,75                   | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0970                 | 39.00              |
|                       | 9.80  |                       | M 10 x 0,5                    | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0980                 | 39.00              |
| Reibahlen<br>VHM      | 9.90  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.0990                 | 39.00              |
|                       | 10.00 | M 11 x 1              |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36451.1000                 | 39.00              |
|                       | 10.10 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1010                 | 49.50              |
| Fräsrifte<br>HM       | 10.20 | M 12/M11x0,75         |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1020                 | 49.50              |
|                       | 10.30 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1030                 | 49.50              |
|                       | 10.40 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1040                 | 49.50              |
| Fräser<br>VHM         | 10.50 | M 12 x 1,5            |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1050                 | 49.50              |
|                       | 10.60 |                       | M 11 x 1                      | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1060                 | 49.50              |
|                       | 10.70 |                       | M 11 x 0,75                   | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1070                 | 49.50              |
| Spannmittel           | 10.80 | M 12 x 1,25           |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1080                 | 49.50              |
|                       | 10.90 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1090                 | 49.50              |
|                       | 11.00 | M 12 x 1              |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1100                 | 49.50              |
| Fräser<br>HSSE        | 11.10 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1110                 | 49.50              |
|                       | 11.20 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1120                 | 49.50              |
|                       | 11.30 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1130                 | 49.50              |
| Sägen                 | 11.40 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1140                 | 49.50              |
|                       | 11.50 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1150                 | 49.50              |
|                       | 11.60 |                       | M 12 x 1                      | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1160                 | 49.50              |
| Lehren                | 11.70 |                       | M 12 x 0,75                   | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1170                 | 49.50              |
|                       | 11.80 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1180                 | 49.50              |
|                       | 11.90 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1190                 | 63.20              |
| Technik               | 12.00 | M 14                  |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36451.1200                 | 49.50              |
|                       | 12.30 |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1230                 | 72.50              |
|                       | 12.50 | M 14 x 1,5            |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1250                 | 72.50              |
| Lehren                | 12.80 | M 14 x 1,25           |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1280                 | 72.50              |
|                       | 13.00 | M 14 x 1              |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1300                 | 72.50              |
|                       | 13.50 |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1350                 | 72.50              |
| Technik               | 13.80 |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1380                 | 72.50              |
|                       | 14.00 | M 16 / M 15 x 1       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36451.1400                 | 72.50              |
|                       | 14.50 | M 16 x 1,5            |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36451.1450                 | 90.00              |
| Technik               | 14.80 |                       |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36451.1480                 | 90.00              |
|                       | 15.00 | M 16 x 1              |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36451.1500                 | 90.00              |
|                       | 15.50 | M 18                  |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36451.1550                 | 90.00              |
| Technik               | 15.80 |                       |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36451.1580                 | 90.00              |
|                       | 16.00 | M 18 x 2              |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36451.1600                 | 90.00              |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

3xd

| d1    | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer Article-No. | € Stück / piece |
|-------|--------------------|----------------------------|-------|-------|--------|-------|---------------------------|-----------------|
| 16.50 |                    |                            | 51.00 | 73.00 | 123.00 | 18.00 | E.3645.11650              | 113.00          |
| 16.80 |                    |                            | 51.00 | 73.00 | 123.00 | 18.00 | E.3645.11680              | 113.00          |
| 17.00 |                    |                            | 51.00 | 73.00 | 123.00 | 18.00 | E.3645.11700              | 113.00          |
| 17.50 |                    |                            | 51.00 | 73.00 | 123.00 | 18.00 | E.3645.11750              | 113.00          |
| 17.80 |                    |                            | 51.00 | 73.00 | 123.00 | 18.00 | E.3645.11780              | 113.00          |
| 18.00 |                    |                            | 51.00 | 73.00 | 123.00 | 18.00 | E.3645.11800              | 113.00          |
| 18.50 |                    |                            | 55.00 | 79.00 | 131.00 | 20.00 | E.3645.11850              | 138.00          |
| 19.00 |                    |                            | 55.00 | 79.00 | 131.00 | 20.00 | E.3645.11900              | 138.00          |
| 19.50 |                    |                            | 55.00 | 79.00 | 131.00 | 20.00 | E.3645.11950              | 138.00          |
| 19.80 |                    |                            | 55.00 | 79.00 | 131.00 | 20.00 | E.3645.11980              | 138.00          |
| 20.00 |                    |                            | 55.00 | 79.00 | 131.00 | 20.00 | E.3645.12000              | 138.00          |

Gewinde-schneider

Bohrer HSS/E

Bohrer VHM

Reibahlen HSS/E

Reibahlen VHM

Frässtifte HM

Fräser VHM

Spannmittel

Fräser HSSE

Sägen

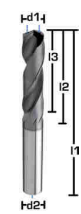
Lehren

Technik

## VHM-Universal-Spiralbohrer 3xd mit IK E.3646.1



Solid carbide twist drills 3xd  
 Wiertła skretne z węglika spiekanego 3xd  
 Punta in MD 3xd  
 Brocas de metal duro integral, 3xd, ranuras helicoidales



Schnittwerte Seite 3.97  
Cutting data page 3.97

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer Article-No. | € Stück / piece |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|-----------------|
| 3.00 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0300             | 31.00           |
| 3.10 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0310             | 31.00           |
| 3.20 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0320             | 31.00           |
| 3.30 | M 4                | M 3,5 x 0,5                | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0330             | 31.00           |
| 3.40 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0340             | 31.00           |
| 3.50 | M 4 x 0,5          |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0350             | 31.00           |
| 3.60 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0360             | 31.00           |
| 3.70 | M 4,5              | M 4                        | 14.00 | 20.00 | 62.00 | 6.00  | E.3646.1.0370             | 31.00           |
| 3.80 |                    | M 4 x 0,5                  | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0380             | 31.00           |
| 3.90 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0390             | 31.00           |
| 4.00 | M 4,5 x 0,5        |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0400             | 31.00           |
| 4.10 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0410             | 31.00           |
| 4.20 | M 5                | M 4,5                      | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0420             | 31.00           |
| 4.30 |                    | M 4,5 x 0,5                | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0430             | 31.00           |
| 4.40 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0440             | 31.00           |
| 4.50 | M 5 x 0,5          |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0450             | 31.00           |
| 4.60 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0460             | 31.00           |
| 4.70 |                    | M 5 x 0,75                 | 17.00 | 24.00 | 66.00 | 6.00  | E.3646.1.0470             | 31.00           |
| 4.80 |                    | M 5 x 0,5                  | 20.00 | 28.00 | 66.00 | 6.00  | E.3646.1.0480             | 31.00           |
| 4.90 |                    |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.3646.1.0490             | 31.00           |
| 5.00 | M 6 / M5,5x0,5     |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.3646.1.0500             | 31.00           |
| 5.10 |                    |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.3646.1.0510             | 31.00           |
| 5.20 | M 6 x 0,75         |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.3646.1.0520             | 31.00           |
| 5.30 |                    | M 5,5 x 0,5                | 20.00 | 28.00 | 66.00 | 6.00  | E.3646.1.0530             | 31.00           |

Fortsetzung nächste Seite / Continued on next page



## Bohrer VHM

3xd

|                    | d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|-------|-----------------------|-------------------------------|-------|-------|-------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 5.40  |                       |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0540                 | 31.00              |
|                    | 5.50  | M 6 x 0,5             |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0550                 | 31.00              |
|                    | 5.60  |                       | M 6                           | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0560                 | 31.00              |
|                    | 5.70  |                       | M 6 x 0,75                    | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0570                 | 31.00              |
|                    | 5.80  |                       | M 6 x 0,5                     | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0580                 | 31.00              |
| Bohrer<br>VHM      | 5.90  |                       |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0590                 | 31.00              |
|                    | 6.00  | M 7                   |                               | 20.00 | 28.00 | 66.00 | 6.00  | E.36461.0600                 | 41.00              |
|                    | 6.10  |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0610                 | 41.00              |
|                    | 6.20  | M 7 x 0,75            |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0620                 | 41.00              |
|                    | 6.30  |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0630                 | 41.00              |
| Reibahlen<br>HSS/E | 6.40  |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0640                 | 41.00              |
|                    | 6.50  |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0650                 | 41.00              |
|                    | 6.60  |                       | M 7                           | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0660                 | 41.00              |
|                    | 6.70  |                       | M 7 x 0,75                    | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0670                 | 41.00              |
|                    | 6.80  | M 8                   | M 7 x 0,5                     | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0680                 | 41.00              |
| Reibahlen<br>VHM   | 6.90  |                       |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0690                 | 41.00              |
|                    | 7.00  | M 8 x 1               |                               | 24.00 | 34.00 | 79.00 | 8.00  | E.36461.0700                 | 41.00              |
|                    | 7.10  |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0710                 | 41.00              |
|                    | 7.20  | M 8 x 0,75            |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0720                 | 41.00              |
|                    | 7.30  |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0730                 | 41.00              |
| Fräsriffe<br>HM    | 7.40  |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0740                 | 41.00              |
|                    | 7.50  | M 8 x 0,5             |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0750                 | 41.00              |
|                    | 7.60  |                       | M 8 x 1                       | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0760                 | 41.00              |
|                    | 7.70  |                       | M 8 x 0,75                    | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0770                 | 41.00              |
|                    | 7.80  | M 9                   | M 8 x 0,5                     | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0780                 | 41.00              |
| Fräser<br>VHM      | 7.90  |                       |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0790                 | 41.00              |
|                    | 8.00  | M 9 x 1               |                               | 29.00 | 41.00 | 79.00 | 8.00  | E.36461.0800                 | 41.00              |
|                    | 8.10  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0810                 | 48.00              |
|                    | 8.20  | M 9 x 0,75            |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0820                 | 48.00              |
|                    | 8.30  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0830                 | 48.00              |
| Spannmittel        | 8.40  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0840                 | 48.00              |
|                    | 8.50  | M 10                  |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0850                 | 48.00              |
|                    | 8.60  |                       | M 9 x 1                       | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0860                 | 48.00              |
|                    | 8.70  |                       | M 9 x 0,75                    | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0870                 | 48.00              |
|                    | 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0880                 | 48.00              |
| Fräser<br>HSSE     | 8.90  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0890                 | 48.00              |
|                    | 9.00  | M 10 x 1              |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0900                 | 48.00              |
|                    | 9.10  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0910                 | 48.00              |
|                    | 9.20  | M 10 x 0,75           |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0920                 | 48.00              |
|                    | 9.30  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0930                 | 48.00              |
| Sägen              | 9.40  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0940                 | 48.00              |
|                    | 9.50  | M 11                  |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0950                 | 48.00              |
|                    | 9.60  |                       | M 10 x 1                      | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0960                 | 48.00              |
|                    | 9.70  |                       | M 10 x 0,75                   | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0970                 | 48.00              |
|                    | 9.80  |                       | M 10 x 0,5                    | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0980                 | 48.00              |
| Lehren             | 9.90  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0990                 | 48.00              |
|                    | 9.90  |                       |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.0990                 | 48.00              |
|                    | 10.00 | M 11 x 1              |                               | 35.00 | 47.00 | 89.00 | 10.00 | E.36461.1000                 | 48.00              |
| Technik            |       |                       |                               |       |       |       |       |                              |                    |
|                    |       |                       |                               |       |       |       |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page



| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2    | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| 10.10 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1010                | 68.00              |
| 10.20 | M 12/M11x0,75         |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1020                | 68.00              |
| 10.30 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1030                | 68.00              |
| 10.40 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1040                | 68.00              |
| 10.50 | M 12 x 1,5            |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1050                | 68.00              |
| 10.60 |                       | M 11 x 1                      | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1060                | 68.00              |
| 10.70 |                       | M 11 x 0,75                   | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1070                | 68.00              |
| 10.80 | M 12 x 1,25           |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1080                | 68.00              |
| 10.90 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1090                | 68.00              |
| 11.00 | M 12 x 1              |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1100                | 68.00              |
| 11.10 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1110                | 68.00              |
| 11.20 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1120                | 68.00              |
| 11.30 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1130                | 68.00              |
| 11.40 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1140                | 68.00              |
| 11.50 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1150                | 68.00              |
| 11.60 |                       | M 12 x 1                      | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1160                | 68.00              |
| 11.70 |                       | M 12 x 0,75                   | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1170                | 68.00              |
| 11.80 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1180                | 68.00              |
| 11.90 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1190                | 68.00              |
| 12.00 | M 14                  |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.3646.1.1200                | 89.00              |
| 12.30 |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1230                | 89.00              |
| 12.50 | M 14 x 1,5            |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1250                | 89.00              |
| 12.80 | M 14 x 1,25           |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1280                | 89.00              |
| 13.00 | M 14 x 1              |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1300                | 89.00              |
| 13.50 |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1350                | 89.00              |
| 13.80 |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1380                | 89.00              |
| 14.00 | M 16 / M 15 x 1       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.3646.1.1400                | 89.00              |
| 14.50 | M 16 x 1,5            |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.3646.1.1450                | 110.00             |
| 14.80 |                       |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.3646.1.1480                | 110.00             |
| 15.00 | M 16 x 1              |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.3646.1.1500                | 110.00             |
| 15.50 | M 18                  |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.3646.1.1550                | 110.00             |
| 15.80 |                       |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.3646.1.1580                | 110.00             |
| 16.00 | M 18 x 2              |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.3646.1.1600                | 110.00             |
| 16.50 |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.3646.1.1650                | 155.00             |
| 16.80 |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.3646.1.1680                | 155.00             |
| 17.00 |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.3646.1.1700                | 155.00             |
| 17.50 |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.3646.1.1750                | 155.00             |
| 17.80 |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.3646.1.1780                | 155.00             |
| 18.00 |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.3646.1.1800                | 155.00             |
| 18.50 |                       |                               | 55.00 | 79.00 | 131.00 | 20.00 | E.3646.1.1850                | 195.00             |
| 19.00 |                       |                               | 55.00 | 79.00 | 131.00 | 20.00 | E.3646.1.1900                | 195.00             |
| 19.50 |                       |                               | 55.00 | 79.00 | 131.00 | 20.00 | E.3646.1.1950                | 195.00             |
| 19.80 |                       |                               | 55.00 | 79.00 | 131.00 | 20.00 | E.3646.1.1980                | 195.00             |
| 20.00 |                       |                               | 55.00 | 79.00 | 131.00 | 20.00 | E.3646.1.2000                | 195.00             |

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

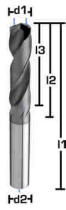
Technik

# Bohrer VHM

3xd

## VHM-Inox-Spiralbohrer 3xd

E.3647:1



Solid carbide twist drills 3xd  
 Vrtla skřetná z Weglika spiekaného 3xd  
 Punte in MD 3xd  
 Brocas de metal duro integral, 3xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 398.  
Cutting data page 398

| d1   | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|-------|
| 3.00 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0300              |               | 33.30 |
| 3.10 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0310              |               | 33.30 |
| 3.20 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0320              |               | 33.30 |
| 3.30 | M 4                | M 3,5 x 0,5                | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0330              |               | 33.30 |
| 3.40 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0340              |               | 33.30 |
| 3.50 | M 4 x 0,5          |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0350              |               | 33.30 |
| 3.60 |                    |                            | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0360              |               | 34.20 |
| 3.70 | M 4,5              | M 4                        | 14.00 | 20.00 | 62.00 | 6.00  | E.36471.0370              |               | 34.20 |
| 3.80 |                    | M 4 x 0,5                  | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0380              |               | 34.70 |
| 3.90 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0390              |               | 35.60 |
| 4.00 | M 4,5 x 0,5        |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0400              |               | 35.60 |
| 4.10 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0410              |               | 35.60 |
| 4.20 | M 5                | M 4,5                      | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0420              |               | 35.60 |
| 4.30 |                    | M 4,5 x 0,5                | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0430              |               | 35.60 |
| 4.40 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0440              |               | 35.60 |
| 4.50 | M 5 x 0,5          |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0450              |               | 35.60 |
| 4.60 |                    |                            | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0460              |               | 35.60 |
| 4.70 |                    | M 5 x 0,75                 | 17.00 | 24.00 | 66.00 | 6.00  | E.36471.0470              |               | 35.60 |
| 4.80 |                    | M 5 x 0,5                  | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0480              |               | 35.60 |
| 4.90 |                    |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0490              |               | 35.60 |
| 5.00 | M 6 / M 5,5 x 0,5  |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0500              |               | 34.70 |
| 5.10 |                    |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0510              |               | 34.70 |
| 5.20 | M 6 x 0,75         |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0520              |               | 34.70 |
| 5.30 |                    | M 5,5 x 0,5                | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0530              |               | 34.70 |
| 5.40 |                    |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0540              |               | 34.70 |
| 5.50 | M 6 x 0,5          |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0550              |               | 34.70 |
| 5.60 |                    | M 6                        | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0560              |               | 34.70 |
| 5.70 |                    | M 6 x 0,75                 | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0570              |               | 34.70 |
| 5.80 |                    | M 6 x 0,5                  | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0580              |               | 34.70 |
| 5.90 |                    |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0590              |               | 34.70 |
| 6.00 | M 7                |                            | 20.00 | 28.00 | 66.00 | 6.00  | E.36471.0600              |               | 35.60 |
| 6.10 |                    |                            | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0610              |               | 48.80 |
| 6.20 | M 7 x 0,75         |                            | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0620              |               | 48.80 |
| 6.30 |                    |                            | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0630              |               | 48.80 |
| 6.40 |                    |                            | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0640              |               | 48.80 |
| 6.50 |                    |                            | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0650              |               | 49.70 |
| 6.60 |                    | M 7                        | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0660              |               | 49.70 |
| 6.70 |                    | M 7 x 0,75                 | 24.00 | 34.00 | 79.00 | 8.00  | E.36471.0670              |               | 49.70 |

Fortsetzung nächste Seite / Continued on next page

| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2    | l1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|---------------|---|
| 6.80  | M 8                   | M 7 x 0,5                     | 24.00 | 34.00 | 79.00  | 8.00  | E.36471.0680                 | 49.70         |   |
| 6.90  |                       |                               | 24.00 | 34.00 | 79.00  | 8.00  | E.36471.0690                 | 49.70         |   |
| 7.00  | M 8 x 1               |                               | 24.00 | 34.00 | 79.00  | 8.00  | E.36471.0700                 | 50.70         |   |
| 7.10  |                       |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0710                 | 50.70         |   |
| 7.20  | M 8 x 0,75            |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0720                 | 50.70         |   |
| 7.30  |                       |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0730                 | 50.70         |   |
| 7.40  |                       |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0740                 | 51.60         |   |
| 7.50  | M 8 x 0,5             |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0750                 | 51.60         |   |
| 7.60  |                       | M 8 x 1                       | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0760                 | 51.60         |   |
| 7.70  |                       | M 8 x 0,75                    | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0770                 | 51.60         |   |
| 7.80  | M 9                   | M 8 x 0,5                     | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0780                 | 51.60         |   |
| 7.90  |                       |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0790                 | 51.60         |   |
| 8.00  | M 9 x 1               |                               | 29.00 | 41.00 | 79.00  | 8.00  | E.36471.0800                 | 52.50         |   |
| 8.10  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0810                 | 60.10         |   |
| 8.20  | M 9 x 0,75            |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0820                 | 60.10         |   |
| 8.30  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0830                 | 60.10         |   |
| 8.40  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0840                 | 60.10         |   |
| 8.50  | M 10                  |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0850                 | 60.10         |   |
| 8.60  |                       | M 9 x 1                       | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0860                 | 59.20         |   |
| 8.70  |                       | M 9 x 0,75                    | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0870                 | 60.10         |   |
| 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0880                 | 60.10         |   |
| 8.90  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0890                 | 61.00         |   |
| 9.00  | M 10 x 1              |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0900                 | 60.50         |   |
| 9.10  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0910                 | 60.50         |   |
| 9.20  | M 10 x 0,75           |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0920                 | 60.50         |   |
| 9.30  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0930                 | 60.50         |   |
| 9.40  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0940                 | 60.50         |   |
| 9.50  | M 11                  |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0950                 | 60.50         |   |
| 9.60  |                       | M 10 x 1                      | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0960                 | 60.50         |   |
| 9.70  |                       | M 10 x 0,75                   | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0970                 | 60.50         |   |
| 9.80  |                       | M 10 x 0,5                    | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0980                 | 60.50         |   |
| 9.90  |                       |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.0990                 | 60.50         |   |
| 10.00 | M 11 x 1              |                               | 35.00 | 47.00 | 89.00  | 10.00 | E.36471.1000                 | 60.50         |   |
| 10.10 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1010                 | 83.60         |   |
| 10.20 | M 12/M11x0,75         |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1020                 | 83.60         |   |
| 10.30 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1030                 | 83.60         |   |
| 10.40 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1040                 | 83.60         |   |
| 10.50 | M 12 x 1,5            |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1050                 | 83.60         |   |
| 10.60 |                       | M 11 x 1                      | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1060                 | 83.60         |   |
| 10.70 |                       | M 11 x 0,75                   | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1070                 | 83.60         |   |
| 10.80 | M 12 x 1,25           |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1080                 | 83.60         |   |
| 10.90 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1090                 | 83.60         |   |
| 11.00 | M 12 x 1              |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1100                 | 83.60         |   |
| 11.10 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1110                 | 83.60         |   |
| 11.20 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1120                 | 83.60         |   |
| 11.30 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1130                 | 83.60         |   |
| 11.40 |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1140                 | 83.60         |   |

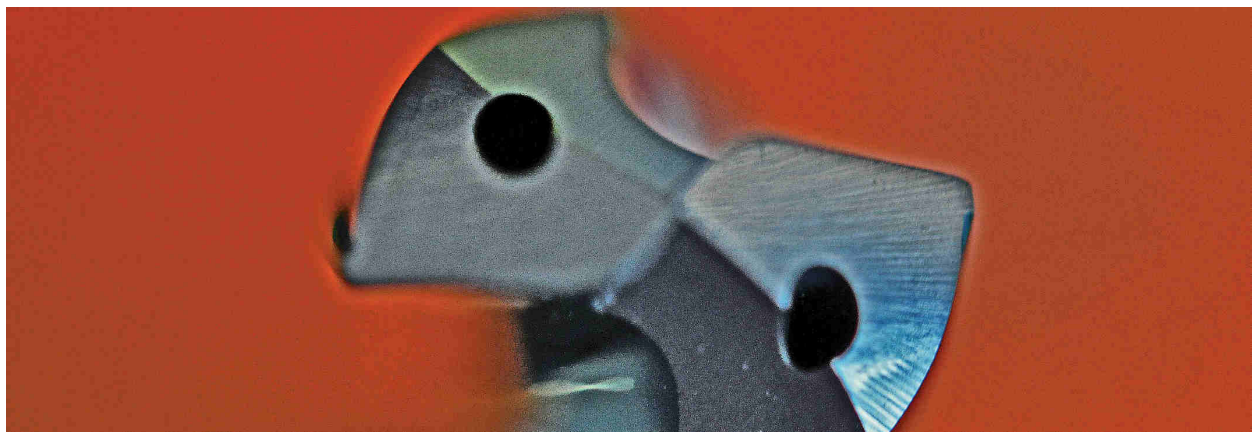
Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

3xd

| d1     | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2    | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| 11.50  |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1150                 | 83.60              |
| 11.60  |                       | M 12 x 1                      | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1160                 | 83.60              |
| 11.70  |                       | M 12 x 0,75                   | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1170                 | 83.60              |
| 11.80  |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1180                 | 83.60              |
| 11.90  |                       |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1190                 | 83.60              |
| 12.00  | M 14                  |                               | 40.00 | 55.00 | 102.00 | 12.00 | E.36471.1200                 | 83.60              |
| 12.30  |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1230                 | 118.80             |
| 12.50  | M 14 x 1,5            |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1250                 | 118.80             |
| 12.80  | M 14 x 1,25           |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1280                 | 118.80             |
| 13.00  | M 14 x 1              |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1300                 | 118.80             |
| 13.50  |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1350                 | 118.80             |
| 13.80  |                       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1380                 | 118.80             |
| 14.00  | M 16 / M 15 x 1       |                               | 43.00 | 60.00 | 107.00 | 14.00 | E.36471.1400                 | 118.80             |
| 14.50  | M 16 x 1,5            |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36471.1450                 | 134.20             |
| 14.80  |                       |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36471.1480                 | 134.20             |
| 15.00  | M 16 x 1              |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36471.1500                 | 134.20             |
| 15.50  | M 18                  |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36471.1550                 | 134.20             |
| 15.80  |                       |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36471.1580                 | 134.20             |
| 16.00  | M 18 x 2              |                               | 45.00 | 65.00 | 115.00 | 16.00 | E.36471.1600                 | 134.20             |
| 16.50* |                       |                               | 51.00 | 73.00 | 123.00 | 18.00 | E.36471.1650                 | 195.90             |

\* = Auslaufartikel / obsolete article



## VHM-Universal-Spiralbohrer 5xd ohne IK

E.3665.1



Solid carbide twist drills 5xd  
 Wiertła skrajne z węglika spiekane 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



Schnittwerte Seite 3.97  
Cutting data page 3.97

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|-------|
| 3.00 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0300             |               | 22.00 |
| 3.10 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0310             |               | 22.00 |
| 3.20 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0320             |               | 22.00 |
| 3.30 | M 4                | M 3,5 x 0,5                | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0330             |               | 22.00 |
| 3.40 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0340             |               | 22.00 |
| 3.50 | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0350             |               | 22.00 |
| 3.60 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0360             |               | 22.00 |
| 3.70 | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3665.1.0370             |               | 22.00 |
| 3.80 |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0380             |               | 22.00 |
| 3.90 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0390             |               | 22.00 |
| 4.00 | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0400             |               | 22.00 |
| 4.10 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0410             |               | 22.00 |
| 4.20 | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0420             |               | 22.00 |
| 4.30 |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0430             |               | 22.00 |
| 4.40 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0440             |               | 22.00 |
| 4.50 | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0450             |               | 22.00 |
| 4.60 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0460             |               | 22.00 |
| 4.65 |                    | M 5                        | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0465             |               | 22.00 |
| 4.70 |                    | M 5 x 0,75                 | 29.00 | 36.00 | 74.00 | 6.00  | E.3665.1.0470             |               | 22.00 |
| 4.80 |                    | M 5 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0480             |               | 22.00 |
| 4.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0490             |               | 22.00 |
| 5.00 | M 6 / M5,5x0,5     |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0500             |               | 22.00 |
| 5.10 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0510             |               | 22.00 |
| 5.20 | M 6 x 0,75         |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0520             |               | 22.00 |
| 5.30 |                    | M 5,5 x 0,5                | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0530             |               | 22.00 |
| 5.40 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0540             |               | 22.00 |
| 5.50 | M 6 x 0,5          |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0550             |               | 22.00 |
| 5.55 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0555             |               | 22.00 |
| 5.60 |                    | M 6                        | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0560             |               | 22.00 |
| 5.70 |                    | M 6 x 0,75                 | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0570             |               | 22.00 |
| 5.80 |                    | M 6 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0580             |               | 22.00 |
| 5.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0590             |               | 22.00 |
| 6.00 | M 7                |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3665.1.0600             |               | 22.00 |
| 6.10 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3665.1.0610             |               | 33.00 |
| 6.20 | M 7 x 0,75         |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3665.1.0620             |               | 33.00 |
| 6.30 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3665.1.0630             |               | 33.00 |
| 6.40 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3665.1.0640             |               | 33.00 |
| 6.50 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3665.1.0650             |               | 33.00 |

Fortsetzung nächste Seite / Continued on next page



## Bohrer VHM

5xd

|                    | d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 6.60  |                       | M 7                           | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0660                | 33.00              |
|                    | 6.70  |                       | M 7 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0670                | 33.00              |
|                    | 6.80  | M 8                   | M 7 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0680                | 33.00              |
|                    | 6.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0690                | 33.00              |
|                    | 7.00  | M 8 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0700                | 33.00              |
| Bohrer<br>VHM      | 7.10  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0710                | 33.00              |
|                    | 7.20  | M 8 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0720                | 33.00              |
|                    | 7.30  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0730                | 33.00              |
|                    | 7.40  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0740                | 33.00              |
|                    | 7.50  | M 8 x 0,5             |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0750                | 33.00              |
| Reibahlen<br>HSS/E | 7.60  |                       | M 8 x 1                       | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0760                | 33.00              |
|                    | 7.70  |                       | M 8 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0770                | 33.00              |
|                    | 7.80  | M 9                   | M 8 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0780                | 33.00              |
|                    | 7.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0790                | 33.00              |
|                    | 8.00  | M 9 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3665.1.0800                | 33.00              |
| Reibahlen<br>VHM   | 8.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0810                | 40.00              |
|                    | 8.20  | M 9 x 0,75            |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0820                | 40.00              |
|                    | 8.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0830                | 40.00              |
|                    | 8.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0840                | 40.00              |
|                    | 8.50  | M 10                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0850                | 40.00              |
| Fräsriffe<br>HM    | 8.60  |                       | M 9 x 1                       | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0860                | 40.00              |
|                    | 8.70  |                       | M 9 x 0,75                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0870                | 40.00              |
|                    | 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0880                | 40.00              |
|                    | 8.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0890                | 40.00              |
|                    | 9.00  | M 10 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0900                | 40.00              |
| Fräser<br>VHM      | 9.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0910                | 40.00              |
|                    | 9.20  | M 10 x 0,75           |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0920                | 40.00              |
|                    | 9.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0930                | 40.00              |
|                    | 9.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0940                | 40.00              |
|                    | 9.50  | M 11                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0950                | 40.00              |
| Spannmittel        | 9.60  |                       | M 10 x 1                      | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0960                | 40.00              |
|                    | 9.70  |                       | M 10 x 0,75                   | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0970                | 40.00              |
|                    | 9.80  |                       | M 10 x 0,5                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0980                | 40.00              |
|                    | 9.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.0990                | 40.00              |
|                    | 10.00 | M 11 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3665.1.1000                | 40.00              |
| Fräser<br>HSSE     | 10.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1010                | 61.00              |
|                    | 10.20 | M 12/M11x0,75         |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1020                | 61.00              |
|                    | 10.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1030                | 61.00              |
|                    | 10.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1040                | 61.00              |
|                    | 10.50 | M 12 x 1,5            |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1050                | 61.00              |
| Sägen              | 10.60 |                       | M 11 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1060                | 61.00              |
|                    | 10.70 |                       | M 11 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1070                | 61.00              |
|                    | 10.80 | M 12 x 1,25           |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1080                | 61.00              |
|                    | 10.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1090                | 61.00              |
|                    | 11.00 | M 12 x 1              |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1100                | 61.00              |
| Lehren             | 11.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1110                | 61.00              |
|                    | 11.20 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3665.1.1120                | 61.00              |
|                    |       |                       |                               |       |       |        |       |                              |                    |
| Technik            |       |                       |                               |       |       |        |       |                              |                    |
|                    |       |                       |                               |       |       |        |       |                              |                    |
|                    |       |                       |                               |       |       |        |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page



| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2     | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|--------------------|
| 11.30 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1130                | 61.00              |
| 11.40 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1140                | 61.00              |
| 11.50 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1150                | 61.00              |
| 11.60 |                       | M 12 x 1                      | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1160                | 61.00              |
| 11.70 |                       | M 12 x 0,75                   | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1170                | 61.00              |
| 11.80 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1180                | 61.00              |
| 11.90 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1190                | 61.00              |
| 12.00 | M 14                  |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3665.1.1200                | 61.00              |
| 12.20 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1220                | 75.00              |
| 12.30 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1230                | 75.00              |
| 12.50 | M 14 x 1,5            |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1250                | 75.00              |
| 12.80 | M 14 x 1,25           |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1280                | 75.00              |
| 13.00 | M 14 x 1              |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1300                | 75.00              |
| 13.50 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1350                | 75.00              |
| 13.80 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1380                | 75.00              |
| 14.00 | M 16 / M 15 x 1       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3665.1.1400                | 92.00              |
| 14.50 | M 16 x 1,5            |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3665.1.1450                | 92.00              |
| 14.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3665.1.1480                | 92.00              |
| 15.00 | M 16 x 1              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3665.1.1500                | 92.00              |
| 15.50 | M 18                  |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3665.1.1550                | 92.00              |
| 15.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3665.1.1580                | 92.00              |
| 16.00 | M 18 x 2              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3665.1.1600                | 92.00              |
| 16.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3665.1.1650                | 120.00             |
| 16.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3665.1.1680                | 120.00             |
| 17.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3665.1.1700                | 120.00             |
| 17.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3665.1.1750                | 120.00             |
| 17.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3665.1.1780                | 120.00             |
| 18.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3665.1.1800                | 152.00             |
| 18.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3665.1.1850                | 152.00             |
| 19.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3665.1.1900                | 152.00             |
| 19.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3665.1.1950                | 152.00             |
| 20.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3665.1.2000                | 152.00             |

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

# Bohrer VHM

5xd

## VHM-Universal-Spiralbohrer 5xd mit IK

E.3617.1



Solid carbide twist drills 5xd  
 Wiertła skrętna z węglika spiekane 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.97  
Cutting data page 3.97

| d1    | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|-------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|-------|
| 1.00  |                    |                            | 6.50  | 10.00 | 55.00 | 3.00  | E.3617.1.0100             |               | 34.00 |
| 1.10  |                    |                            | 9.50  | 12.00 | 55.00 | 3.00  | E.3617.1.0110             |               | 34.00 |
| 1.20  |                    |                            | 9.50  | 12.00 | 55.00 | 3.00  | E.3617.1.0120             |               | 34.00 |
| 1.30  |                    |                            | 9.50  | 12.00 | 55.00 | 3.00  | E.3617.1.0130             |               | 34.00 |
| 1.40  |                    |                            | 9.50  | 12.00 | 55.00 | 3.00  | E.3617.1.0140             |               | 34.00 |
| 1.50  |                    |                            | 9.50  | 12.00 | 55.00 | 3.00  | E.3617.1.0150             |               | 34.00 |
| 1.60  |                    |                            | 13.00 | 16.00 | 55.00 | 3.00  | E.3617.1.0160             |               | 30.00 |
| 1.70  |                    |                            | 13.00 | 16.00 | 55.00 | 3.00  | E.3617.1.0170             |               | 30.00 |
| 1.80  |                    |                            | 13.00 | 16.00 | 55.00 | 3.00  | E.3617.1.0180             |               | 30.00 |
| 1.90  |                    |                            | 13.00 | 16.00 | 55.00 | 3.00  | E.3617.1.0190             |               | 30.00 |
| 2.00  |                    |                            | 13.00 | 16.00 | 57.00 | 3.00  | E.3617.1.0200             |               | 30.00 |
| 2.10  |                    |                            | 16.00 | 21.00 | 57.00 | 3.00  | E.3617.1.0210             |               | 30.00 |
| 2.20  |                    |                            | 16.00 | 21.00 | 57.00 | 3.00  | E.3617.1.0220             |               | 30.00 |
| 2.30  |                    |                            | 16.00 | 21.00 | 57.00 | 3.00  | E.3617.1.0230             |               | 30.00 |
| 2.40  |                    |                            | 16.00 | 21.00 | 57.00 | 3.00  | E.3617.1.0240             |               | 30.00 |
| 2.50  |                    |                            | 16.00 | 21.00 | 57.00 | 3.00  | E.3617.1.0250             |               | 27.00 |
| 2.60  |                    |                            | 18.50 | 21.00 | 57.00 | 3.00  | E.3617.1.0260             |               | 27.00 |
| 2.70  |                    |                            | 18.50 | 21.00 | 57.00 | 3.00  | E.3617.1.0270             |               | 27.00 |
| 2.80  |                    | M 3                        | 18.50 | 21.00 | 57.00 | 3.00  | E.3617.1.0280             |               | 27.00 |
| 2.90  | M 3,5              | M 3 x 0,25                 | 18.50 | 21.00 | 57.00 | 3.00  | E.3617.1.0290             |               | 27.00 |
| 3.00  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0300             |               | 27.00 |
| 3.10  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0310             |               | 28.00 |
| 3.20  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0320             |               | 28.00 |
| 3.30  | M 4                | M 3,5 x 0,5                | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0330             |               | 28.00 |
| 3.40  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0340             |               | 28.00 |
| 3.45* |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0345             |               | 28.00 |
| 3.50  | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0350             |               | 28.00 |
| 3.60  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0360             |               | 28.00 |
| 3.70  | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3617.1.0370             |               | 28.00 |
| 3.80  |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0380             |               | 28.00 |
| 3.90  |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0390             |               | 30.00 |
| 4.00  | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0400             |               | 30.00 |
| 4.10  |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0410             |               | 30.00 |
| 4.20  | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0420             |               | 30.00 |
| 4.30  |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0430             |               | 30.00 |
| 4.40  |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0440             |               | 30.00 |
| 4.50  | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0450             |               | 31.00 |
| 4.60  |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3617.1.0460             |               | 31.00 |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | €     |
|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|---------------|-------|
| 4.65  |                       | M 5                           | 29.00 | 36.00 | 74.00  | 6.00  | E.36171.0465                 |               | 31.00 |
| 4.70  |                       | M 5 x 0,75                    | 29.00 | 36.00 | 74.00  | 6.00  | E.36171.0470                 |               | 31.00 |
| 4.80  |                       | M 5 x 0,5                     | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0480                 |               | 31.00 |
| 4.90  |                       |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0490                 |               | 31.00 |
| 5.00  | M 6 / M5,5x0,5        |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0500                 |               | 31.00 |
| 5.10  |                       |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0510                 |               | 31.00 |
| 5.20  | M 6 x 0,75            |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0520                 |               | 31.00 |
| 5.30  |                       | M 5,5 x 0,5                   | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0530                 |               | 31.00 |
| 5.40  |                       |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0540                 |               | 31.00 |
| 5.50  | M 6 x 0,5             |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0550                 |               | 31.00 |
| 5.55  |                       |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0555                 |               | 31.00 |
| 5.60  |                       | M 6                           | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0560                 |               | 31.00 |
| 5.70  |                       | M 6 x 0,75                    | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0570                 |               | 31.00 |
| 5.80  |                       | M 6 x 0,5                     | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0580                 |               | 31.00 |
| 5.90  |                       |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0590                 |               | 31.00 |
| 6.00  | M 7                   |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.36171.0600                 |               | 31.00 |
| 6.10  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0610                 |               | 43.00 |
| 6.20  | M 7 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0620                 |               | 43.00 |
| 6.30  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0630                 |               | 43.00 |
| 6.40  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0640                 |               | 43.00 |
| 6.50  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0650                 |               | 43.00 |
| 6.60  |                       | M 7                           | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0660                 |               | 43.00 |
| 6.70  |                       | M 7 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0670                 |               | 43.00 |
| 6.80  | M 8                   | M 7 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0680                 |               | 43.00 |
| 6.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0690                 |               | 43.00 |
| 7.00  | M 8 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0700                 |               | 43.00 |
| 7.10  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0710                 |               | 43.00 |
| 7.20  | M 8 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0720                 |               | 43.00 |
| 7.30  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0730                 |               | 43.00 |
| 7.40  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0740                 |               | 43.00 |
| 7.45* |                       | M 8                           | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0745                 |               | 43.00 |
| 7.50  | M 8 x 0,5             |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0750                 |               | 43.00 |
| 7.60  |                       | M 8 x 1                       | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0760                 |               | 43.00 |
| 7.70  |                       | M 8 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0770                 |               | 43.00 |
| 7.80  | M 9                   | M 8 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0780                 |               | 43.00 |
| 7.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0790                 |               | 43.00 |
| 8.00  | M 9 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.36171.0800                 |               | 43.00 |
| 8.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0810                 |               | 50.00 |
| 8.20  | M 9 x 0,75            |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0820                 |               | 50.00 |
| 8.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0830                 |               | 50.00 |
| 8.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0840                 |               | 50.00 |
| 8.50  | M 10                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0850                 |               | 50.00 |
| 8.60  |                       | M 9 x 1                       | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0860                 |               | 50.00 |
| 8.70  |                       | M 9 x 0,75                    | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0870                 |               | 50.00 |
| 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0880                 |               | 50.00 |
| 8.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0890                 |               | 50.00 |
| 9.00  | M 10 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0900                 |               | 50.00 |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

## Bohrer VHM

5xd

|                    | d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2    | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 9.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0910                 | 50.00              |
|                    | 9.20  | M 10 x 0,75           |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0920                 | 50.00              |
|                    | 9.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0930                 | 50.00              |
|                    | 9.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0940                 | 50.00              |
|                    | 9.50  | M 11                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0950                 | 50.00              |
| Bohrer<br>VHM      | 9.60  |                       | M 10 x 1                      | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0960                 | 50.00              |
|                    | 9.70  |                       | M 10 x 0,75                   | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0970                 | 50.00              |
|                    | 9.80  |                       | M 10 x 0,5                    | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0980                 | 50.00              |
|                    | 9.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.0990                 | 50.00              |
|                    | 10.00 | M 11 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.36171.1000                 | 50.00              |
| Reibahlen<br>HSS/E | 10.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1010                 | 70.00              |
|                    | 10.20 | M 12/M11x0,75         |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1020                 | 70.00              |
|                    | 10.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1030                 | 70.00              |
|                    | 10.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1040                 | 70.00              |
|                    | 10.50 | M 12 x 1,5            |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1050                 | 70.00              |
| Reibahlen<br>VHM   | 10.60 |                       | M 11 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1060                 | 70.00              |
|                    | 10.70 |                       | M 11 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1070                 | 70.00              |
|                    | 10.80 | M 12 x 1,25           |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1080                 | 70.00              |
|                    | 10.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1090                 | 70.00              |
|                    | 11.00 | M 12 x 1              |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1100                 | 70.00              |
| Fräsriffe<br>HM    | 11.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1110                 | 70.00              |
|                    | 11.20 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1120                 | 70.00              |
|                    | 11.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1130                 | 70.00              |
|                    | 11.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1140                 | 70.00              |
|                    | 11.50 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1150                 | 70.00              |
| Fräser<br>VHM      | 11.60 |                       | M 12 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1160                 | 70.00              |
|                    | 11.70 |                       | M 12 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1170                 | 70.00              |
|                    | 11.80 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1180                 | 70.00              |
|                    | 11.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1190                 | 70.00              |
|                    | 12.00 | M 14                  |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.36171.1200                 | 70.00              |
| Spannmittel        | 12.20 |                       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1220                 | 97.00              |
|                    | 12.30 |                       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1230                 | 97.00              |
|                    | 12.50 | M 14 x 1,5            |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1250                 | 97.00              |
|                    | 12.80 | M 14 x 1,25           |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1280                 | 97.00              |
|                    | 13.00 | M 14 x 1              |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1300                 | 97.00              |
| Fräser<br>HSSE     | 13.50 |                       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1350                 | 97.00              |
|                    | 13.80 |                       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1380                 | 97.00              |
|                    | 14.00 | M 16 / M 15 x 1       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.36171.1400                 | 97.00              |
|                    | 14.50 | M 16 x 1,5            |                               | 63.00 | 83.00 | 133.00 | 16.00 | E.36171.1450                 | 130.00             |
|                    | 14.80 |                       |                               | 63.00 | 83.00 | 133.00 | 16.00 | E.36171.1480                 | 130.00             |
| Sägen              | 15.00 | M 16 x 1              |                               | 63.00 | 83.00 | 133.00 | 16.00 | E.36171.1500                 | 130.00             |
|                    | 15.50 | M 18                  |                               | 63.00 | 83.00 | 133.00 | 16.00 | E.36171.1550                 | 130.00             |
|                    | 15.80 |                       |                               | 63.00 | 83.00 | 133.00 | 16.00 | E.36171.1580                 | 130.00             |
|                    | 16.00 | M 18 x 2              |                               | 63.00 | 83.00 | 133.00 | 16.00 | E.36171.1600                 | 130.00             |
|                    | 16.50 |                       |                               | 71.00 | 93.00 | 143.00 | 18.00 | E.36171.1650                 | 175.00             |
| Lehren             | 16.80 |                       |                               | 71.00 | 93.00 | 143.00 | 18.00 | E.36171.1680                 | 175.00             |
|                    | 17.00 |                       |                               | 71.00 | 93.00 | 143.00 | 18.00 | E.36171.1700                 | 175.00             |
|                    |       |                       |                               |       |       |        |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page

# Bohrer VHM

5xd

| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2     | I1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|---------------|---|
| 17.30 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.36171.1730                 | 220.40        |   |
| 17.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.36171.1750                 | 175.00        |   |
| 17.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.36171.1780                 | 175.00        |   |
| 18.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.36171.1800                 | 175.00        |   |
| 18.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.36171.1850                 | 218.00        |   |
| 18.80 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.36171.1880                 | 266.80        |   |
| 19.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.36171.1900                 | 218.00        |   |
| 19.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.36171.1950                 | 218.00        |   |
| 19.80 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.36171.1980                 | 244.00        |   |
| 20.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.36171.2000                 | 218.00        |   |

## VHM-Inox-Spiralbohrer 5xd mit IK

### E.3618.1



- Solid carbide twist drills 5xd
- Wiertła skrajnie z węglika spiekane 5xd
- Punte in MD 5xd
- Brocas de metal duro integral, 5xd, ranuras helicoidales



Schnittwerte Seite 3.98  
Cutting data page 3.98

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|------|-----------------------|-------------------------------|-------|-------|-------|-------|------------------------------|---------------|---|
| 1.00 |                       |                               | 6.50  | 10.00 | 55.00 | 3.00  | E.3618.1.0100                | 29.50         |   |
| 1.10 |                       |                               | 9.50  | 12.00 | 55.00 | 3.00  | E.3618.1.0110                | 29.50         |   |
| 1.20 |                       |                               | 9.50  | 12.00 | 55.00 | 3.00  | E.3618.1.0120                | 29.50         |   |
| 1.30 |                       |                               | 9.50  | 12.00 | 55.00 | 3.00  | E.3618.1.0130                | 29.50         |   |
| 1.40 |                       |                               | 9.50  | 12.00 | 55.00 | 3.00  | E.3618.1.0140                | 29.50         |   |
| 1.50 |                       |                               | 9.50  | 12.00 | 55.00 | 3.00  | E.3618.1.0150                | 29.50         |   |
| 1.60 |                       |                               | 13.00 | 16.00 | 55.00 | 3.00  | E.3618.1.0160                | 29.50         |   |
| 1.70 |                       |                               | 13.00 | 16.00 | 55.00 | 3.00  | E.3618.1.0170                | 29.50         |   |
| 1.80 |                       |                               | 13.00 | 16.00 | 55.00 | 3.00  | E.3618.1.0180                | 29.50         |   |
| 1.90 |                       |                               | 13.00 | 16.00 | 55.00 | 3.00  | E.3618.1.0190                | 29.50         |   |
| 2.00 |                       |                               | 13.00 | 16.00 | 57.00 | 3.00  | E.3618.1.0200                | 29.00         |   |
| 2.10 |                       |                               | 16.00 | 21.00 | 57.00 | 3.00  | E.3618.1.0210                | 29.00         |   |
| 2.20 |                       |                               | 16.00 | 21.00 | 57.00 | 3.00  | E.3618.1.0220                | 29.00         |   |
| 2.30 |                       |                               | 16.00 | 21.00 | 57.00 | 3.00  | E.3618.1.0230                | 29.00         |   |
| 2.40 |                       |                               | 16.00 | 21.00 | 57.00 | 3.00  | E.3618.1.0240                | 29.00         |   |
| 2.50 |                       |                               | 16.00 | 21.00 | 57.00 | 3.00  | E.3618.1.0250                | 28.90         |   |
| 2.60 |                       |                               | 18.50 | 21.00 | 57.00 | 3.00  | E.3618.1.0260                | 28.90         |   |
| 2.70 |                       |                               | 18.50 | 21.00 | 57.00 | 3.00  | E.3618.1.0270                | 28.90         |   |
| 2.80 |                       | M 3                           | 18.50 | 21.00 | 57.00 | 3.00  | E.3618.1.0280                | 28.90         |   |
| 2.90 | M 3,5                 | M 3 x 0,25                    | 18.50 | 21.00 | 57.00 | 3.00  | E.3618.1.0290                | 28.90         |   |
| 3.00 |                       |                               | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0300                | 29.60         |   |
| 3.10 |                       |                               | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0310                | 29.60         |   |
| 3.20 |                       |                               | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0320                | 29.60         |   |
| 3.30 | M 4                   | M 3,5 x 0,5                   | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0330                | 29.60         |   |
| 3.40 |                       |                               | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0340                | 29.60         |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd

|                   | d1          | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer Article-No. | € Stück / piece |  |
|-------------------|-------------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|-----------------|--|
| Gewinde-schneider | 3.45        |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0345             | 29.60           |  |
|                   | 3.50        | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0350             | 29.60           |  |
| Bohrer HSS/E      | 3.60        |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0360             | 29.60           |  |
|                   | 3.70        | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3618.1.0370             | 29.60           |  |
| Bohrer VHM        | 3.80        |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0380             | 29.60           |  |
|                   | 3.90        |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0390             | 37.70           |  |
|                   | 4.00        | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0400             | 37.70           |  |
|                   | 4.10        |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0410             | 37.70           |  |
|                   | 4.20        | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0420             | 37.70           |  |
|                   | 4.30        |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0430             | 37.70           |  |
|                   | 4.40        |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0440             | 37.70           |  |
|                   | 4.50        | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0450             | 37.70           |  |
|                   | 4.65        |                    | M 5                        | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0465             | 37.70           |  |
|                   | 4.70        |                    | M 5 x 0,75                 | 29.00 | 36.00 | 74.00 | 6.00  | E.3618.1.0470             | 37.70           |  |
| Reibahlen HSS/E   | 4.80        |                    | M 5 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0480             | 37.70           |  |
|                   | 4.90        |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0490             | 37.70           |  |
|                   | 5.00        | M 6 / M5,5x0,5     |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0500             | 37.70           |  |
|                   | 5.10        |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0510             | 37.70           |  |
|                   | 5.20        | M 6 x 0,75         |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0520             | 37.70           |  |
|                   | 5.30        |                    | M 5,5 x 0,5                | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0530             | 37.70           |  |
|                   | 5.40        |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0540             | 37.70           |  |
|                   | 5.50        | M 6 x 0,5          |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0550             | 37.70           |  |
|                   | 5.55        |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0555             | 37.70           |  |
|                   | 5.60        |                    | M 6                        | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0560             | 37.70           |  |
| Reibahlen VHM     | 5.70        |                    | M 6 x 0,75                 | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0570             | 37.70           |  |
|                   | 5.80        |                    | M 6 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0580             | 37.70           |  |
|                   | 5.90        |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0590             | 37.70           |  |
|                   | 6.00        | M 7                |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3618.1.0600             | 37.70           |  |
|                   | 6.10        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0610             | 53.20           |  |
|                   | 6.20        | M 7 x 0,75         |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0620             | 53.20           |  |
|                   | 6.30        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0630             | 53.20           |  |
|                   | 6.40        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0640             | 53.20           |  |
|                   | 6.50        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0650             | 53.20           |  |
|                   | 6.60        |                    | M 7                        | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0660             | 53.20           |  |
| Frässrötte HM     | 6.70        |                    | M 7 x 0,75                 | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0670             | 53.20           |  |
|                   | 6.80        | M 8                | M 7 x 0,5                  | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0680             | 53.20           |  |
|                   | 6.90        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0690             | 53.20           |  |
|                   | 7.00        | M 8 x 1            |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0700             | 53.20           |  |
|                   | 7.10        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0710             | 53.20           |  |
|                   | 7.20        | M 8 x 0,75         |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0720             | 53.20           |  |
|                   | 7.30        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0730             | 53.20           |  |
|                   | 7.40        |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0740             | 53.20           |  |
|                   | 7.50        | M 8 x 0,5          |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0750             | 53.20           |  |
|                   | 7.60        |                    | M 8 x 1                    | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0760             | 53.20           |  |
| Fräser VHM        | 7.70        |                    | M 8 x 0,75                 | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0770             | 53.20           |  |
|                   | 7.80        | M 9                | M 8 x 0,5                  | 43.00 | 53.00 | 91.00 | 8.00  | E.3618.1.0780             | 53.20           |  |
|                   | Spannmittel | Technik            |                            |       |       |       |       |                           |                 |  |

Fortsetzung nächste Seite / Continued on next page



| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|---------------|---|
| 7.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3618.1.0790                | 53.20         |   |
| 8.00  | M 9 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3618.1.0800                | 53.20         |   |
| 8.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0810                | 63.50         |   |
| 8.20  | M 9 x 0,75            |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0820                | 63.50         |   |
| 8.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0830                | 63.50         |   |
| 8.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0840                | 63.50         |   |
| 8.50  | M 10                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0850                | 63.50         |   |
| 8.60  |                       | M 9 x 1                       | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0860                | 63.50         |   |
| 8.70  |                       | M 9 x 0,75                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0870                | 63.50         |   |
| 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0880                | 63.50         |   |
| 8.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0890                | 63.50         |   |
| 9.00  | M 10 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0900                | 63.50         |   |
| 9.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0910                | 63.50         |   |
| 9.20  | M 10 x 0,75           |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0920                | 63.50         |   |
| 9.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0930                | 63.50         |   |
| 9.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0940                | 63.50         |   |
| 9.50  | M 11                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0950                | 63.50         |   |
| 9.60  |                       | M 10 x 1                      | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0960                | 63.50         |   |
| 9.70  |                       | M 10 x 0,75                   | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0970                | 63.50         |   |
| 9.80  |                       | M 10 x 0,5                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0980                | 63.50         |   |
| 9.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.0990                | 63.50         |   |
| 10.00 | M 11 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3618.1.1000                | 63.50         |   |
| 10.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1010                | 89.10         |   |
| 10.20 | M 12/M11x0,75         |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1020                | 89.10         |   |
| 10.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1030                | 89.10         |   |
| 10.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1040                | 89.10         |   |
| 10.50 | M 12 x 1,5            |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1050                | 89.10         |   |
| 10.60 |                       | M 11 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1060                | 89.10         |   |
| 10.70 |                       | M 11 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1070                | 89.10         |   |
| 10.80 | M 12 x 1,25           |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1080                | 89.10         |   |
| 10.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1090                | 89.10         |   |
| 11.00 | M 12 x 1              |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1100                | 89.10         |   |
| 11.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1110                | 89.10         |   |
| 11.20 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1120                | 89.10         |   |
| 11.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1130                | 89.10         |   |
| 11.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1140                | 89.10         |   |
| 11.50 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1150                | 89.10         |   |
| 11.60 |                       | M 12 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1160                | 89.10         |   |
| 11.70 |                       | M 12 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1170                | 89.10         |   |
| 11.80 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1180                | 89.10         |   |
| 11.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1190                | 89.10         |   |
| 12.00 | M 14                  |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3618.1.1200                | 89.10         |   |
| 12.20 |                       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1220                | 119.90        |   |
| 12.30 |                       |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1230                | 119.90        |   |
| 12.50 | M 14 x 1,5            |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1250                | 119.90        |   |
| 12.80 | M 14 x 1,25           |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1280                | 119.90        |   |
| 13.00 | M 14 x 1              |                               | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1300                | 119.90        |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd

| d1    | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|-------|--------|-------|---------------------------|---------------|---|
| 13.50 |                    |                            | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1350             | 119.90        |   |
| 13.80 |                    |                            | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1380             | 119.90        |   |
| 14.00 | M 16 / M 15 x 1    |                            | 60.00 | 77.00 | 124.00 | 14.00 | E.3618.1.1400             | 119.90        |   |
| 14.50 | M 16 x 1,5         |                            | 63.00 | 83.00 | 133.00 | 16.00 | E.3618.1.1450             | 119.90        |   |
| 14.80 |                    |                            | 63.00 | 83.00 | 133.00 | 16.00 | E.3618.1.1480             | 119.90        |   |
| 15.00 | M 16 x 1           |                            | 63.00 | 83.00 | 133.00 | 16.00 | E.3618.1.1500             | 158.30        |   |
| 15.50 | M 18               |                            | 63.00 | 83.00 | 133.00 | 16.00 | E.3618.1.1550             | 158.30        |   |
| 15.80 |                    |                            | 63.00 | 83.00 | 133.00 | 16.00 | E.3618.1.1580             | 158.30        |   |
| 16.00 | M 18 x 2           |                            | 63.00 | 83.00 | 133.00 | 16.00 | E.3618.1.1600             | 158.30        |   |

## VHM-Alu-Spiralbohrer 5xd mit IK

E.3619.1



Solid carbide twist drills 5xd  
 Wiertła skrajne z weglika spiekanego 5xd  
 Punta in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.99  
Cutting data page 3.99

| d1    | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|---|
| 3.00  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0300             | 49.00         |   |
| 3.10  |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0310             | 49.00         |   |
| 3.20° |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0320             | 56.60         |   |
| 3.30  | M 4                | M 3,5 x 0,5                | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0330             | 49.00         |   |
| 3.40° |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0340             | 49.00         |   |
| 3.50  | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0350             | 49.00         |   |
| 3.60° |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0360             | 56.60         |   |
| 3.70  | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3619.1.0370             | 49.00         |   |
| 3.80  |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0380             | 51.80         |   |
| 3.90° |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0390             | 59.83         |   |
| 4.00  | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0400             | 51.80         |   |
| 4.10° |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0410             | 59.83         |   |
| 4.20  | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0420             | 51.80         |   |
| 4.30° |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0430             | 59.83         |   |
| 4.40° |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0440             | 59.83         |   |
| 4.50  | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0450             | 51.80         |   |
| 4.60° |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3619.1.0460             | 59.83         |   |
| 4.80  |                    | M 5 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0480             | 51.80         |   |
| 4.90° |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0490             | 59.83         |   |
| 5.00  | M 6 / M5,5x0,5     |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0500             | 51.80         |   |
| 5.10  |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0510             | 51.80         |   |
| 5.20  | M 6 x 0,75         |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0520             | 51.80         |   |
| 5.30° |                    | M 5,5 x 0,5                | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0530             | 59.83         |   |
| 5.40  |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0540             | 59.83         |   |
| 5.50  | M 6 x 0,5          |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0550             | 51.80         |   |
| 5.55° |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3619.1.0555             | 59.83         |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1     | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | €      |
|--------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|---------------|--------|
| 5.70*  |                       | M 6 x 0,75                    | 35.00 | 44.00 | 82.00  | 6.00  | E.3619.1.0570                |               | 51.80  |
| 5.80   |                       | M 6 x 0,5                     | 35.00 | 44.00 | 82.00  | 6.00  | E.3619.1.0580                |               | 51.80  |
| 5.90*  |                       |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.3619.1.0590                |               | 59.83  |
| 6.00   | M 7                   |                               | 35.00 | 44.00 | 82.00  | 6.00  | E.3619.1.0600                |               | 51.80  |
| 6.10   |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0610                |               | 91.92  |
| 6.20*  | M 7 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0620                |               | 91.92  |
| 6.30   |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0630                |               | 71.40  |
| 6.40*  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0640                |               | 91.92  |
| 6.50   |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0650                |               | 71.40  |
| 6.70*  |                       | M 7 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0670                |               | 91.92  |
| 6.80   | M 8                   | M 7 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0680                |               | 71.40  |
| 6.90*  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0690                |               | 91.92  |
| 7.00   | M 8 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0700                |               | 71.40  |
| 7.10*  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0710                |               | 91.92  |
| 7.20*  | M 8 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0720                |               | 91.92  |
| 7.30*  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0730                |               | 91.92  |
| 7.50   | M 8 x 0,5             |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0750                |               | 71.40  |
| 7.60*  |                       | M 8 x 1                       | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0760                |               | 91.92  |
| 7.70*  |                       | M 8 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0770                |               | 91.92  |
| 7.80   | M 9                   | M 8 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0780                |               | 71.40  |
| 7.90*  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0790                |               | 91.92  |
| 8.00   | M 9 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3619.1.0800                |               | 71.40  |
| 8.10*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0810                |               | 101.87 |
| 8.20*  | M 9 x 0,75            |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0820                |               | 101.87 |
| 8.30*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0830                |               | 101.87 |
| 8.40*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0840                |               | 101.87 |
| 8.50   | M 10                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0850                |               | 88.20  |
| 8.60*  |                       | M 9 x 1                       | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0860                |               | 101.87 |
| 8.80   | M 10 x 1,25           | M 9 x 0,5                     | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0880                |               | 88.20  |
| 8.90*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0890                |               | 101.87 |
| 9.00   | M 10 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0900                |               | 88.20  |
| 9.10*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0910                |               | 101.87 |
| 9.20   | M 10 x 0,75           |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0920                |               | 88.20  |
| 9.30*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0930                |               | 101.87 |
| 9.40*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0940                |               | 101.87 |
| 9.50   | M 11                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0950                |               | 88.20  |
| 9.60*  |                       | M 10 x 1                      | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0960                |               | 101.87 |
| 9.70*  |                       | M 10 x 0,75                   | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0970                |               | 101.87 |
| 9.80   |                       | M 10 x 0,5                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0980                |               | 88.20  |
| 9.90*  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.0990                |               | 101.87 |
| 10.00  | M 11 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3619.1.1000                |               | 88.20  |
| 10.10* |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3619.1.1010                |               | 139.45 |
| 10.20  | M 12/M11x0,75         |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3619.1.1020                |               | 119.00 |
| 10.30* |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3619.1.1030                |               | 139.45 |
| 10.40* |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3619.1.1040                |               | 139.45 |
| 10.50  | M 12 x 1,5            |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3619.1.1050                |               | 119.00 |
| 10.60* |                       | M 11 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.3619.1.1060                |               | 139.45 |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd

| d1     | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2     | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|--------------------|
| 10.70* |                       | M 11 x 0,75                   | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1070                | 139.45             |
| 10.80  | M 12 x 1,25           |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1080                | 119.00             |
| 10.90* |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1090                | 139.45             |
| 11.00  | M 12 x 1              |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1100                | 119.00             |
| 11.10* |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1110                | 139.45             |
| 11.20* |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1120                | 139.45             |
| 11.30* |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1130                | 139.45             |
| 11.40* |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1140                | 139.45             |
| 11.50  |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1150                | 119.00             |
| 11.60* |                       | M 12 x 1                      | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1160                | 139.45             |
| 11.70* |                       | M 12 x 0,75                   | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1170                | 139.45             |
| 11.80  |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1180                | 119.00             |
| 11.90* |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1190                | 139.45             |
| 12.00  | M 14                  |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3619.1.1200                | 119.00             |
| 12.20* |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3619.1.1220                | 176.25             |
| 12.50* | M 14 x 1,5            |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3619.1.1250                | 176.25             |
| 12.80* | M 14 x 1,25           |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3619.1.1280                | 176.25             |
| 13.00* | M 14 x 1              |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3619.1.1300                | 176.25             |
| 13.50* |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3619.1.1350                | 176.25             |
| 14.00* | M 16 / M 15 x 1       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3619.1.1400                | 176.25             |
| 14.50* | M 16 x 1,5            |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3619.1.1450                | 240.93             |
| 14.80* |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3619.1.1480                | 240.93             |
| 15.00* | M 16 x 1              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3619.1.1500                | 240.93             |
| 15.50* | M 18                  |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3619.1.1550                | 240.93             |
| 15.80  |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3619.1.1580                | 240.93             |
| 16.00* | M 18 x 2              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3619.1.1600                | 240.93             |
| 16.50  |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3619.1.1650                | 240.93             |
| 16.80* |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3619.1.1680                | 313.70             |
| 17.00* |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3619.1.1700                | 313.70             |
| 17.50* |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3619.1.1750                | 313.70             |
| 17.80* |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3619.1.1780                | 313.70             |
| 18.00  |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3619.1.1800                | 313.70             |
| 18.50* |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3619.1.1850                | 371.91             |
| 19.00* |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3619.1.1900                | 371.91             |
| 19.50* |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3619.1.1950                | 371.91             |
| 19.80* |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3619.1.1980                | 371.91             |
| 20.00* |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3619.1.2000                | 371.91             |

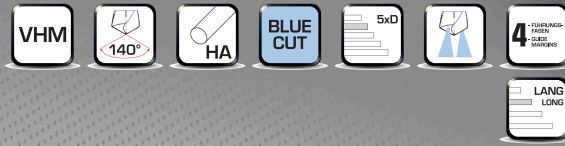
\* = Auslaufartikel / obsolete article

VHM-Spiralbohrer 5xd mit 4-Führungsfasen

E.3649.1



Solid carbide twist drills 5xd  
 Wiertła skrotne z węglika spiekanego 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



Schnittwerte Seite 3.97  
Cutting data page 3.97

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|-------|
| 3.00 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0300             |               | 30.00 |
| 3.10 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0310             |               | 30.00 |
| 3.20 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0320             |               | 30.00 |
| 3.30 | M 4                | M 3,5 x 0,5                | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0330             |               | 30.00 |
| 3.40 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0340             |               | 30.00 |
| 3.50 | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0350             |               | 30.00 |
| 3.60 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0360             |               | 30.00 |
| 3.70 | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3649.1.0370             |               | 30.00 |
| 3.80 |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0380             |               | 30.00 |
| 3.90 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0390             |               | 36.70 |
| 4.00 | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0400             |               | 36.70 |
| 4.10 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0410             |               | 36.70 |
| 4.20 | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0420             |               | 36.70 |
| 4.30 |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0430             |               | 36.70 |
| 4.40 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0440             |               | 36.70 |
| 4.50 | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0450             |               | 36.70 |
| 4.60 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0460             |               | 36.70 |
| 4.70 |                    | M 5 x 0,75                 | 29.00 | 36.00 | 74.00 | 6.00  | E.3649.1.0470             |               | 36.70 |
| 4.80 |                    | M 5 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0480             |               | 39.50 |
| 4.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0490             |               | 39.50 |
| 5.00 | M 6 / M5,5x0,5     |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0500             |               | 39.50 |
| 5.10 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0510             |               | 39.50 |
| 5.20 | M 6 x 0,75         |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0520             |               | 39.50 |
| 5.30 |                    | M 5,5 x 0,5                | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0530             |               | 39.50 |
| 5.40 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0540             |               | 39.50 |
| 5.50 | M 6 x 0,5          |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0550             |               | 39.50 |
| 5.60 |                    | M 6                        | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0560             |               | 39.50 |
| 5.70 |                    | M 6 x 0,75                 | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0570             |               | 39.50 |
| 5.80 |                    | M 6 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0580             |               | 39.50 |
| 5.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0590             |               | 39.50 |
| 6.00 | M 7                |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3649.1.0600             |               | 39.50 |
| 6.10 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0610             |               | 54.30 |
| 6.20 | M 7 x 0,75         |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0620             |               | 54.30 |
| 6.30 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0630             |               | 54.30 |
| 6.40 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0640             |               | 54.30 |
| 6.50 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0650             |               | 54.30 |
| 6.60 |                    | M 7                        | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0660             |               | 54.30 |
| 6.70 |                    | M 7 x 0,75                 | 43.00 | 53.00 | 91.00 | 8.00  | E.3649.1.0670             |               | 54.30 |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd

|                       | d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| Gewinde-<br>schneider | 6.80  | M 8                   | M 7 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0680                | 54.30              |
|                       | 6.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0690                | 54.30              |
| Bohrer<br>HSS/E       | 7.00  | M 8 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0700                | 54.30              |
|                       | 7.10  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0710                | 54.30              |
| Bohrer<br>VHM         | 7.20  | M 8 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0720                | 54.30              |
|                       | 7.30  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0730                | 54.30              |
|                       | 7.40  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0740                | 54.30              |
|                       | 7.50  | M 8 x 0,5             |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0750                | 54.30              |
|                       | 7.60  |                       | M 8 x 1                       | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0760                | 54.30              |
| Reibahlen<br>HSS/E    | 7.70  |                       | M 8 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0770                | 54.30              |
|                       | 7.80  | M 9                   | M 8 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0780                | 54.30              |
|                       | 7.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0790                | 54.30              |
|                       | 8.00  | M 9 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3649.1.0800                | 54.30              |
|                       | 8.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0810                | 63.80              |
| Reibahlen<br>VHM      | 8.20  | M 9 x 0,75            |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0820                | 63.80              |
|                       | 8.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0830                | 63.80              |
|                       | 8.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0840                | 63.80              |
|                       | 8.50  | M 10                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0850                | 63.80              |
|                       | 8.60  |                       | M 9 x 1                       | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0860                | 63.80              |
| Fräsrifte<br>HM       | 8.70  |                       | M 9 x 0,75                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0870                | 63.80              |
|                       | 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0880                | 63.80              |
|                       | 8.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0890                | 63.80              |
|                       | 9.00  | M 10 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0900                | 63.80              |
|                       | 9.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0910                | 63.80              |
| Fräser<br>VHM         | 9.20  | M 10 x 0,75           |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0920                | 63.80              |
|                       | 9.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0930                | 63.80              |
|                       | 9.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0940                | 63.80              |
|                       | 9.50  | M 11                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0950                | 63.80              |
|                       | 9.60  |                       | M 10 x 1                      | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0960                | 63.80              |
| Spannmittel           | 9.70  |                       | M 10 x 0,75                   | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0970                | 63.80              |
|                       | 9.80  |                       | M 10 x 0,5                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0980                | 63.80              |
|                       | 9.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.0990                | 63.80              |
|                       | 10.00 | M 11 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3649.1.1000                | 63.80              |
|                       | 10.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1010                | 86.90              |
| Fräser<br>HSSE        | 10.20 | M 12/M11x0,75         |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1020                | 86.90              |
|                       | 10.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1030                | 86.90              |
|                       | 10.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1040                | 86.90              |
|                       | 10.50 | M 12 x 1,5            |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1050                | 86.90              |
|                       | 10.60 |                       | M 11 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1060                | 86.90              |
| Sägen                 | 10.70 |                       | M 11 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1070                | 86.90              |
|                       | 10.80 | M 12 x 1,25           |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1080                | 86.90              |
|                       | 10.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1090                | 86.90              |
|                       | 11.00 | M 12 x 1              |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1100                | 86.90              |
|                       | 11.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1110                | 86.90              |
| Lehren                | 11.20 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1120                | 86.90              |
|                       | 11.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1130                | 86.90              |
|                       | 11.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1140                | 86.90              |
|                       | 11.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3649.1.1140                | 86.90              |
| Technik               |       |                       |                               |       |       |        |       |                              |                    |
|                       |       |                       |                               |       |       |        |       |                              |                    |
|                       |       |                       |                               |       |       |        |       |                              |                    |
|                       |       |                       |                               |       |       |        |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page



| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2     | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|--------------------|
| 11.50 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3649.1.1150                | 86.90              |
| 11.60 |                       | M 12 x 1                      | 56.00 | 71.00  | 118.00 | 12.00 | E.3649.1.1160                | 86.90              |
| 11.70 |                       | M 12 x 0,75                   | 56.00 | 71.00  | 118.00 | 12.00 | E.3649.1.1170                | 86.90              |
| 11.80 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3649.1.1180                | 86.90              |
| 11.90 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3649.1.1190                | 86.90              |
| 12.00 | M 14                  |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3649.1.1200                | 86.90              |
| 12.20 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1220                | 111.60             |
| 12.30 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1230                | 111.60             |
| 12.50 | M 14 x 1,5            |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1250                | 111.60             |
| 12.80 | M 14 x 1,25           |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1280                | 111.60             |
| 13.00 | M 14 x 1              |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1300                | 111.60             |
| 13.50 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1350                | 111.60             |
| 13.80 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1380                | 111.60             |
| 14.00 | M 16 / M 15 x 1       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3649.1.1400                | 111.60             |
| 14.50 | M 16 x 1,5            |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3649.1.1450                | 145.60             |
| 14.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3649.1.1480                | 145.60             |
| 15.00 | M 16 x 1              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3649.1.1500                | 145.60             |
| 15.50 | M 18                  |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3649.1.1550                | 145.60             |
| 15.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3649.1.1580                | 145.60             |
| 16.00 | M 18 x 2              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3649.1.1600                | 145.60             |
| 16.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3649.1.1650                | 198.90             |
| 16.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3649.1.1680                | 198.90             |
| 17.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3649.1.1700                | 198.90             |
| 17.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3649.1.1750                | 198.90             |
| 17.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3649.1.1780                | 198.90             |
| 18.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3649.1.1800                | 198.90             |
| 18.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3649.1.1850                | 240.60             |
| 19.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3649.1.1900                | 240.60             |
| 19.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3649.1.1950                | 240.60             |
| 20.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3649.1.2000                | 240.60             |

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

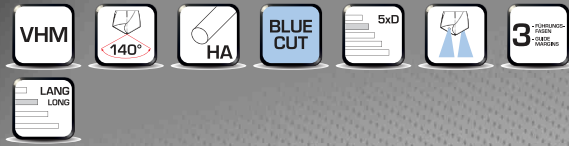
Technik

# Bohrer VHM

5xd

## VHM-Spiralbohrer 5xd mit 3-Führungsfasen

E.3650.1



Solid carbide twist drills 5xd  
 Wiertła skrętna z węglika spiekanego 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.99  
Cutting data page 3.99

| d1   | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|-------|
| 3.00 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0300             |               | 39.60 |
| 3.10 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0310             |               | 39.60 |
| 3.20 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0320             |               | 39.60 |
| 3.30 | M 4                | M 3,5 x 0,5                | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0330             |               | 39.60 |
| 3.40 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0340             |               | 39.60 |
| 3.50 | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0350             |               | 39.60 |
| 3.60 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0360             |               | 39.60 |
| 3.70 | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3650.1.0370             |               | 39.60 |
| 3.80 |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0380             |               | 46.00 |
| 3.90 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0390             |               | 46.00 |
| 4.00 | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0400             |               | 46.00 |
| 4.10 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0410             |               | 46.00 |
| 4.20 | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0420             |               | 46.00 |
| 4.30 |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0430             |               | 46.00 |
| 4.40 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0440             |               | 46.00 |
| 4.50 | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0450             |               | 46.00 |
| 4.60 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0460             |               | 46.00 |
| 4.70 |                    | M 5 x 0,75                 | 29.00 | 36.00 | 74.00 | 6.00  | E.3650.1.0470             |               | 46.00 |
| 4.80 |                    | M 5 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0480             |               | 51.40 |
| 4.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0490             |               | 51.40 |
| 5.00 | M 6 / M5,5x0,5     |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0500             |               | 51.40 |
| 5.10 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0510             |               | 51.40 |
| 5.20 | M 6 x 0,75         |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0520             |               | 51.40 |
| 5.30 |                    | M 5,5 x 0,5                | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0530             |               | 51.40 |
| 5.40 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0540             |               | 51.40 |
| 5.50 | M 6 x 0,5          |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0550             |               | 51.40 |
| 5.60 |                    | M 6                        | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0560             |               | 51.40 |
| 5.70 |                    | M 6 x 0,75                 | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0570             |               | 51.40 |
| 5.80 |                    | M 6 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0580             |               | 51.40 |
| 5.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0590             |               | 51.40 |
| 6.00 | M 7                |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3650.1.0600             |               | 51.40 |
| 6.10 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0610             |               | 66.90 |
| 6.20 | M 7 x 0,75         |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0620             |               | 66.90 |
| 6.30 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0630             |               | 66.90 |
| 6.40 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0640             |               | 66.90 |
| 6.50 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0650             |               | 66.90 |
| 6.60 |                    | M 7                        | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0660             |               | 66.90 |
| 6.70 |                    | M 7 x 0,75                 | 43.00 | 53.00 | 91.00 | 8.00  | E.3650.1.0670             |               | 66.90 |

Fortsetzung nächste Seite / Continued on next page

| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|-------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|---------------|---|
| 6.80  | M 8                   | M 7 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0680                | 66.90         |   |
| 6.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0690                | 66.90         |   |
| 7.00  | M 8 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0700                | 66.90         |   |
| 7.10  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0710                | 66.90         |   |
| 7.20  | M 8 x 0,75            |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0720                | 66.90         |   |
| 7.30  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0730                | 66.90         |   |
| 7.40  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0740                | 66.90         |   |
| 7.50  | M 8 x 0,5             |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0750                | 66.90         |   |
| 7.60  |                       | M 8 x 1                       | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0760                | 66.90         |   |
| 7.70  |                       | M 8 x 0,75                    | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0770                | 66.90         |   |
| 7.80  | M 9                   | M 8 x 0,5                     | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0780                | 66.90         |   |
| 7.90  |                       |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0790                | 66.90         |   |
| 8.00  | M 9 x 1               |                               | 43.00 | 53.00 | 91.00  | 8.00  | E.3650.1.0800                | 66.90         |   |
| 8.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0810                | 79.30         |   |
| 8.20  | M 9 x 0,75            |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0820                | 79.30         |   |
| 8.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0830                | 79.30         |   |
| 8.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0840                | 79.30         |   |
| 8.50  | M 10                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0850                | 79.30         |   |
| 8.60  |                       | M 9 x 1                       | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0860                | 79.30         |   |
| 8.70  |                       | M 9 x 0,75                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0870                | 79.30         |   |
| 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0880                | 79.30         |   |
| 8.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0890                | 79.30         |   |
| 9.00  | M 10 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0900                | 79.30         |   |
| 9.10  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0910                | 79.30         |   |
| 9.20  | M 10 x 0,75           |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0920                | 79.30         |   |
| 9.30  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0930                | 79.30         |   |
| 9.40  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0940                | 79.30         |   |
| 9.50  | M 11                  |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0950                | 79.30         |   |
| 9.60  |                       | M 10 x 1                      | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0960                | 79.30         |   |
| 9.70  |                       | M 10 x 0,75                   | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0970                | 79.30         |   |
| 9.80  |                       | M 10 x 0,5                    | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0980                | 79.30         |   |
| 9.90  |                       |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.0990                | 79.30         |   |
| 10.00 | M 11 x 1              |                               | 49.00 | 61.00 | 103.00 | 10.00 | E.3650.1.1000                | 79.30         |   |
| 10.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1010                | 104.80        |   |
| 10.20 | M 12 / 11x0,75        |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1020                | 104.80        |   |
| 10.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1030                | 104.80        |   |
| 10.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1040                | 104.80        |   |
| 10.50 | M 12 x 1,5            |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1050                | 104.80        |   |
| 10.60 |                       | M 11 x 1                      | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1060                | 104.80        |   |
| 10.70 |                       | M 11 x 0,75                   | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1070                | 104.80        |   |
| 10.80 | M 12 x 1,25           |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1080                | 104.80        |   |
| 10.90 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1090                | 104.80        |   |
| 11.00 | M 12 x 1              |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1100                | 104.80        |   |
| 11.10 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1110                | 104.80        |   |
| 11.20 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1120                | 104.80        |   |
| 11.30 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1130                | 104.80        |   |
| 11.40 |                       |                               | 56.00 | 71.00 | 118.00 | 12.00 | E.3650.1.1140                | 104.80        |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd

| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2     | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|--------------------|
| 11.50 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3650.1.1150                | 104.80             |
| 11.60 |                       | M 12 x 1                      | 56.00 | 71.00  | 118.00 | 12.00 | E.3650.1.1160                | 104.80             |
| 11.70 |                       | M 12 x 0,75                   | 56.00 | 71.00  | 118.00 | 12.00 | E.3650.1.1170                | 104.80             |
| 11.80 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3650.1.1180                | 104.80             |
| 11.90 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3650.1.1190                | 104.80             |
| 12.00 | M 14                  |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3650.1.1200                | 104.80             |
| 12.20 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1220                | 133.10             |
| 12.30 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1230                | 133.10             |
| 12.50 | M 14 x 1,5            |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1250                | 133.10             |
| 12.80 | M 14 x 1,25           |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1280                | 133.10             |
| 13.00 | M 14 x 1              |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1300                | 133.10             |
| 13.50 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1350                | 133.10             |
| 13.80 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1380                | 133.10             |
| 14.00 | M 16 / M 15 x 1       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3650.1.1400                | 133.10             |
| 14.50 | M 16 x 1,5            |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3650.1.1450                | 167.10             |
| 14.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3650.1.1480                | 167.10             |
| 15.00 | M 16 x 1              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3650.1.1500                | 167.10             |
| 15.50 | M 18                  |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3650.1.1550                | 167.10             |
| 15.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3650.1.1580                | 167.10             |
| 16.00 | M 18 x 2              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3650.1.1600                | 167.10             |
| 16.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3650.1.1650                | 231.60             |
| 16.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3650.1.1680                | 231.60             |
| 17.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3650.1.1700                | 231.60             |
| 17.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3650.1.1750                | 231.60             |
| 17.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3650.1.1780                | 231.60             |
| 18.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3650.1.1800                | 231.60             |
| 18.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3650.1.1850                | 274.80             |
| 19.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3650.1.1900                | 274.80             |
| 19.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3650.1.1950                | 274.80             |
| 20.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3650.1.2000                | 274.80             |

VHM-Inox-Spiralbohrer 5xd mit Sonderanschliff

E.3651.1



Solid carbide twist drills 5xd  
 Wiertła skrajne z węglika spiekane go 5xd  
 Punte in MD 5xd  
 Brocas de metal duro integral, 5xd, ranuras helicoidales



Schnittwerte Seite 3.99  
Cutting data page 3.99

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|-------|
| 3.00 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0300             |               | 34.10 |
| 3.10 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0310             |               | 34.10 |
| 3.20 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0320             |               | 34.10 |
| 3.30 | M 4                | M 3,5 x 0,5                | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0330             |               | 34.10 |
| 3.40 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0340             |               | 34.10 |
| 3.50 | M 4 x 0,5          |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0350             |               | 34.10 |
| 3.60 |                    |                            | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0360             |               | 34.10 |
| 3.70 | M 4,5              | M 4                        | 23.00 | 28.00 | 66.00 | 6.00  | E.3651.1.0370             |               | 34.10 |
| 3.80 |                    | M 4 x 0,5                  | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0380             |               | 39.30 |
| 3.90 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0390             |               | 39.30 |
| 4.00 | M 4,5 x 0,5        |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0400             |               | 39.30 |
| 4.10 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0410             |               | 39.30 |
| 4.20 | M 5                | M 4,5                      | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0420             |               | 39.30 |
| 4.30 |                    | M 4,5 x 0,5                | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0430             |               | 39.30 |
| 4.40 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0440             |               | 39.30 |
| 4.50 | M 5 x 0,5          |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0450             |               | 39.30 |
| 4.60 |                    |                            | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0460             |               | 39.30 |
| 4.70 |                    | M 5 x 0,75                 | 29.00 | 36.00 | 74.00 | 6.00  | E.3651.1.0470             |               | 39.30 |
| 4.80 |                    | M 5 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0480             |               | 42.50 |
| 4.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0490             |               | 42.50 |
| 5.00 | M 6/M 5,5x0,5      |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0500             |               | 42.50 |
| 5.10 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0510             |               | 42.50 |
| 5.20 | M 6 x 0,75         |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0520             |               | 42.50 |
| 5.30 |                    | M 5,5 x 0,5                | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0530             |               | 42.50 |
| 5.40 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0540             |               | 42.50 |
| 5.50 | M 6 x 0,5          |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0550             |               | 42.50 |
| 5.60 |                    | M 6                        | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0560             |               | 42.50 |
| 5.70 |                    | M 6 x 0,75                 | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0570             |               | 42.50 |
| 5.80 |                    | M 6 x 0,5                  | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0580             |               | 42.50 |
| 5.90 |                    |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0590             |               | 42.50 |
| 6.00 | M 7                |                            | 35.00 | 44.00 | 82.00 | 6.00  | E.3651.1.0600             |               | 42.50 |
| 6.10 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0610             |               | 58.00 |
| 6.20 | M 7 x 0,75         |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0620             |               | 58.00 |
| 6.30 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0630             |               | 58.00 |
| 6.40 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0640             |               | 58.00 |
| 6.50 |                    |                            | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0650             |               | 58.00 |
| 6.60 |                    | M 7                        | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0660             |               | 58.00 |
| 6.70 |                    | M 7 x 0,75                 | 43.00 | 53.00 | 91.00 | 8.00  | E.3651.1.0670             |               | 58.00 |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd

|                   | d1    | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------------------|-------|--------------------|----------------------------|-------|-------|--------|-------|---------------------------|---------------|---|
| Gewinde-schneider | 6.80  | M 8                | M 7 x 0,5                  | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0680              | 58.00         |   |
|                   | 6.90  |                    |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0690              | 58.00         |   |
| Bohrer HSS/E      | 7.00  | M 8 x 1            |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0700              | 58.00         |   |
|                   | 7.10  |                    |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0710              | 58.00         |   |
| Bohrer VHM        | 7.20  | M 8 x 0,75         |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0720              | 58.00         |   |
|                   | 7.30  |                    |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0730              | 58.00         |   |
|                   | 7.40  |                    |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0740              | 58.00         |   |
|                   | 7.50  | M 8 x 0,5          |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0750              | 58.00         |   |
|                   | 7.60  |                    | M 8 x 1                    | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0760              | 58.00         |   |
|                   | 7.70  |                    | M 8 x 0,75                 | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0770              | 58.00         |   |
|                   | 7.80  | M 9                | M 8 x 0,5                  | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0780              | 58.00         |   |
|                   | 7.90  |                    |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0790              | 58.00         |   |
| Reibahlen HSS/E   | 8.00  | M 9 x 1            |                            | 43.00 | 53.00 | 91.00  | 8.00  | E.36511.0800              | 58.00         |   |
|                   | 8.10  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0810              | 69.30         |   |
| Reibahlen VHM     | 8.20  | M 9 x 0,75         |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0820              | 69.30         |   |
|                   | 8.30  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0830              | 69.30         |   |
|                   | 8.40  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0840              | 69.30         |   |
|                   | 8.50  | M 10               |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0850              | 69.30         |   |
|                   | 8.60  |                    | M 9 x 1                    | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0860              | 69.30         |   |
|                   | 8.70  |                    | M 9 x 0,75                 | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0870              | 69.30         |   |
|                   | 8.80  | M 10 x 1,25        | M 9 x 0,5                  | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0880              | 69.30         |   |
|                   | 8.90  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0890              | 69.30         |   |
| Fräsrifte HM      | 9.00  | M 10 x 1           |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0900              | 69.30         |   |
|                   | 9.10  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0910              | 69.30         |   |
|                   | 9.20  | M 10 x 0,75        |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0920              | 69.30         |   |
|                   | 9.30  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0930              | 69.30         |   |
| Fräser VHM        | 9.40  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0940              | 69.30         |   |
|                   | 9.50  | M 11               |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0950              | 69.30         |   |
|                   | 9.60  |                    | M 10 x 1                   | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0960              | 69.30         |   |
|                   | 9.70  |                    | M 10 x 0,75                | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0970              | 69.30         |   |
| Spannmittel       | 9.80  |                    | M 10 x 0,5                 | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0980              | 69.30         |   |
|                   | 9.90  |                    |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.0990              | 69.30         |   |
|                   | 10.00 | M 11 x 1           |                            | 49.00 | 61.00 | 103.00 | 10.00 | E.36511.1000              | 69.30         |   |
|                   | 10.10 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1010              | 93.60         |   |
| Fräser HSSE       | 10.20 | M 12 / 11x0,75     |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1020              | 93.60         |   |
|                   | 10.30 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1030              | 93.60         |   |
|                   | 10.40 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1040              | 93.60         |   |
|                   | 10.50 | M 12 x 1,5         |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1050              | 93.60         |   |
|                   | 10.60 |                    | M 11 x 1                   | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1060              | 93.60         |   |
|                   | 10.70 |                    | M 11 x 0,75                | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1070              | 93.60         |   |
| Sägen             | 10.80 | M 12 x 1,25        |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1080              | 93.60         |   |
|                   | 10.90 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1090              | 93.60         |   |
|                   | 11.00 | M 12 x 1           |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1100              | 93.60         |   |
| Lehren            | 11.10 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1110              | 93.60         |   |
|                   | 11.20 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1120              | 93.60         |   |
|                   | 11.30 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1130              | 93.60         |   |
|                   | 11.40 |                    |                            | 56.00 | 71.00 | 118.00 | 12.00 | E.36511.1140              | 93.60         |   |
| Technik           |       |                    |                            |       |       |        |       |                           |               |   |
|                   |       |                    |                            |       |       |        |       |                           |               |   |
|                   |       |                    |                            |       |       |        |       |                           |               |   |
|                   |       |                    |                            |       |       |        |       |                           |               |   |

Fortsetzung nächste Seite / Continued on next page



## Bohrer VHM

5xd

| d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3    | l2     | l1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|--------------------|
| 11.50 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3651.1.1150                | 93.60              |
| 11.60 |                       | M 12 x 1                      | 56.00 | 71.00  | 118.00 | 12.00 | E.3651.1.1160                | 93.60              |
| 11.70 |                       | M 12 x 0,75                   | 56.00 | 71.00  | 118.00 | 12.00 | E.3651.1.1170                | 93.60              |
| 11.80 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3651.1.1180                | 93.60              |
| 11.90 |                       |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3651.1.1190                | 93.60              |
| 12.00 | M 14                  |                               | 56.00 | 71.00  | 118.00 | 12.00 | E.3651.1.1200                | 93.60              |
| 12.20 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1220                | 120.90             |
| 12.30 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1230                | 120.90             |
| 12.50 | M 14 x 1,5            |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1250                | 120.90             |
| 12.80 | M 14 x 1,25           |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1280                | 120.90             |
| 13.00 | M 14 x 1              |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1300                | 120.90             |
| 13.50 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1350                | 120.90             |
| 13.80 |                       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1380                | 120.90             |
| 14.00 | M 16 / M 15 x 1       |                               | 60.00 | 77.00  | 124.00 | 14.00 | E.3651.1.1400                | 120.90             |
| 14.50 | M 16 x 1,5            |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3651.1.1450                | 156.00             |
| 14.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3651.1.1480                | 156.00             |
| 15.00 | M 16 x 1              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3651.1.1500                | 156.00             |
| 15.50 | M 18                  |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3651.1.1550                | 156.00             |
| 15.80 |                       |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3651.1.1580                | 156.00             |
| 16.00 | M 18 x 2              |                               | 63.00 | 83.00  | 133.00 | 16.00 | E.3651.1.1600                | 156.00             |
| 16.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3651.1.1650                | 213.80             |
| 16.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3651.1.1680                | 213.80             |
| 17.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3651.1.1700                | 213.80             |
| 17.50 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3651.1.1750                | 213.80             |
| 17.80 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3651.1.1780                | 213.80             |
| 18.00 |                       |                               | 71.00 | 93.00  | 143.00 | 18.00 | E.3651.1.1800                | 213.80             |
| 18.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3651.1.1850                | 259.20             |
| 19.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3651.1.1900                | 259.20             |
| 19.50 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3651.1.1950                | 259.20             |
| 20.00 |                       |                               | 77.00 | 101.00 | 153.00 | 20.00 | E.3651.1.2000                | 259.20             |

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

# Bohrer VHM

5xd

## VHM-4 Fasenbohrer 5xd gerade genutet

E.3628.0



Solid carbide twist drills with 4 guide margins, 5xd, straight fluted

Wierbla proste 4--lysinkowe z węglika spiekanego 5xd do materiałów dających krótki wiór

Punte MD, 4 fasi, denti dritti 5xd

Brocas de metal duro integral, 5xd, con cuatro caras y ranuras rectas



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3100  
Cutting data page 3100

| d1 m7  | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1     | d2    | Artikelnummer Article-No. | Stück / piece | €      |
|--------|--------------------|----------------------------|-------|--------|-------|---------------------------|---------------|--------|
| 2.80   |                    | M 3                        | 21.00 | 57.00  | 6.00  | E.3628.0.0280             |               | 78.20  |
| 3.00   |                    |                            | 24.00 | 66.00  | 6.00  | E.3628.0.0300             |               | 97.40  |
| 3.30   | M 4                | M 3,5 x 0,5                | 24.00 | 66.00  | 6.00  | E.3628.0.0330             |               | 97.40  |
| 3.50   | M 4 x 0,5          |                            | 24.00 | 66.00  | 6.00  | E.3628.0.0350             |               | 97.40  |
| 3.70*  | M 4,5              | M 4                        | 24.00 | 66.00  | 6.00  | E.3628.0.0370             |               | 0.00   |
| 3.80   |                    | M 4 x 0,5                  | 30.00 | 74.00  | 6.00  | E.3628.0.0380             |               | 97.40  |
| 3.90*  |                    |                            | 30.00 | 74.00  | 6.00  | E.3628.0.0390             |               | 0.00   |
| 4.00   | M 4,5 x 0,5        |                            | 30.00 | 74.00  | 6.00  | E.3628.0.0400             |               | 97.40  |
| 4.20   | M 5                | M 4,5                      | 30.00 | 74.00  | 6.00  | E.3628.0.0420             |               | 97.40  |
| 4.50   | M 5 x 0,5          |                            | 30.00 | 74.00  | 6.00  | E.3628.0.0450             |               | 97.40  |
| 4.80   |                    | M 5 x 0,5                  | 36.00 | 74.00  | 6.00  | E.3628.0.0480             |               | 97.40  |
| 5.00   | M 6 / M5,5x0,5     |                            | 36.00 | 74.00  | 6.00  | E.3628.0.0500             |               | 115.20 |
| 5.50   | M 6 x 0,5          |                            | 36.00 | 74.00  | 6.00  | E.3628.0.0550             |               | 115.20 |
| 5.80   |                    | M 6 x 0,5                  | 36.00 | 74.00  | 6.00  | E.3628.0.0580             |               | 115.20 |
| 6.00   | M 7                |                            | 36.00 | 74.00  | 6.00  | E.3628.0.0600             |               | 97.40  |
| 6.50   |                    |                            | 53.00 | 91.00  | 8.00  | E.3628.0.0650             |               | 133.00 |
| 6.80   | M 8                | M 7 x 0,5                  | 53.00 | 91.00  | 8.00  | E.3628.0.0680             |               | 133.00 |
| 7.00   | M 8 x 1            |                            | 53.00 | 91.00  | 8.00  | E.3628.0.0700             |               | 133.00 |
| 7.50   | M 8 x 0,5          |                            | 53.00 | 91.00  | 8.00  | E.3628.0.0750             |               | 133.00 |
| 7.80   | M 9                | M 8 x 0,5                  | 53.00 | 91.00  | 8.00  | E.3628.0.0780             |               | 133.00 |
| 8.00   | M 9 x 1            |                            | 53.00 | 91.00  | 8.00  | E.3628.0.0800             |               | 108.10 |
| 8.50   | M 10               |                            | 61.00 | 103.00 | 10.00 | E.3628.0.0850             |               | 140.10 |
| 8.80   | M 10 x 1,25        | M 9 x 0,5                  | 61.00 | 103.00 | 10.00 | E.3628.0.0880             |               | 140.10 |
| 9.00   | M 10 x 1           |                            | 61.00 | 103.00 | 10.00 | E.3628.0.0900             |               | 140.10 |
| 9.50   | M 11               |                            | 61.00 | 103.00 | 10.00 | E.3628.0.0950             |               | 140.10 |
| 9.80   |                    | M 10 x 0,5                 | 61.00 | 103.00 | 10.00 | E.3628.0.0980             |               | 140.10 |
| 10.00  | M 11 x 1           |                            | 61.00 | 103.00 | 10.00 | E.3628.0.1000             |               | 131.80 |
| 10.20  | M 12 / M11x0,75    |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1020             |               | 162.70 |
| 10.50  | M 12 x 1,5         |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1050             |               | 179.30 |
| 10.80* | M 12 x 1,25        |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1080             |               | 81.00  |
| 11.00  | M 12 x 1           |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1100             |               | 162.70 |
| 11.50  |                    |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1150             |               | 179.30 |
| 11.80* |                    |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1180             |               | 75.20  |
| 12.00  | M 14               |                            | 71.00 | 118.00 | 12.00 | E.3628.0.1200             |               | 162.70 |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

5xd / 8xd

| d1 m7  | Gewindebohrer taps | Gewindeformer forming taps | l2     | l1     | d2    | Artikelnummer Article-No. | Stück / piece | € |
|--------|--------------------|----------------------------|--------|--------|-------|---------------------------|---------------|---|
| 14.00* | M 16 / M 15 x 1    |                            | 74.00  | 124.00 | 14.00 | E.3628.0.1400             | 109.00        |   |
| 14.80* |                    |                            | 83.00  | 133.00 | 16.00 | E.3628.0.1480             | 143.90        |   |
| 15.50  | M 18               |                            | 83.00  | 133.00 | 16.00 | E.3628.0.1550             | 143.90        |   |
| 15.80* |                    |                            | 83.00  | 133.00 | 16.00 | E.3628.0.1580             | 143.90        |   |
| 16.00* | M 18 x 2           |                            | 83.00  | 133.00 | 16.00 | E.3628.0.1600             | 143.90        |   |
| 19.00* |                    |                            | 101.00 | 153.00 | 20.00 | E.3628.0.1900             | 220.00        |   |

\* = Auslaufartikel / obsolete article

## VHM-Mikro-Spiralbohrer 8xd

E.3610.1



Solid carbide micro drills 8xd  
 Wiertła miniaturowe z węgla spiekane go 8xd do stali nierdzewnej stopow tytanu  
 Micropunte in MD 8xd  
 Microbrocas de metal duro integral, 8xd



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|------|-------|-------|-------|---------------------------|---------------|---|
| 0.50 | 4.80  | 38.00 | 3.00  | E.3610.1.0050             | 41.20         |   |
| 0.55 | 5.20  | 38.00 | 3.00  | E.3610.1.0055             | 41.10         |   |
| 0.60 | 5.70  | 38.00 | 3.00  | E.3610.1.0060             | 41.10         |   |
| 0.65 | 6.20  | 38.00 | 3.00  | E.3610.1.0065             | 41.10         |   |
| 0.70 | 6.70  | 38.00 | 3.00  | E.3610.1.0070             | 41.10         |   |
| 0.75 | 7.10  | 38.00 | 3.00  | E.3610.1.0075             | 41.10         |   |
| 0.80 | 7.60  | 38.00 | 3.00  | E.3610.1.0080             | 41.10         |   |
| 0.85 | 8.10  | 38.00 | 3.00  | E.3610.1.0085             | 41.10         |   |
| 0.90 | 8.60  | 38.00 | 3.00  | E.3610.1.0090             | 41.60         |   |
| 0.95 | 9.00  | 38.00 | 3.00  | E.3610.1.0095             | 41.60         |   |
| 1.00 | 9.50  | 38.00 | 3.00  | E.3610.1.0100             | 41.60         |   |
| 1.05 | 10.00 | 38.00 | 3.00  | E.3610.1.0105             | 41.60         |   |
| 1.10 | 10.50 | 38.00 | 3.00  | E.3610.1.0110             | 42.10         |   |
| 1.15 | 10.90 | 38.00 | 3.00  | E.3610.1.0115             | 42.10         |   |
| 1.20 | 11.40 | 38.00 | 3.00  | E.3610.1.0120             | 42.10         |   |
| 1.25 | 11.90 | 38.00 | 3.00  | E.3610.1.0125             | 42.10         |   |
| 1.30 | 12.40 | 38.00 | 3.00  | E.3610.1.0130             | 42.90         |   |
| 1.35 | 12.80 | 38.00 | 3.00  | E.3610.1.0135             | 42.90         |   |
| 1.40 | 13.30 | 38.00 | 3.00  | E.3610.1.0140             | 42.90         |   |
| 1.45 | 13.80 | 38.00 | 3.00  | E.3610.1.0145             | 44.00         |   |
| 1.50 | 14.30 | 38.00 | 3.00  | E.3610.1.0150             | 44.00         |   |
| 1.55 | 14.70 | 45.00 | 3.00  | E.3610.1.0155             | 44.00         |   |
| 1.60 | 15.20 | 45.00 | 3.00  | E.3610.1.0160             | 45.40         |   |
| 1.65 | 15.70 | 45.00 | 3.00  | E.3610.1.0165             | 45.40         |   |
| 1.70 | 16.20 | 45.00 | 3.00  | E.3610.1.0170             | 45.40         |   |
| 1.75 | 16.60 | 45.00 | 3.00  | E.3610.1.0175             | 45.40         |   |
| 1.80 | 17.10 | 45.00 | 3.00  | E.3610.1.0180             | 46.60         |   |
| 1.85 | 17.60 | 45.00 | 3.00  | E.3610.1.0185             | 46.60         |   |

Fortsetzung nächste Seite / Continued on next page

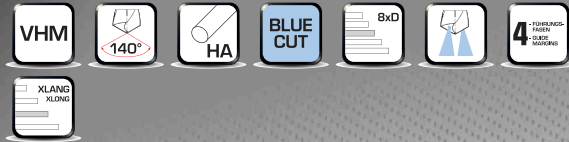
# Bohrer VHM

8xd

|                 | d1   | I2    | I1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------|------|-------|-------|-------|------------------------------|--------------------|
| Bohrer HSS/E    | 1.90 | 18.10 | 45.00 | 3.00  | E.3610.1.0190                | 46.60              |
|                 | 1.95 | 18.50 | 45.00 | 3.00  | E.3610.1.0195                | 46.60              |
|                 | 2.00 | 19.00 | 45.00 | 3.00  | E.3610.1.0200                | 51.30              |
| Bohrer VHM      | 2.05 | 19.50 | 45.00 | 3.00  | E.3610.1.0205                | 51.30              |
|                 | 2.10 | 20.00 | 45.00 | 3.00  | E.3610.1.0210                | 53.70              |
|                 | 2.15 | 20.40 | 45.00 | 3.00  | E.3610.1.0215                | 53.70              |
|                 | 2.20 | 20.90 | 45.00 | 3.00  | E.3610.1.0220                | 54.70              |
|                 | 2.25 | 21.40 | 45.00 | 3.00  | E.3610.1.0225                | 54.70              |
|                 | 2.30 | 21.90 | 45.00 | 3.00  | E.3610.1.0230                | 54.70              |
|                 | 2.35 | 22.30 | 45.00 | 3.00  | E.3610.1.0235                | 56.60              |
|                 | 2.40 | 22.80 | 45.00 | 3.00  | E.3610.1.0240                | 56.60              |
|                 | 2.45 | 23.30 | 45.00 | 3.00  | E.3610.1.0245                | 56.60              |
|                 | 2.50 | 23.80 | 53.00 | 3.00  | E.3610.1.0250                | 59.40              |
| Reibahlen HSS/E | 2.55 | 24.20 | 53.00 | 3.00  | E.3610.1.0255                | 61.00              |
|                 | 2.60 | 24.70 | 53.00 | 3.00  | E.3610.1.0260                | 61.00              |
|                 | 2.65 | 25.20 | 53.00 | 3.00  | E.3610.1.0265                | 61.00              |
|                 | 2.70 | 25.70 | 53.00 | 3.00  | E.3610.1.0270                | 62.30              |
|                 | 2.75 | 26.10 | 53.00 | 3.00  | E.3610.1.0275                | 62.30              |
| Reibahlen VHM   | 2.80 | 26.60 | 53.00 | 3.00  | E.3610.1.0280                | 64.90              |
|                 | 2.85 | 27.10 | 53.00 | 3.00  | E.3610.1.0285                | 64.90              |
|                 | 2.90 | 27.60 | 53.00 | 3.00  | E.3610.1.0290                | 66.00              |
|                 | 2.95 | 28.00 | 53.00 | 3.00  | E.3610.1.0295                | 66.00              |
|                 | 3.00 | 28.50 | 53.00 | 3.00  | E.3610.1.0300                | 66.00              |

## VHM-Universal-Spiralbohrer 8xd mit 4-Führungsfasen

E.3666.1



- Solid carbide twist drills 8xd
- Viertla skřetné z Weglika spiekaneho 8xd
- Punta in MD 8xd
- Brocas de metal duro integral, 8xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3100  
Cutting data page 3100

|             | d1   | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------------|------|-----------------------|-------------------------------|-------|-------|-------|-------|------------------------------|--------------------|
| Fräser HSSE | 1.00 |                       |                               | 9.00  | 11.00 | 55.00 | 3.00  | E.3666.1.0100                | 36.00              |
|             | 1.10 |                       |                               | 13.50 | 17.00 | 55.00 | 3.00  | E.3666.1.0110                | 36.00              |
|             | 1.20 |                       |                               | 13.50 | 17.00 | 55.00 | 3.00  | E.3666.1.0120                | 36.00              |
|             | 1.30 |                       |                               | 13.50 | 17.00 | 55.00 | 3.00  | E.3666.1.0130                | 36.00              |
|             | 1.40 |                       |                               | 13.50 | 17.00 | 55.00 | 3.00  | E.3666.1.0140                | 36.00              |
|             | 1.50 |                       |                               | 17.50 | 22.00 | 65.00 | 3.00  | E.3666.1.0150                | 36.00              |
|             | 1.60 |                       |                               | 17.50 | 22.00 | 65.00 | 3.00  | E.3666.1.0160                | 36.00              |
|             | 1.70 |                       |                               | 17.50 | 22.00 | 65.00 | 3.00  | E.3666.1.0170                | 36.00              |
|             | 1.80 |                       |                               | 17.50 | 22.00 | 65.00 | 3.00  | E.3666.1.0180                | 36.00              |
|             | 1.90 |                       |                               | 17.50 | 22.00 | 65.00 | 3.00  | E.3666.1.0190                | 36.00              |
| Sägen       | 2.00 |                       |                               | 22.50 | 28.00 | 74.00 | 3.00  | E.3666.1.0200                | 36.00              |
|             | 2.10 |                       |                               | 22.50 | 28.00 | 74.00 | 3.00  | E.3666.1.0210                | 36.00              |
| Lehren      |      |                       |                               |       |       |       |       |                              |                    |
|             |      |                       |                               |       |       |       |       |                              |                    |
| Technik     |      |                       |                               |       |       |       |       |                              |                    |
|             |      |                       |                               |       |       |       |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page

| d1   | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | Stück / piece | € |
|------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|---------------|---|
| 2.20 |                       |                               | 22.50 | 28.00 | 74.00  | 3.00  | E.36661.0220                 | 36.00         |   |
| 2.30 |                       |                               | 22.50 | 28.00 | 74.00  | 3.00  | E.36661.0230                 | 36.00         |   |
| 2.40 |                       |                               | 22.50 | 28.00 | 74.00  | 3.00  | E.36661.0240                 | 36.00         |   |
| 2.50 |                       |                               | 22.50 | 32.00 | 81.00  | 3.00  | E.36661.0250                 | 33.00         |   |
| 2.60 |                       |                               | 22.50 | 32.00 | 81.00  | 3.00  | E.36661.0260                 | 33.00         |   |
| 2.70 |                       |                               | 22.50 | 32.00 | 81.00  | 3.00  | E.36661.0270                 | 33.00         |   |
| 2.80 |                       | M 3                           | 22.50 | 32.00 | 81.00  | 3.00  | E.36661.0280                 | 33.00         |   |
| 2.90 | M 3,5                 | M 3 x 0,25                    | 22.50 | 32.00 | 81.00  | 3.00  | E.36661.0290                 | 33.00         |   |
| 3.00 |                       |                               | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0300                 | 54.00         |   |
| 3.10 |                       |                               | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0310                 | 54.00         |   |
| 3.20 |                       |                               | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0320                 | 54.00         |   |
| 3.30 | M 4                   | M 3,5 x 0,5                   | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0330                 | 54.00         |   |
| 3.40 |                       |                               | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0340                 | 54.00         |   |
| 3.50 | M 4 x 0,5             |                               | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0350                 | 54.00         |   |
| 3.60 |                       |                               | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0360                 | 54.00         |   |
| 3.70 | M 4,5                 | M 4                           | 27.00 | 34.00 | 72.00  | 6.00  | E.36661.0370                 | 54.00         |   |
| 3.80 |                       | M 4 x 0,5                     | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0380                 | 54.00         |   |
| 3.90 |                       |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0390                 | 54.00         |   |
| 4.00 | M 4,5 x 0,5           |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0400                 | 54.00         |   |
| 4.10 |                       |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0410                 | 54.00         |   |
| 4.20 | M 5                   | M 4,5                         | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0420                 | 54.00         |   |
| 4.30 |                       | M 4,5 x 0,5                   | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0430                 | 54.00         |   |
| 4.40 |                       |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0440                 | 54.00         |   |
| 4.50 | M 5 x 0,5             |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0450                 | 54.00         |   |
| 4.60 |                       |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36661.0460                 | 54.00         |   |
| 4.70 |                       | M 5 x 0,75                    | 35.00 | 57.00 | 95.00  | 6.00  | E.36661.0470                 | 54.00         |   |
| 4.80 |                       | M 5 x 0,5                     | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0480                 | 54.00         |   |
| 4.90 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0490                 | 54.00         |   |
| 5.00 | M 6 / M5,5x0,5        |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0500                 | 54.00         |   |
| 5.10 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0510                 | 54.00         |   |
| 5.20 | M 6 x 0,75            |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0520                 | 54.00         |   |
| 5.30 |                       | M 5,5 x 0,5                   | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0530                 | 54.00         |   |
| 5.40 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0540                 | 54.00         |   |
| 5.50 | M 6 x 0,5             |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0550                 | 54.00         |   |
| 5.60 |                       | M 6                           | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0560                 | 54.00         |   |
| 5.70 |                       | M 6 x 0,75                    | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0570                 | 54.00         |   |
| 5.80 |                       | M 6 x 0,5                     | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0580                 | 54.00         |   |
| 5.90 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0590                 | 54.00         |   |
| 6.00 | M 7                   |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36661.0600                 | 54.00         |   |
| 6.10 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0610                 | 80.00         |   |
| 6.20 | M 7 x 0,75            |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0620                 | 80.00         |   |
| 6.30 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0630                 | 80.00         |   |
| 6.40 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0640                 | 80.00         |   |
| 6.50 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0650                 | 80.00         |   |
| 6.60 |                       | M 7                           | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0660                 | 80.00         |   |
| 6.70 |                       | M 7 x 0,75                    | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0670                 | 80.00         |   |
| 6.80 | M 8                   | M 7 x 0,5                     | 52.00 | 76.00 | 114.00 | 8.00  | E.36661.0680                 | 80.00         |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

8xd

|                       | d1    | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2     | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------------|-------|-----------------------|-------------------------------|-------|--------|--------|-------|------------------------------|--------------------|
| Gewinde-<br>schneider | 6.90  |                       |                               | 52.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0690                | 80.00              |
|                       | 7.00  | M 8 x 1               |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0700                | 80.00              |
| Bohrer<br>HSS/E       | 7.10  |                       |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0710                | 80.00              |
|                       | 7.20  | M 8 x 0,75            |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0720                | 80.00              |
|                       | 7.30  |                       |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0730                | 80.00              |
|                       | 7.40  |                       |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0740                | 80.00              |
| Bohrer<br>VHM         | 7.50  | M 8 x 0,5             |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0750                | 80.00              |
|                       | 7.60  |                       | M 8 x 1                       | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0760                | 80.00              |
|                       | 7.70  |                       | M 8 x 0,75                    | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0770                | 80.00              |
|                       | 7.80  | M 9                   | M 8 x 0,5                     | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0780                | 80.00              |
| Reibahlen<br>HSS/E    | 7.90  |                       |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0790                | 80.00              |
|                       | 8.00  | M 9 x 1               |                               | 60.00 | 76.00  | 114.00 | 8.00  | E.3666.1.0800                | 80.00              |
|                       | 8.10  |                       |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0810                | 104.00             |
|                       | 8.20  | M 9 x 0,75            |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0820                | 104.00             |
| Reibahlen<br>VHM      | 8.30  |                       |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0830                | 104.00             |
|                       | 8.40  |                       |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0840                | 104.00             |
|                       | 8.50  | M 10                  |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0850                | 104.00             |
|                       | 8.60  |                       | M 9 x 1                       | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0860                | 104.00             |
| Fräsriffe<br>HM       | 8.70  |                       | M 9 x 0,75                    | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0870                | 104.00             |
|                       | 8.80  | M 10 x 1,25           | M 9 x 0,5                     | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0880                | 104.00             |
|                       | 8.90  |                       |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0890                | 104.00             |
|                       | 9.00  | M 10 x 1              |                               | 68.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0900                | 104.00             |
| Fräser<br>VHM         | 9.10  |                       |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0910                | 104.00             |
|                       | 9.20  | M 10 x 0,75           |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0920                | 104.00             |
|                       | 9.30  |                       |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0930                | 104.00             |
|                       | 9.40  |                       |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0940                | 104.00             |
| Spannmittel           | 9.50  | M 11                  |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0950                | 104.00             |
|                       | 9.60  |                       | M 10 x 1                      | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0960                | 104.00             |
|                       | 9.70  |                       | M 10 x 0,75                   | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0970                | 104.00             |
|                       | 9.80  |                       | M 10 x 0,5                    | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0980                | 104.00             |
| Fräser<br>HSSE        | 9.90  |                       |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.0990                | 104.00             |
|                       | 10.00 | M 11 x 1              |                               | 76.00 | 95.00  | 142.00 | 10.00 | E.3666.1.1000                | 104.00             |
|                       | 10.10 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1010                | 140.00             |
|                       | 10.20 | M 12 / 11x0,75        |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1020                | 140.00             |
| Sägen                 | 10.30 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1030                | 140.00             |
|                       | 10.40 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1040                | 140.00             |
|                       | 10.50 | M 12 x 1,5            |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1050                | 140.00             |
|                       | 10.60 |                       | M 11 x 1                      | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1060                | 140.00             |
| Lehren                | 10.70 |                       | M 11 x 0,75                   | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1070                | 140.00             |
|                       | 10.80 | M 12 x 1,25           |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1080                | 140.00             |
|                       | 10.90 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1090                | 140.00             |
|                       | 11.00 | M 12 x 1              |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1100                | 140.00             |
| Technik               | 11.10 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1110                | 140.00             |
|                       | 11.20 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1120                | 140.00             |
|                       | 11.30 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1130                | 140.00             |
|                       | 11.40 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1140                | 140.00             |
|                       | 11.50 |                       |                               | 90.00 | 114.00 | 162.00 | 12.00 | E.3666.1.1150                | 140.00             |

Fortsetzung nächste Seite / Continued on next page



## Bohrer VHM

8xd

| d1     | Gewindebohrer taps | Gewindeformer forming taps | I3     | I2     | I1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|--------|--------------------|----------------------------|--------|--------|--------|-------|---------------------------|---------------|---|
| 11.60  |                    | M 12 x 1                   | 90.00  | 114.00 | 162.00 | 12.00 | E.3666.1.1160             | 140.00        |   |
| 11.70  |                    | M 12 x 0,75                | 90.00  | 114.00 | 162.00 | 12.00 | E.3666.1.1170             | 140.00        |   |
| 11.80  |                    |                            | 90.00  | 114.00 | 162.00 | 12.00 | E.3666.1.1180             | 140.00        |   |
| 11.90  |                    |                            | 90.00  | 114.00 | 162.00 | 12.00 | E.3666.1.1190             | 140.00        |   |
| 12.00  | M 14               |                            | 90.00  | 114.00 | 162.00 | 12.00 | E.3666.1.1200             | 140.00        |   |
| 12.50  | M 14 x 1,5         |                            | 106.00 | 133.00 | 178.00 | 14.00 | E.3666.1.1250             | 198.00        |   |
| 12.80  | M 14 x 1,25        |                            | 106.00 | 133.00 | 178.00 | 14.00 | E.3666.1.1280             | 198.00        |   |
| 13.00  | M 14 x 1           |                            | 106.00 | 133.00 | 178.00 | 14.00 | E.3666.1.1300             | 198.00        |   |
| 13.50  |                    |                            | 106.00 | 133.00 | 178.00 | 14.00 | E.3666.1.1350             | 198.00        |   |
| 14.00  | M 16 / M 15 x 1    |                            | 106.00 | 133.00 | 178.00 | 14.00 | E.3666.1.1400             | 198.00        |   |
| 14.50  | M 16 x 1,5         |                            | 122.00 | 152.00 | 203.00 | 16.00 | E.3666.1.1450             | 255.00        |   |
| 15.00  | M 16 x 1           |                            | 122.00 | 152.00 | 203.00 | 16.00 | E.3666.1.1500             | 255.00        |   |
| 15.50  | M 18               |                            | 122.00 | 152.00 | 203.00 | 16.00 | E.3666.1.1550             | 255.00        |   |
| 16.00  | M 18 x 2           |                            | 122.00 | 152.00 | 203.00 | 16.00 | E.3666.1.1600             | 255.00        |   |
| 16.50* |                    |                            | 150.00 | 171.00 | 222.00 | 18.00 | E.3666.1.1650             | 430.10        |   |
| 17.00* |                    |                            | 150.00 | 171.00 | 222.00 | 18.00 | E.3666.1.1700             | 430.10        |   |
| 17.80* |                    |                            | 150.00 | 171.00 | 222.00 | 18.00 | E.3666.1.1780             | 324.50        |   |
| 18.50* |                    |                            | 170.00 | 190.00 | 243.00 | 20.00 | E.3666.1.1850             | 523.60        |   |
| 18.80* |                    |                            | 170.00 | 190.00 | 243.00 | 20.00 | E.3666.1.1880             | 374.00        |   |
| 19.00* |                    |                            | 170.00 | 190.00 | 243.00 | 20.00 | E.3666.1.1900             | 374.00        |   |

\* = Auslaufartikel / obsolete article

## VHM-Inox-Spiralbohrer 8xd mit IK

E.3623.1



Solid carbide twist drills 8xd  
 Wiertła skrotne z weglika spiekanego 8xd  
 Punte in MD 8xd  
 Brocas de metal duro integral, 8xd, ranuras helicoidales



Schnittwerte Seite 3.100  
Cutting data page 3.100

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|---|
| 3.00 |                    |                            | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0300             | 78.40         |   |
| 3.10 |                    |                            | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0310             | 78.40         |   |
| 3.20 |                    |                            | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0320             | 78.40         |   |
| 3.30 | M 4                | M 3,5 x 0,5                | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0330             | 78.40         |   |
| 3.40 |                    |                            | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0340             | 78.40         |   |
| 3.50 | M 4 x 0,5          |                            | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0350             | 78.40         |   |
| 3.60 |                    |                            | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0360             | 78.40         |   |
| 3.70 | M 4,5              | M 4                        | 27.00 | 34.00 | 81.00 | 6.00  | E.3623.1.0370             | 78.40         |   |
| 3.80 |                    | M 4 x 0,5                  | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0380             | 78.40         |   |
| 3.90 |                    |                            | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0390             | 78.40         |   |
| 4.00 | M 4,5 x 0,5        |                            | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0400             | 78.40         |   |
| 4.10 |                    |                            | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0410             | 78.40         |   |
| 4.20 | M 5                | M 4,5                      | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0420             | 78.40         |   |
| 4.30 |                    | M 4,5 x 0,5                | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0430             | 78.40         |   |
| 4.40 |                    |                            | 35.00 | 43.00 | 81.00 | 6.00  | E.3623.1.0440             | 78.40         |   |

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

8xd

|                    | d1   | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3    | I2    | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------------------|------|-----------------------|-------------------------------|-------|-------|--------|-------|------------------------------|--------------------|
| Bohrer<br>HSS/E    | 4.50 | M 5 x 0,5             |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36231.0450                 | 78.40              |
|                    | 4.60 |                       |                               | 35.00 | 43.00 | 81.00  | 6.00  | E.36231.0460                 | 78.40              |
|                    | 4.70 |                       | M 5 x 0,75                    | 35.00 | 43.00 | 81.00  | 6.00  | E.36231.0470                 | 78.40              |
|                    | 4.80 |                       | M 5 x 0,5                     | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0480                 | 78.40              |
|                    | 4.90 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0490                 | 78.40              |
| Bohrer<br>VHM      | 5.00 | M 6 / M5,5x0,5        |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0500                 | 78.40              |
|                    | 5.10 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0510                 | 78.40              |
|                    | 5.20 | M 6 x 0,75            |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0520                 | 78.40              |
|                    | 5.30 |                       | M 5,5 x 0,5                   | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0530                 | 78.40              |
|                    | 5.40 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0540                 | 78.40              |
| Reibahlen<br>HSS/E | 5.50 | M 6 x 0,5             |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0550                 | 78.40              |
|                    | 5.60 |                       | M 6                           | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0560                 | 78.40              |
|                    | 5.70 |                       | M 6 x 0,75                    | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0570                 | 78.40              |
|                    | 5.80 |                       | M 6 x 0,5                     | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0580                 | 78.40              |
|                    | 5.90 |                       |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0590                 | 78.40              |
| Reibahlen<br>VHM   | 6.00 | M 7                   |                               | 45.00 | 57.00 | 95.00  | 6.00  | E.36231.0600                 | 78.40              |
|                    | 6.10 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0610                 | 100.80             |
|                    | 6.20 | M 7 x 0,75            |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0620                 | 100.80             |
|                    | 6.30 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0630                 | 100.80             |
|                    | 6.40 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0640                 | 100.80             |
| Fräsrifte<br>HM    | 6.50 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0650                 | 100.80             |
|                    | 6.60 |                       | M 7                           | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0660                 | 100.80             |
|                    | 6.70 |                       | M 7 x 0,75                    | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0670                 | 100.80             |
|                    | 6.80 | M 8                   | M 7 x 0,5                     | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0680                 | 100.80             |
|                    | 6.90 |                       |                               | 52.00 | 76.00 | 114.00 | 8.00  | E.36231.0690                 | 100.80             |
| Fräser<br>VHM      | 7.00 | M 8 x 1               |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0700                 | 100.80             |
|                    | 7.10 |                       |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0710                 | 100.80             |
|                    | 7.20 | M 8 x 0,75            |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0720                 | 100.80             |
|                    | 7.30 |                       |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0730                 | 100.80             |
|                    | 7.40 |                       |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0740                 | 100.80             |
| Spannmittel        | 7.50 | M 8 x 0,5             |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0750                 | 100.80             |
|                    | 7.60 |                       | M 8 x 1                       | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0760                 | 100.80             |
|                    | 7.70 |                       | M 8 x 0,75                    | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0770                 | 100.80             |
|                    | 7.80 | M 9                   | M 8 x 0,5                     | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0780                 | 100.80             |
|                    | 7.90 |                       |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0790                 | 100.80             |
| Fräser<br>HSSE     | 8.00 | M 9 x 1               |                               | 60.00 | 76.00 | 114.00 | 8.00  | E.36231.0800                 | 100.80             |
|                    | 8.10 |                       |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0810                 | 131.60             |
|                    | 8.20 | M 9 x 0,75            |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0820                 | 131.60             |
|                    | 8.30 |                       |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0830                 | 131.60             |
|                    | 8.40 |                       |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0840                 | 131.60             |
| Sägen              | 8.50 | M 10                  |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0850                 | 131.60             |
|                    | 8.60 |                       | M 9 x 1                       | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0860                 | 131.60             |
|                    | 8.70 |                       | M 9 x 0,75                    | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0870                 | 131.60             |
|                    | 8.80 | M 10 x 1,25           | M 9 x 0,5                     | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0880                 | 131.60             |
|                    | 8.90 |                       |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0890                 | 131.60             |
| Lehren             | 9.00 | M 10 x 1              |                               | 68.00 | 95.00 | 142.00 | 10.00 | E.36231.0900                 | 131.60             |
|                    | 9.10 |                       |                               | 76.00 | 95.00 | 142.00 | 10.00 | E.36231.0910                 | 131.60             |
|                    |      |                       |                               |       |       |        |       |                              |                    |

Fortsetzung nächste Seite / Continued on next page

| d1     | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | I3     | I2     | I1     | d2 h6 | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|--------|-----------------------|-------------------------------|--------|--------|--------|-------|------------------------------|--------------------|
| 9.20   | M 10 x 0,75           |                               | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0920                | 131.60             |
| 9.30   |                       |                               | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0930                | 131.60             |
| 9.40   |                       |                               | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0940                | 131.60             |
| 9.50   | M 11                  |                               | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0950                | 131.60             |
| 9.60   |                       | M 10 x 1                      | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0960                | 131.60             |
| 9.70   |                       | M 10 x 0,75                   | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0970                | 131.60             |
| 9.80   |                       | M 10 x 0,5                    | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0980                | 131.60             |
| 9.90   |                       |                               | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.0990                | 131.60             |
| 10.00  | M 11 x 1              |                               | 76.00  | 95.00  | 142.00 | 10.00 | E.3623.1.1000                | 131.60             |
| 10.10  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1010                | 168.00             |
| 10.20  | M 12/M11x0,75         |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1020                | 168.00             |
| 10.30  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1030                | 168.00             |
| 10.40  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1040                | 168.00             |
| 10.50  | M 12 x 1,5            |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1050                | 168.00             |
| 10.60  |                       | M 11 x 1                      | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1060                | 168.00             |
| 10.70  |                       | M 11 x 0,75                   | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1070                | 168.00             |
| 10.80  | M 12 x 1,25           |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1080                | 168.00             |
| 10.90  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1090                | 168.00             |
| 11.00  | M 12 x 1              |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1100                | 168.00             |
| 11.10  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1110                | 168.00             |
| 11.20  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1120                | 168.00             |
| 11.30  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1130                | 168.00             |
| 11.40  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1140                | 168.00             |
| 11.50  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1150                | 168.00             |
| 11.60  |                       | M 12 x 1                      | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1160                | 168.00             |
| 11.70  |                       | M 12 x 0,75                   | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1170                | 168.00             |
| 11.80  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1180                | 168.00             |
| 11.90  |                       |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1190                | 168.00             |
| 12.00  | M 14                  |                               | 90.00  | 114.00 | 162.00 | 12.00 | E.3623.1.1200                | 168.00             |
| 12.50  | M 14 x 1,5            |                               | 106.00 | 133.00 | 178.00 | 14.00 | E.3623.1.1250                | 229.60             |
| 12.80  | M 14 x 1,25           |                               | 106.00 | 133.00 | 178.00 | 14.00 | E.3623.1.1280                | 229.60             |
| 13.00  | M 14 x 1              |                               | 106.00 | 133.00 | 178.00 | 14.00 | E.3623.1.1300                | 229.60             |
| 13.50  |                       |                               | 106.00 | 133.00 | 178.00 | 14.00 | E.3623.1.1350                | 229.60             |
| 14.00  | M 16 / M 15 x 1       |                               | 106.00 | 133.00 | 178.00 | 14.00 | E.3623.1.1400                | 229.60             |
| 14.50  | M 16 x 1,5            |                               | 122.00 | 152.00 | 203.00 | 16.00 | E.3623.1.1450                | 278.20             |
| 15.00  | M 16 x 1              |                               | 122.00 | 152.00 | 203.00 | 16.00 | E.3623.1.1500                | 278.20             |
| 15.50  | M 18                  |                               | 122.00 | 152.00 | 203.00 | 16.00 | E.3623.1.1550                | 278.20             |
| 16.00  | M 18 x 2              |                               | 122.00 | 152.00 | 203.00 | 16.00 | E.3623.1.1600                | 278.20             |
| 17.50* |                       |                               | 158.00 | 171.00 | 222.00 | 18.00 | E.3623.1.1750                | 490.00             |

\* = Auslaufartikel / obsolete article

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

# Bohrer VHM

8xd

## VHM-Alu-Spiralbohrer 8xd mit IK

E.3624.1



Solid carbide twist drills 8xd  
 Wiertła skrętna z węglika spiekanego 8xd  
 Punte in MD 8xd  
 Brocas de metal duro integral, 8xd, ranuras helicoidales



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.101  
Cutting data page 3.101

| d1    | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2     | l1     | d2 h6 | Artikelnummer Article-No. | € Stück / piece |
|-------|--------------------|----------------------------|-------|--------|--------|-------|---------------------------|-----------------|
| 3.00* |                    |                            | 27.00 | 34.00  | 81.00  | 6.00  | E.3624.1.0300             | 109.73          |
| 3.50* | M 4 x 0,5          |                            | 27.00 | 34.00  | 81.00  | 6.00  | E.3624.1.0350             | 109.73          |
| 3.80* |                    | M 4 x 0,5                  | 35.00 | 43.00  | 81.00  | 6.00  | E.3624.1.0380             | 109.73          |
| 4.00  | M 4,5 x 0,5        |                            | 35.00 | 43.00  | 81.00  | 6.00  | E.3624.1.0400             | 98.00           |
| 4.20  | M 5                | M 4,5                      | 35.00 | 43.00  | 81.00  | 6.00  | E.3624.1.0420             | 98.00           |
| 4.50  | M 5 x 0,5          |                            | 35.00 | 43.00  | 81.00  | 6.00  | E.3624.1.0450             | 98.00           |
| 4.80  |                    | M 5 x 0,5                  | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0480             | 98.00           |
| 5.00  | M 6/M 5,5 x 0,5    |                            | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0500             | 98.00           |
| 5.10  |                    |                            | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0510             | 98.00           |
| 5.20  | M 6 x 0,75         |                            | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0520             | 98.00           |
| 5.50  | M 6 x 0,5          |                            | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0550             | 98.00           |
| 5.80  |                    | M 6 x 0,5                  | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0580             | 98.00           |
| 6.00  | M 7                |                            | 45.00 | 57.00  | 95.00  | 6.00  | E.3624.1.0600             | 98.00           |
| 6.30  |                    |                            | 52.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0630             | 112.00          |
| 6.50  |                    |                            | 52.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0650             | 112.00          |
| 6.80  | M 8                | M 7 x 0,5                  | 52.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0680             | 112.00          |
| 7.00  | M 8 x 1            |                            | 60.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0700             | 112.00          |
| 7.50  | M 8 x 0,5          |                            | 60.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0750             | 112.00          |
| 7.80  | M 9                | M 8 x 0,5                  | 60.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0780             | 112.00          |
| 8.00  | M 9 x 1            |                            | 60.00 | 76.00  | 114.00 | 8.00  | E.3624.1.0800             | 112.00          |
| 8.50  | M 10               |                            | 68.00 | 95.00  | 142.00 | 10.00 | E.3624.1.0850             | 154.00          |
| 8.80  | M 10 x 1,25        | M 9 x 0,5                  | 68.00 | 95.00  | 142.00 | 10.00 | E.3624.1.0880             | 154.00          |
| 9.00  | M 10 x 1           |                            | 68.00 | 95.00  | 142.00 | 10.00 | E.3624.1.0900             | 154.00          |
| 9.20  | M 10 x 0,75        |                            | 76.00 | 95.00  | 142.00 | 10.00 | E.3624.1.0920             | 154.00          |
| 9.50  | M 11               |                            | 76.00 | 95.00  | 142.00 | 10.00 | E.3624.1.0950             | 154.00          |
| 9.80  |                    | M 10 x 0,5                 | 76.00 | 95.00  | 142.00 | 10.00 | E.3624.1.0980             | 154.00          |
| 10.00 | M 11 x 1           |                            | 76.00 | 95.00  | 142.00 | 10.00 | E.3624.1.1000             | 154.00          |
| 10.20 | M 12/M11x0,75      |                            | 90.00 | 114.00 | 162.00 | 12.00 | E.3624.1.1020             | 207.20          |
| 10.50 | M 12 x 1,5         |                            | 90.00 | 114.00 | 162.00 | 12.00 | E.3624.1.1050             | 207.20          |
| 10.80 | M 12 x 1,25        |                            | 90.00 | 114.00 | 162.00 | 12.00 | E.3624.1.1080             | 207.20          |
| 11.00 | M 12 x 1           |                            | 90.00 | 114.00 | 162.00 | 12.00 | E.3624.1.1100             | 207.20          |
| 11.50 |                    |                            | 90.00 | 184.00 | 162.00 | 12.00 | E.3624.1.1150             | 207.20          |
| 11.80 |                    |                            | 90.00 | 114.00 | 162.00 | 12.00 | E.3624.1.1180             | 207.20          |
| 12.00 | M 14               |                            | 90.00 | 114.00 | 162.00 | 12.00 | E.3624.1.1200             | 207.20          |

\* = Auslaufartikel / obsolete article

VHM-4 Fasenbohrer 8xd gerade genutet

E.3629.0



**UK** Solid carbide twist drills with 4 guide margins 8xd, straight fluted  
**PL** Wiertła proste 4-łysinkowe z węgliką spiekanego 8xd  
**IT** Punte MD, 4 fasi, denti dritti 8xd  
**ES** Brocas de metal duro integral, 8xd, con cuatro caras y ranuras rectas



Schnittwerte Seite 3100  
Cutting data page 3100

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1 m7  | Gewindebohrer taps | Gewindeformer forming taps | l2     | l1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|--------|--------------------|----------------------------|--------|--------|-------|---------------------------|---------------|---|
| 2.50*  |                    |                            | 28.00  | 74.00  | 3.00  | E.3629.0.0250             | 63.80         |   |
| 3.00   |                    |                            | 32.00  | 74.00  | 6.00  | E.3629.0.0300             | 116.40        |   |
| 3.30   | M 4                | M 3,5 x 0,5                | 32.00  | 74.00  | 6.00  | E.3629.0.0330             | 116.40        |   |
| 3.50   | M 4 x 0,5          |                            | 34.00  | 74.00  | 6.00  | E.3629.0.0350             | 116.40        |   |
| 3.80   |                    | M 4 x 0,5                  | 36.00  | 97.00  | 6.00  | E.3629.0.0380             | 116.40        |   |
| 4.00   | M 4,5 x 0,5        |                            | 36.00  | 97.00  | 6.00  | E.3629.0.0400             | 116.40        |   |
| 4.20   | M 5                | M 4,5                      | 45.00  | 97.00  | 6.00  | E.3629.0.0420             | 116.40        |   |
| 4.50   | M 5 x 0,5          |                            | 45.00  | 97.00  | 6.00  | E.3629.0.0450             | 116.40        |   |
| 4.80   |                    | M 5 x 0,5                  | 57.00  | 97.00  | 6.00  | E.3629.0.0480             | 116.40        |   |
| 5.00   | M 6 / M5,5x0,5     |                            | 57.00  | 97.00  | 6.00  | E.3629.0.0500             | 139.00        |   |
| 5.50   | M 6 x 0,5          |                            | 57.00  | 97.00  | 6.00  | E.3629.0.0550             | 139.00        |   |
| 5.80*  |                    | M 6 x 0,5                  | 57.00  | 95.00  | 6.00  | E.3629.0.0580             | 73.23         |   |
| 6.00   | M 7                |                            | 57.00  | 97.00  | 8.00  | E.3629.0.0600             | 116.40        |   |
| 6.50   |                    |                            | 76.00  | 116.00 | 8.00  | E.3629.0.0650             | 162.70        |   |
| 6.80   | M 8                | M 7 x 0,5                  | 76.00  | 116.00 | 8.00  | E.3629.0.0680             | 162.70        |   |
| 7.00   | M 8 x 1            |                            | 76.00  | 116.00 | 8.00  | E.3629.0.0700             | 162.70        |   |
| 7.50   | M 8 x 0,5          |                            | 76.00  | 116.00 | 8.00  | E.3629.0.0750             | 162.70        |   |
| 7.80   | M 9                | M 8 x 0,5                  | 76.00  | 116.00 | 8.00  | E.3629.0.0780             | 162.70        |   |
| 8.00   | M 9 x 1            |                            | 76.00  | 116.00 | 8.00  | E.3629.0.0800             | 129.50        |   |
| 8.50   | M 10               |                            | 95.00  | 139.00 | 10.00 | E.3629.0.0850             | 168.60        |   |
| 8.80*  | M 10 x 1,25        | M 9 x 0,5                  | 95.00  | 142.00 | 10.00 | E.3629.0.0880             | 135.14        |   |
| 9.00   | M 10 x 1           |                            | 95.00  | 139.00 | 10.00 | E.3629.0.0900             | 168.60        |   |
| 9.50   | M 11               |                            | 95.00  | 139.00 | 10.00 | E.3629.0.0950             | 168.60        |   |
| 10.00  | M 11 x 1           |                            | 95.00  | 139.00 | 10.00 | E.3629.0.1000             | 160.30        |   |
| 10.20  | M 12/M11x0,75      |                            | 114.00 | 163.00 | 12.00 | E.3629.0.1020             | 204.20        |   |
| 10.50  | M 12 x 1,5         |                            | 114.00 | 163.00 | 12.00 | E.3629.0.1050             | 225.60        |   |
| 10.80* | M 12 x 1,25        |                            | 114.00 | 162.00 | 12.00 | E.3629.0.1080             | 173.25        |   |
| 11.00  | M 12 x 1           |                            | 114.00 | 163.00 | 12.00 | E.3629.0.1100             | 204.20        |   |
| 11.50  |                    |                            | 114.00 | 163.00 | 12.00 | E.3629.0.1150             | 225.60        |   |
| 12.00  | M 14               |                            | 114.00 | 163.00 | 12.00 | E.3629.0.1200             | 209.00        |   |
| 16.00* | M 18 x 2           |                            | 152.00 | 204.00 | 16.00 | E.3629.0.1600             | 341.53        |   |

\* = Auslaufartikel / obsolete article

Gewinde-schneider  
Bohrer HSS/E  
Bohrer VHM  
Reibahlen HSS/E  
Reibahlen VHM  
Fräsrifte HM  
Fräser VHM  
Spannmittel  
Fräser HSSE  
Sägen  
Lehren  
Technik

# Bohrer VHM

12xd

## VHM-Mikro-Spiralbohrer 12xd

E.3613.1



Solid carbide micro drills 12xd  
 Wiertła miniaturowe z węglika spiekanego 12xd  
 Micropunte in MD 12xd  
 Microbrocas de metal durointegral, 12xd



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1   | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | €     |
|------|--------------------|----------------------------|-------|-------|-------|---------------------------|---------------|-------|
| 0.50 |                    |                            | 6.80  | 38.00 | 3.00  | E.3613.1.0050             |               | 47.10 |
| 0.55 |                    |                            | 7.40  | 38.00 | 3.00  | E.3613.1.0055             |               | 46.90 |
| 0.60 |                    |                            | 8.10  | 38.00 | 3.00  | E.3613.1.0060             |               | 46.90 |
| 0.65 |                    |                            | 8.80  | 38.00 | 3.00  | E.3613.1.0065             |               | 46.90 |
| 0.70 |                    |                            | 9.50  | 38.00 | 3.00  | E.3613.1.0070             |               | 46.90 |
| 0.75 |                    |                            | 10.10 | 38.00 | 3.00  | E.3613.1.0075             |               | 46.90 |
| 0.80 |                    |                            | 10.80 | 38.00 | 3.00  | E.3613.1.0080             |               | 46.90 |
| 0.85 |                    |                            | 11.50 | 38.00 | 3.00  | E.3613.1.0085             |               | 46.90 |
| 0.90 |                    |                            | 12.20 | 38.00 | 3.00  | E.3613.1.0090             |               | 47.40 |
| 0.95 |                    |                            | 12.80 | 38.00 | 3.00  | E.3613.1.0095             |               | 47.40 |
| 1.00 |                    |                            | 13.50 | 45.00 | 3.00  | E.3613.1.0100             |               | 47.40 |
| 1.05 |                    |                            | 14.20 | 45.00 | 3.00  | E.3613.1.0105             |               | 47.40 |
| 1.10 |                    |                            | 14.90 | 45.00 | 3.00  | E.3613.1.0110             |               | 47.80 |
| 1.15 |                    |                            | 15.50 | 45.00 | 3.00  | E.3613.1.0115             |               | 47.80 |
| 1.20 |                    |                            | 16.20 | 45.00 | 3.00  | E.3613.1.0120             |               | 47.80 |
| 1.25 |                    |                            | 16.90 | 45.00 | 3.00  | E.3613.1.0125             |               | 51.40 |
| 1.30 |                    |                            | 17.60 | 45.00 | 3.00  | E.3613.1.0130             |               | 52.50 |
| 1.35 |                    |                            | 18.20 | 45.00 | 3.00  | E.3613.1.0135             |               | 52.50 |
| 1.40 |                    |                            | 18.90 | 45.00 | 3.00  | E.3613.1.0140             |               | 52.50 |
| 1.45 |                    |                            | 19.60 | 45.00 | 3.00  | E.3613.1.0145             |               | 53.50 |
| 1.50 |                    |                            | 20.30 | 53.00 | 3.00  | E.3613.1.0150             |               | 56.30 |
| 1.55 |                    |                            | 20.90 | 53.00 | 3.00  | E.3613.1.0155             |               | 56.30 |
| 1.60 |                    |                            | 21.60 | 53.00 | 3.00  | E.3613.1.0160             |               | 57.80 |
| 1.65 |                    |                            | 22.30 | 53.00 | 3.00  | E.3613.1.0165             |               | 57.80 |
| 1.70 |                    |                            | 23.00 | 53.00 | 3.00  | E.3613.1.0170             |               | 57.80 |
| 1.75 |                    |                            | 23.60 | 53.00 | 3.00  | E.3613.1.0175             |               | 59.70 |
| 1.80 |                    |                            | 24.30 | 53.00 | 3.00  | E.3613.1.0180             |               | 60.80 |
| 1.85 |                    |                            | 25.00 | 53.00 | 3.00  | E.3613.1.0185             |               | 60.80 |
| 1.90 |                    |                            | 25.70 | 53.00 | 3.00  | E.3613.1.0190             |               | 60.80 |
| 1.95 |                    |                            | 26.30 | 53.00 | 3.00  | E.3613.1.0195             |               | 60.80 |
| 2.00 |                    |                            | 27.00 | 64.00 | 3.00  | E.3613.1.0200             |               | 67.50 |
| 2.05 |                    |                            | 27.70 | 64.00 | 3.00  | E.3613.1.0205             |               | 67.50 |
| 2.10 |                    |                            | 28.40 | 64.00 | 3.00  | E.3613.1.0210             |               | 70.00 |
| 2.15 |                    |                            | 29.00 | 64.00 | 3.00  | E.3613.1.0215             |               | 70.00 |
| 2.20 |                    |                            | 29.70 | 64.00 | 3.00  | E.3613.1.0220             |               | 70.80 |
| 2.25 |                    |                            | 30.40 | 64.00 | 3.00  | E.3613.1.0225             |               | 70.80 |
| 2.30 |                    |                            | 31.10 | 64.00 | 3.00  | E.3613.1.0230             |               | 70.80 |
| 2.35 |                    |                            | 31.70 | 64.00 | 3.00  | E.3613.1.0235             |               | 72.90 |

Fortsetzung nächste Seite / Continued on next page



# Bohrer VHM

12xd

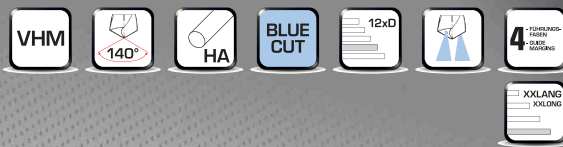
| d1   | Gewindebohrer taps | Gewindeformer forming taps | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|------|--------------------|----------------------------|-------|-------|-------|---------------------------|---------------|---|
| 2.40 |                    |                            | 32.40 | 64.00 | 3.00  | E.3613.1.0240             | 72.90         |   |
| 2.45 |                    |                            | 33.10 | 64.00 | 3.00  | E.3613.1.0245             | 72.90         |   |
| 2.50 |                    |                            | 33.80 | 64.00 | 3.00  | E.3613.1.0250             | 75.50         |   |
| 2.55 |                    |                            | 34.40 | 75.00 | 3.00  | E.3613.1.0255             | 79.10         |   |
| 2.60 |                    |                            | 35.10 | 75.00 | 3.00  | E.3613.1.0260             | 79.10         |   |
| 2.65 |                    |                            | 35.80 | 75.00 | 3.00  | E.3613.1.0265             | 79.10         |   |
| 2.70 |                    |                            | 36.50 | 75.00 | 3.00  | E.3613.1.0270             | 80.30         |   |
| 2.75 |                    |                            | 37.10 | 75.00 | 3.00  | E.3613.1.0275             | 80.30         |   |
| 2.80 |                    | M 3                        | 37.80 | 75.00 | 3.00  | E.3613.1.0280             | 85.00         |   |
| 2.85 |                    |                            | 38.50 | 75.00 | 3.00  | E.3613.1.0285             | 85.00         |   |
| 2.90 | M 3,5              | M 3 x 0,25                 | 39.20 | 75.00 | 3.00  | E.3613.1.0290             | 86.20         |   |
| 2.95 |                    |                            | 39.80 | 75.00 | 3.00  | E.3613.1.0295             | 86.20         |   |
| 3.00 |                    |                            | 40.50 | 75.00 | 3.00  | E.3613.1.0300             | 86.20         |   |

## VHM-Universal-Spiralbohrer 12xd mit 4-Führungsfasen

E.3667.1



Solid carbide twist drills 12xd  
 Wiertła skretne z węglika spiekane 12xd  
 Punte in MD 12xd  
 Brocas de metal duro integral, 12xd, ranuras helicoidales



Schnittwerte Seite 3101  
Cutting data page 3101

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1    | Gewindebohrer taps | Gewindeformer forming taps | l3    | l2    | l1    | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|-------|-------|-------|---------------------------|---------------|---|
| 1.00  |                    |                            | 12.00 | 15.00 | 55.00 | 3.00  | E.3667.1.0100             | 35.70         |   |
| 1.10  |                    |                            | 18.50 | 23.00 | 55.00 | 3.00  | E.3667.1.0110             | 35.70         |   |
| 1.20  |                    |                            | 18.50 | 23.00 | 55.00 | 3.00  | E.3667.1.0120             | 35.70         |   |
| 1.30  |                    |                            | 18.50 | 23.00 | 55.00 | 3.00  | E.3667.1.0130             | 35.70         |   |
| 1.40  |                    |                            | 18.50 | 23.00 | 55.00 | 3.00  | E.3667.1.0140             | 35.70         |   |
| 1.50  |                    |                            | 18.50 | 23.00 | 65.00 | 3.00  | E.3667.1.0150             | 35.70         |   |
| 1.60  |                    |                            | 24.00 | 30.00 | 65.00 | 3.00  | E.3667.1.0160             | 35.70         |   |
| 1.70  |                    |                            | 24.00 | 30.00 | 65.00 | 3.00  | E.3667.1.0170             | 35.70         |   |
| 1.80  |                    |                            | 24.00 | 30.00 | 65.00 | 3.00  | E.3667.1.0180             | 35.70         |   |
| 1.90  |                    |                            | 24.00 | 30.00 | 65.00 | 3.00  | E.3667.1.0190             | 35.70         |   |
| 2.00  |                    |                            | 24.00 | 30.00 | 74.00 | 3.00  | E.3667.1.0200             | 37.00         |   |
| 2.10  |                    |                            | 30.50 | 38.00 | 74.00 | 3.00  | E.3667.1.0210             | 37.00         |   |
| 2.20  |                    |                            | 30.50 | 38.00 | 74.00 | 3.00  | E.3667.1.0220             | 37.00         |   |
| 2.30  |                    |                            | 30.50 | 38.00 | 74.00 | 3.00  | E.3667.1.0230             | 37.00         |   |
| 2.40  |                    |                            | 30.50 | 38.00 | 74.00 | 3.00  | E.3667.1.0240             | 37.00         |   |
| 2.50  |                    |                            | 30.50 | 38.00 | 81.00 | 3.00  | E.3667.1.0250             | 39.60         |   |
| 2.60  |                    |                            | 35.00 | 44.00 | 81.00 | 3.00  | E.3667.1.0260             | 39.60         |   |
| 2.70  |                    |                            | 35.00 | 44.00 | 81.00 | 3.00  | E.3667.1.0270             | 39.60         |   |
| 2.80  | M 3                |                            | 35.00 | 44.00 | 81.00 | 3.00  | E.3667.1.0280             | 39.60         |   |
| 2.90  | M 3,5              | M 3,5 x 0,25               | 35.00 | 44.00 | 81.00 | 3.00  | E.3667.1.0290             | 39.60         |   |
| 3.00  |                    |                            | 48.00 | 54.00 | 92.00 | 6.00  | E.3667.1.0300             | 65.00         |   |
| 3.20* |                    |                            | 48.00 | 54.00 | 92.00 | 6.00  | E.3667.1.0320             | 65.00         |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

12xd

|                   | d1    | Gewindebohrer taps | Gewindeformer forming taps | I3     | I2     | I1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------------------|-------|--------------------|----------------------------|--------|--------|--------|-------|---------------------------|---------------|---|
| Gewinde-schneider | 3.30  | M 4                | M 3,5 x 0,5                | 48.00  | 54.00  | 92.00  | 6.00  | E.36671.0330              | 65.00         |   |
|                   | 3.50  | M 4 x 0,5          |                            | 48.00  | 54.00  | 92.00  | 6.00  | E.36671.0350              | 65.00         |   |
|                   | 3.70  | M 4,5              | M 4                        | 48.00  | 54.00  | 92.00  | 6.00  | E.36671.0370              | 72.70         |   |
| Bohrer HSS/E      | 3.80  |                    | M 4 x 0,5                  | 58.00  | 64.00  | 102.00 | 6.00  | E.36671.0380              | 66.10         |   |
|                   | 3.90  |                    |                            | 58.00  | 64.00  | 102.00 | 6.00  | E.36671.0390              | 72.70         |   |
|                   | 4.00  | M 4,5 x 0,5        |                            | 58.00  | 64.00  | 102.00 | 6.00  | E.36671.0400              | 72.70         |   |
| Bohrer VHM        | 4.20  | M 5                | M 4,5                      | 58.00  | 64.00  | 102.00 | 6.00  | E.36671.0420              | 66.10         |   |
|                   | 4.30  |                    | M 4,5 x 0,5                | 58.00  | 64.00  | 102.00 | 6.00  | E.36671.0430              | 72.70         |   |
|                   | 4.50  | M 5 x 0,5          |                            | 58.00  | 64.00  | 102.00 | 6.00  | E.36671.0450              | 66.10         |   |
| Reibahlen HSS/E   | 4.80  |                    | M 5 x 0,5                  | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0480              | 68.00         |   |
|                   | 5.00  | M 6 / M5,5x0,5     |                            | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0500              | 68.00         |   |
|                   | 5.20  | M 6 x 0,75         |                            | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0520              | 75.80         |   |
| Reibahlen VHM     | 5.30  |                    | M 5,5 x 0,5                | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0530              | 75.80         |   |
|                   | 5.50  | M 6 x 0,5          |                            | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0550              | 68.00         |   |
|                   | 5.80  |                    | M 6 x 0,5                  | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0580              | 68.00         |   |
| Fräsrifte HM      | 5.90  |                    |                            | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0590              | 75.80         |   |
|                   | 6.00  | M 7                |                            | 70.00  | 78.00  | 116.00 | 6.00  | E.36671.0600              | 68.00         |   |
|                   | 6.10  |                    |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0610              | 121.10        |   |
| Fräser VHM        | 6.20  | M 7 x 0,75         |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0620              | 110.10        |   |
|                   | 6.50  |                    |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0650              | 110.10        |   |
|                   | 6.60* |                    | M 7                        | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0660              | 110.00        |   |
| Spannmittel       | 6.80  | M 8                | M 7 x 0,5                  | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0680              | 110.10        |   |
|                   | 6.90* |                    |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0690              | 110.00        |   |
|                   | 7.00  | M 8 x 1            |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0700              | 110.10        |   |
| Fräser HSSE       | 7.50  | M 8 x 0,5          |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0750              | 113.20        |   |
|                   | 7.70* | M 8 x 0,75         |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0770              | 113.20        |   |
|                   | 7.80  | M 9                | M 8 x 0,5                  | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0780              | 113.20        |   |
| Sägen             | 8.00  | M 9 x 1            |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.36671.0800              | 114.70        |   |
|                   | 8.10* |                    |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0810              | 269.50        |   |
|                   | 8.20  | M 9 x 0,75         |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0820              | 162.40        |   |
| Lehren            | 8.50  | M 10               |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0850              | 147.70        |   |
|                   | 8.80  | M 10 x 1,25        | M 9 x 0,5                  | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0880              | 147.70        |   |
|                   | 9.00  | M 10 x 1           |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0900              | 147.70        |   |
| Technik           | 9.50  | M 11               |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0950              | 153.20        |   |
|                   | 9.80  |                    | M 10 x 0,5                 | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.0980              | 153.20        |   |
|                   | 10.00 | M 11 x 1           |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.36671.1000              | 153.20        |   |
|                   | 10.20 | M 12/M11x0,75      |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1020              | 201.90        |   |
|                   | 10.50 | M 12 x 1,5         |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1050              | 201.90        |   |
|                   | 10.80 | M 12 x 1,25        |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1080              | 201.90        |   |
|                   | 11.00 | M 12 x 1           |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1100              | 203.40        |   |
|                   | 11.20 |                    |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1120              | 203.40        |   |
|                   | 11.50 |                    |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1150              | 203.40        |   |
|                   | 11.80 |                    |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1180              | 203.40        |   |
|                   | 12.00 | M 14               |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.36671.1200              | 205.00        |   |
|                   | 12.50 | M 14 x 1,5         |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.36671.1250              | 273.10        |   |
|                   | 12.80 | M 14 x 1,25        |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.36671.1280              | 273.10        |   |
|                   | 13.00 | M 14 x 1           |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.36671.1300              | 273.10        |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

| d1    | Gewindebohrer taps | Gewindeformer forming taps | I3     | I2     | I1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|--------|--------|--------|-------|---------------------------|---------------|---|
| 13.50 |                    |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.36671.1350              | 273.10        |   |
| 14.00 | M 16 / M 15 x 1    |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.36671.1400              | 277.70        |   |
| 14.50 | M 16 x 1,5         |                            | 192.00 | 208.00 | 260.00 | 16.00 | E.36671.1450              | 360.00        |   |
| 15.00 | M 16 x 1           |                            | 192.00 | 208.00 | 260.00 | 16.00 | E.36671.1500              | 360.00        |   |
| 15.50 | M 18               |                            | 192.00 | 208.00 | 260.00 | 16.00 | E.36671.1550              | 364.60        |   |
| 16.00 | M 18 x 2           |                            | 192.00 | 208.00 | 260.00 | 16.00 | E.36671.1600              | 367.70        |   |
| 18.00 |                    |                            | 216.00 | 234.00 | 285.00 | 18.00 | E.36671.1800              | 576.30        |   |

VHM-Universal-Spiralbohrer 12xd mit IK

E.3625.1



Solid carbide twist drills 12xd  
 Wiertła skrajne z węglika spiekane 12xd  
 Punte in MD 12xd  
 Brocas de metal duro integral, 12xd, ranuras helicoidales



Schnittwerte Seite 3.101  
Cutting data page 3.101

| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1    | Gewindebohrer taps | Gewindeformer forming taps | I3     | I2     | I1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|--------|--------|--------|-------|---------------------------|---------------|---|
| 1.00* |                    |                            | 12.00  | 15.00  | 55.00  | 3.00  | E.3625.1.0100             | 32.13         |   |
| 1.10* |                    |                            | 18.50  | 23.00  | 55.00  | 3.00  | E.3625.1.0110             | 32.13         |   |
| 1.20* |                    |                            | 18.50  | 23.00  | 55.00  | 3.00  | E.3625.1.0120             | 32.13         |   |
| 1.30* |                    |                            | 18.50  | 23.00  | 55.00  | 3.00  | E.3625.1.0130             | 32.13         |   |
| 1.40* |                    |                            | 18.50  | 23.00  | 55.00  | 3.00  | E.3625.1.0140             | 32.13         |   |
| 1.50* |                    |                            | 18.50  | 23.00  | 65.00  | 3.00  | E.3625.1.0150             | 32.13         |   |
| 1.60* |                    |                            | 24.00  | 30.00  | 65.00  | 3.00  | E.3625.1.0160             | 32.13         |   |
| 1.70  |                    |                            | 24.00  | 30.00  | 65.00  | 3.00  | E.3625.1.0170             | 32.13         |   |
| 1.80* |                    |                            | 24.00  | 30.00  | 65.00  | 3.00  | E.3625.1.0180             | 32.13         |   |
| 1.90* |                    |                            | 24.00  | 30.00  | 65.00  | 3.00  | E.3625.1.0190             | 32.13         |   |
| 2.00* |                    |                            | 24.00  | 30.00  | 74.00  | 3.00  | E.3625.1.0200             | 33.30         |   |
| 2.20* |                    |                            | 30.50  | 38.00  | 74.00  | 3.00  | E.3625.1.0220             | 33.30         |   |
| 2.30* |                    |                            | 30.50  | 38.00  | 74.00  | 3.00  | E.3625.1.0230             | 33.30         |   |
| 2.40* |                    |                            | 30.50  | 38.00  | 74.00  | 3.00  | E.3625.1.0240             | 33.30         |   |
| 2.60* |                    |                            | 35.00  | 44.00  | 81.00  | 3.00  | E.3625.1.0260             | 35.64         |   |
| 2.70* |                    |                            | 35.00  | 44.00  | 81.00  | 3.00  | E.3625.1.0270             | 35.64         |   |
| 2.90* | M 3,5              | M 3 x 0,25                 | 35.00  | 44.00  | 81.00  | 3.00  | E.3625.1.0290             | 35.64         |   |
| 3.00* |                    |                            | 48.00  | 54.00  | 92.00  | 6.00  | E.3625.1.0300             | 58.50         |   |
| 3.30* | M 4                | M 3,5 x 0,5                | 48.00  | 54.00  | 92.00  | 6.00  | E.3625.1.0330             | 58.50         |   |
| 4.80* |                    | M 5 x 0,5                  | 70.00  | 78.00  | 116.00 | 6.00  | E.3625.1.0480             | 61.20         |   |
| 5.80* |                    | M 6 x 0,5                  | 70.00  | 78.00  | 116.00 | 6.00  | E.3625.1.0580             | 61.20         |   |
| 6.80* | M 8                | M 7 x 0,5                  | 94.00  | 108.00 | 146.00 | 8.00  | E.3625.1.0680             | 99.09         |   |
| 7.00* | M 8 x 1            |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.3625.1.0700             | 99.09         |   |
| 7.50* | M 8 x 0,5          |                            | 94.00  | 108.00 | 146.00 | 8.00  | E.3625.1.0750             | 101.88        |   |
| 8.50  | M 10               |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.3625.1.0850             | 132.93        |   |
| 8.80* | M 10 x 1,25        | M 9 x 0,5                  | 110.00 | 120.00 | 162.00 | 10.00 | E.3625.1.0880             | 132.93        |   |
| 9.50* | M 11               |                            | 110.00 | 120.00 | 162.00 | 10.00 | E.3625.1.0950             | 137.88        |   |

\* = Auslaufartikel / obsolete article

Fortsetzung nächste Seite / Continued on next page

## Bohrer VHM

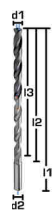
12xd / 15xd

| d1     | Gewindebohrer taps | Gewindeformer forming taps | I3     | I2     | I1     | d2 h6 | Artikelnummer Article-No. | Stück / piece | € |
|--------|--------------------|----------------------------|--------|--------|--------|-------|---------------------------|---------------|---|
| 10.50* | M 12 x 1,5         |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.3625.1.1050             | 181.71        |   |
| 10.80* | M 12 x 1,25        |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.3625.1.1080             | 181.71        |   |
| 11.20* |                    |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.3625.1.1120             | 183.06        |   |
| 11.80* |                    |                            | 142.00 | 156.00 | 204.00 | 12.00 | E.3625.1.1180             | 183.06        |   |
| 13.00* | M 14 x 1           |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.3625.1.1300             | 245.79        |   |
| 13.50* |                    |                            | 166.00 | 182.00 | 230.00 | 14.00 | E.3625.1.1350             | 245.79        |   |

\* = Auslaufartikel / obsolete article

## VHM-Tieflochspiralbohrer ca. 15xd

E.3674.1



UK Solid carbide deep hole drills appr. 15xd

PL Wiertła z węgliką spiekane do głębokich otworów do ok. 15xd

IT Punta in MD per foratura profonda circa 15xd

ES Brocas de metal duro integral con hélice para agujeros profundos hasta 15xd



| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3.102  
Cutting data page 3.102

| d1 h7 | Gewindebohrer taps | Gewindeformer forming taps | I3    | I2    | I1     | d2   | Artikelnummer Article-No. | Stück / piece | € |
|-------|--------------------|----------------------------|-------|-------|--------|------|---------------------------|---------------|---|
| 1.00  |                    |                            | 15.00 | 20.00 | 60.00  | 3.00 | E.3674.1.0100             | 78.60         |   |
| 1.10  |                    |                            | 17.00 | 22.00 | 60.00  | 3.00 | E.3674.1.0110             | 78.60         |   |
| 1.20  |                    |                            | 18.00 | 24.00 | 60.00  | 3.00 | E.3674.1.0120             | 78.60         |   |
| 1.30  |                    |                            | 21.00 | 25.00 | 60.00  | 3.00 | E.3674.1.0130             | 78.60         |   |
| 1.40  |                    |                            | 21.00 | 27.00 | 60.00  | 3.00 | E.3674.1.0140             | 78.60         |   |
| 1.50  |                    |                            | 23.00 | 27.00 | 60.00  | 3.00 | E.3674.1.0150             | 78.60         |   |
| 1.60  |                    |                            | 24.00 | 32.00 | 65.00  | 3.00 | E.3674.1.0160             | 78.60         |   |
| 1.70  |                    |                            | 26.00 | 32.00 | 65.00  | 3.00 | E.3674.1.0170             | 78.60         |   |
| 1.80  |                    |                            | 27.00 | 35.00 | 65.00  | 3.00 | E.3674.1.0180             | 78.60         |   |
| 1.90  |                    |                            | 29.00 | 35.00 | 65.00  | 3.00 | E.3674.1.0190             | 78.60         |   |
| 2.00  |                    |                            | 30.00 | 35.00 | 65.00  | 3.00 | E.3674.1.0200             | 78.60         |   |
| 2.10  |                    |                            | 32.00 | 40.00 | 75.00  | 3.00 | E.3674.1.0210             | 78.60         |   |
| 2.20  |                    |                            | 33.00 | 40.00 | 75.00  | 3.00 | E.3674.1.0220             | 78.60         |   |
| 2.30  |                    |                            | 35.00 | 40.00 | 75.00  | 3.00 | E.3674.1.0230             | 78.60         |   |
| 2.40  |                    |                            | 36.00 | 45.00 | 75.00  | 3.00 | E.3674.1.0240             | 78.60         |   |
| 2.50  |                    |                            | 38.00 | 45.00 | 75.00  | 3.00 | E.3674.1.0250             | 78.60         |   |
| 2.60  |                    |                            | 39.00 | 48.00 | 80.00  | 3.00 | E.3674.1.0260             | 78.60         |   |
| 2.70  |                    |                            | 41.00 | 48.00 | 80.00  | 3.00 | E.3674.1.0270             | 78.60         |   |
| 2.80  |                    | M 3                        | 42.00 | 50.00 | 80.00  | 3.00 | E.3674.1.0280             | 78.60         |   |
| 2.90  | M 3,5              | M 3 x 0,25                 | 44.00 | 50.00 | 80.00  | 3.00 | E.3674.1.0290             | 78.60         |   |
| 3.00  |                    |                            | 45.00 | 60.00 | 100.00 | 6.00 | E.3674.1.0300             | 99.60         |   |
| 3.20  |                    |                            | 48.00 | 60.00 | 100.00 | 6.00 | E.3674.1.0320             | 99.60         |   |
| 3.30  | M 4                | M 3,5 x 0,5                | 50.00 | 60.00 | 100.00 | 6.00 | E.3674.1.0330             | 99.60         |   |
| 3.50  | M 4 x 0,5          |                            | 53.00 | 60.00 | 100.00 | 6.00 | E.3674.1.0350             | 99.60         |   |
| 3.80  |                    | M 4 x 0,5                  | 57.00 | 68.00 | 108.00 | 6.00 | E.3674.1.0380             | 99.60         |   |
| 3.90  |                    |                            | 59.00 | 68.00 | 108.00 | 6.00 | E.3674.1.0390             | 99.60         |   |
| 4.00  | M 4,5 x 0,5        |                            | 60.00 | 68.00 | 108.00 | 6.00 | E.3674.1.0400             | 99.60         |   |

Fortsetzung nächste Seite / Continued on next page

| d1 h7 | Gewindebohrer<br>taps | Gewindeformer<br>forming taps | l3     | l2     | l1     | d2    | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-------|-----------------------|-------------------------------|--------|--------|--------|-------|------------------------------|--------------------|
| 4.20  | M 5                   | M 4,5                         | 63.00  | 78.00  | 115.00 | 6.00  | E.3674.1.0420                | 110.90             |
| 4.50  | M 5 x 0,5             |                               | 68.00  | 78.00  | 115.00 | 6.00  | E.3674.1.0450                | 110.90             |
| 5.00  | M 6 / M5,5x0,5        |                               | 75.00  | 84.00  | 125.00 | 6.00  | E.3674.1.0500                | 114.00             |
| 5.50  | M 6 x 0,5             |                               | 83.00  | 92.00  | 130.00 | 6.00  | E.3674.1.0550                | 116.00             |
| 5.90  |                       |                               | 90.00  | 100.00 | 140.00 | 6.00  | E.3674.1.0590                | 116.00             |
| 6.00  | M 7                   |                               | 90.00  | 100.00 | 140.00 | 6.00  | E.3674.1.0600                | 116.00             |
| 6.50  |                       |                               | 97.00  | 108.00 | 145.00 | 8.00  | E.3674.1.0650                | 152.40             |
| 6.80  | M 8                   | M 7 x 0,5                     | 102.00 | 130.00 | 170.00 | 8.00  | E.3674.1.0680                | 173.30             |
| 7.00  | M 8 x 1               |                               | 105.00 | 130.00 | 170.00 | 8.00  | E.3674.1.0700                | 173.30             |
| 7.50  | M 8 x 0,5             |                               | 115.00 | 130.00 | 170.00 | 8.00  | E.3674.1.0750                | 173.30             |
| 7.80  | M 9                   | M 8 x 0,5                     | 117.00 | 130.00 | 170.00 | 8.00  | E.3674.1.0780                | 173.30             |
| 8.00  | M 9 x 1               |                               | 120.00 | 130.00 | 170.00 | 8.00  | E.3674.1.0800                | 173.30             |
| 8.50  | M 10                  |                               | 128.00 | 163.00 | 208.00 | 10.00 | E.3674.1.0850                | 235.00             |
| 9.00  | M 10 x 1              |                               | 135.00 | 163.00 | 208.00 | 10.00 | E.3674.1.0900                | 235.00             |
| 9.50  | M 11                  |                               | 143.00 | 163.00 | 208.00 | 10.00 | E.3674.1.0950                | 235.00             |
| 9.80  |                       | M 10 x 0,5                    | 147.00 | 163.00 | 208.00 | 10.00 | E.3674.1.0980                | 235.00             |
| 10.00 | M 11 x 1              |                               | 150.00 | 163.00 | 208.00 | 10.00 | E.3674.1.1000                | 235.00             |
| 10.50 | M 12 x 1,5            |                               | 158.00 | 195.00 | 245.00 | 12.00 | E.3674.1.1050                | 302.00             |
| 11.00 | M 12 x 1              |                               | 165.00 | 195.00 | 245.00 | 12.00 | E.3674.1.1100                | 302.00             |
| 11.50 |                       |                               | 173.00 | 195.00 | 245.00 | 12.00 | E.3674.1.1150                | 302.00             |
| 11.80 |                       |                               | 177.00 | 195.00 | 245.00 | 12.00 | E.3674.1.1180                | 302.00             |
| 12.00 | M 14                  |                               | 180.00 | 195.00 | 245.00 | 12.00 | E.3674.1.1200                | 302.00             |
| 12.50 | M 14 x 1,5            |                               | 188.00 | 230.00 | 280.00 | 14.00 | E.3674.1.1250                | 413.70             |
| 13.00 | M 14 x 1              |                               | 195.00 | 230.00 | 280.00 | 14.00 | E.3674.1.1300                | 413.70             |
| 14.00 | M 16 / M 15 x 1       |                               | 210.00 | 230.00 | 280.00 | 14.00 | E.3674.1.1400                | 413.70             |
| 15.00 | M 16 x 1              |                               | 225.00 | 260.00 | 310.00 | 16.00 | E.3674.1.1500                | 503.80             |

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReibahlen  
HSS/EReibahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik

# Bohrer VHM

## Wendepplattenbohrer

### Wendepplattenbohrer gerade genutet 3xd - 20xd

**E.3661.0**



- Insert drills, straight fluted 3xd - 20xd
- Wiertła składane proste 3xd - 20xd pod płytki wymienne
- Punte con inserto intercambiabile, denti dritti, 3xd - 20xd
- Broca con plaquitas intercambiables, ranuras rectas, para 3xd hasta 20xd



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1            | l2     | l3     | l1     | d2    | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|---------------|--------|--------|--------|-------|-------------------------------|------------------------------|--------------------|
| 10,00 - 11,75 | 45,00  | 75,00  | 115,00 | 20,00 | 2,50                          | E.3661.0.1000-1175.045       | 291,10             |
| 10,00 - 11,75 | 90,00  | 119,00 | 159,00 | 20,00 | 2,50                          | E.3661.0.1000-1175.090       | 309,90             |
| 11,80 - 14,00 | 45,00  | 75,00  | 115,00 | 20,00 | 2,50                          | E.3661.0.1180-1400.045       | 291,10             |
| 11,80 - 14,00 | 110,00 | 139,00 | 179,00 | 20,00 | 2,50                          | E.3661.0.1180-1400.110       | 338,10             |
| 13,50 - 16,50 | 55,00  | 85,00  | 125,00 | 20,00 | 3,50                          | E.3661.0.1350-1650.055       | 319,30             |
| 13,50 - 16,50 | 130,00 | 158,50 | 198,50 | 20,00 | 3,50                          | E.3661.0.1350-1650.130       | 356,90             |
| 13,50 - 16,50 | 170,00 | 198,50 | 238,50 | 20,00 | 3,50                          | E.3661.0.1350-1650.170       | 432,00             |
| 13,50 - 16,50 | 250,00 | 278,50 | 318,50 | 20,00 | 3,50                          | E.3661.0.1350-1650.250       | 563,40             |
| 15,00 - 17,50 | 55,00  | 85,00  | 125,00 | 20,00 | 3,50                          | E.3661.0.1500-1750.055       | 319,30             |
| 15,00 - 17,50 | 130,00 | 158,50 | 198,50 | 20,00 | 3,50                          | E.3661.0.1500-1750.130       | 356,90             |
| 15,00 - 17,50 | 170,00 | 198,50 | 238,50 | 20,00 | 3,50                          | E.3661.0.1500-1750.170       | 432,00             |
| 15,00 - 17,50 | 330,00 | 258,50 | 398,50 | 20,00 | 3,50                          | E.3661.0.1500-1750.330       | 638,50             |
| 16,50 - 20,00 | 65,00  | 95,00  | 135,00 | 20,00 | 3,50                          | E.3661.0.1650-2000.065       | 319,30             |
| 16,50 - 20,00 | 150,00 | 180,50 | 220,50 | 20,00 | 3,50                          | E.3661.0.1650-2000.150       | 356,90             |
| 16,50 - 20,00 | 225,00 | 255,50 | 295,50 | 20,00 | 3,50                          | E.3661.0.1650-2000.225       | 544,60             |
| 16,50 - 20,00 | 340,00 | 370,50 | 410,50 | 20,00 | 3,50                          | E.3661.0.1650-2000.340       | 638,50             |
| 18,95 - 22,50 | 70,00  | 105,00 | 145,00 | 20,00 | 4,00                          | E.3661.0.1895-2250.070       | 338,10             |
| 18,95 - 22,50 | 180,00 | 214,00 | 254,00 | 20,00 | 4,00                          | E.3661.0.1895-2250.180       | 375,60             |
| 18,95 - 22,50 | 270,00 | 304,00 | 344,00 | 20,00 | 4,00                          | E.3661.0.1895-2250.270       | 544,60             |
| 18,95 - 22,50 | 390,00 | 424,00 | 464,00 | 20,00 | 4,00                          | E.3661.0.1895-2250.390       | 704,20             |
| 22,50 - 26,00 | 137,00 | 172,00 | 212,00 | 20,00 | 4,00                          | E.3661.0.2250-2600.137       | 347,50             |
| 22,50 - 26,00 | 270,00 | 305,00 | 345,00 | 20,00 | 4,00                          | E.3661.0.2250-2600.270       | 507,10             |
| 22,50 - 26,00 | 460,00 | 495,00 | 535,00 | 20,00 | 4,00                          | E.3661.0.2250-2600.460       | 788,70             |
| 24,00 - 29,00 | 125,00 | 163,00 | 225,00 | 32,00 | 5,00                          | E.3661.0.2400-2900.125       | 375,60             |
| 24,00 - 29,00 | 240,00 | 283,00 | 343,00 | 32,00 | 5,00                          | E.3661.0.2400-2900.240       | 450,70             |
| 24,00 - 29,00 | 400,00 | 443,00 | 503,00 | 32,00 | 5,00                          | E.3661.0.2400-2900.400       | 694,90             |
| 24,00 - 29,00 | 580,00 | 623,00 | 683,00 | 32,00 | 5,00                          | E.3661.0.2400-2900.580       | 845,10             |
| 29,00 - 36,00 | 125,00 | 163,00 | 225,00 | 32,00 | 5,00                          | E.3661.0.2900-3600.125       | 375,60             |
| 29,00 - 36,00 | 290,00 | 333,00 | 393,00 | 32,00 | 5,00                          | E.3661.0.2900-3600.290       | 507,10             |
| 29,00 - 36,00 | 450,00 | 493,00 | 553,00 | 32,00 | 5,00                          | E.3661.0.2900-3600.450       | 751,20             |
| 29,00 - 36,00 | 660,00 | 703,00 | 763,00 | 32,00 | 5,00                          | E.3661.0.2900-3600.660       | 995,30             |
| 34,00 - 40,50 | 125,00 | 163,00 | 223,00 | 32,00 | 5,00                          | E.3661.0.3400-4050.125       | 394,40             |
| 34,00 - 40,50 | 290,00 | 333,00 | 393,00 | 32,00 | 5,00                          | E.3661.0.3400-4050.290       | 544,60             |
| 34,00 - 40,50 | 500,00 | 543,00 | 603,00 | 32,00 | 5,00                          | E.3661.0.3400-4050.500       | 826,30             |
| 34,00 - 40,50 | 720,00 | 763,00 | 823,00 | 32,00 | 5,00                          | E.3661.0.3400-4050.720       | 1070,40            |
| 35,00 - 46,00 | 110,00 | 157,00 | 217,00 | 32,00 | 7,00                          | E.3661.0.3500-4600.110       | 432,00             |

Fortsetzung nächste Seite / Continued on next page





Wendelplattenbohrer


| d1                    | l2     | l3     | l1     | d2    | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | Stück / piece | € |
|-----------------------|--------|--------|--------|-------|-------------------------------|------------------------------|---------------|---|
| 35,00 - 46,00         | 215,00 | 262,00 | 322,00 | 32,00 | 7,00                          | E.3661.0.3500-4600.215       | 497,70        |   |
| 35,00 - 46,00         | 350,00 | 397,00 | 457,00 | 32,00 | 7,00                          | E.3661.0.3500-4600.350       | 770,00        |   |
| 35,00 - 46,00         | 500,00 | 547,00 | 607,00 | 32,00 | 7,00                          | E.3661.0.3500-4600.500       | 939,00        |   |
| 45,00 - 56,00         | 215,00 | 262,00 | 332,00 | 40,00 | 7,00                          | E.3661.0.4500-5600.215       | 525,80        |   |
| 45,00 - 56,00         | 350,00 | 397,00 | 467,00 | 40,00 | 7,00                          | E.3661.0.4500-5600.350       | 798,10        |   |
| 45,00 - 56,00         | 500,00 | 547,00 | 617,00 | 40,00 | 7,00                          | E.3661.0.4500-5600.500       | 976,50        |   |
| 55,00 - 66,00         | 215,00 | 262,00 | 332,00 | 40,00 | 7,00                          | E.3661.0.5500-6600.215       | 563,40        |   |
| 55,00 - 66,00         | 350,00 | 397,00 | 467,00 | 40,00 | 7,00                          | E.3661.0.5500-6600.350       | 863,90        |   |
| 55,00 - 66,00         | 500,00 | 547,00 | 617,00 | 40,00 | 7,00                          | E.3661.0.5500-6600.500       | 1089,20       |   |
| 65,00 - 80,00         | 220,00 | 270,00 | 340,00 | 40,00 | 9,00                          | E.3661.0.6500-8000.220       | 694,90        |   |
| 65,00 - 80,00         | 500,00 | 550,00 | 620,00 | 40,00 | 9,00                          | E.3661.0.6500-8000.500       | 1108,00       |   |
| 78,00 - 91,00         | 220,00 | 270,00 | 350,00 | 50,00 | 9,00                          | E.3661.0.7800-9100.220       | 788,70        |   |
| 78,00 - 91,00         | 500,00 | 550,00 | 630,00 | 50,00 | 9,00                          | E.3661.0.7800-9100.500       | 1295,80       |   |
| 90,00 - 120,00        | 220,00 | 270,00 | 350,00 | 50,00 | 9,00                          | E.3661.0.9000-12000.220      | 882,60        |   |
| 90,00 - 120,00        | 500,00 | 550,00 | 630,00 | 50,00 | 9,00                          | E.3661.0.9000-12000.500      | 1483,60       |   |
| <b>Torx-Schrauben</b> |        |        |        |       |                               |                              |               |   |
| 13,50 - 16,50         |        |        |        |       |                               | E.3661.0S.1350-1650          | 4,10          |   |
| 16,50 - 20,00         |        |        |        |       |                               | E.3661.0S.1650-2000          | 4,10          |   |
| 18,95 - 22,50         |        |        |        |       |                               | E.3661.0S.1895-2250          | 4,40          |   |
| 24,00 - 29,00         |        |        |        |       |                               | E.3661.0S.2400-2900          | 4,70          |   |
| 29,00 - 36,00         |        |        |        |       |                               | E.3661.0S.2900-3600          | 4,70          |   |
| 45,00 - 56,00         |        |        |        |       |                               | E.3661.0S.4500-5600          | 5,10          |   |


Wendelplattenbohrer gerade genutet 3xd - 20xd


**E.3662.0**




 Insert drills, straight fluted 3xd - 20xd

 Wiertła składane proste 3xd - 20xd pod płytki wymienne

 Punta con inserto intercambiabile, denti dritti, 3xd - 20xd

 Broca con plaquitas intercambiables, ranuras rectas, para 3xd hasta 20xd



| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |


| d1            | l2     | l3     | l1     | d2   | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | Stück / piece | € |
|---------------|--------|--------|--------|------|-------------------------------|------------------------------|---------------|---|
| 35,00 - 46,00 | 215,00 | 262,00 | 461,00 | 4,00 | 7,00                          | E.3662.0.3500-4600.215       | 582,20        |   |
| 35,00 - 46,00 | 500,00 | 535,00 | 716,00 | 4,00 | 7,00                          | E.3662.0.3500-4600.500       | 1032,90       |   |
| 45,00 - 56,00 | 215,00 | 262,00 | 431,00 | 4,00 | 7,00                          | E.3662.0.4500-5600.215       | 601,00        |   |
| 45,00 - 56,00 | 500,00 | 535,00 | 716,00 | 4,00 | 7,00                          | E.3662.0.4500-5600.500       | 1070,40       |   |
| 55,00 - 66,00 | 215,00 | 262,00 | 431,00 | 4,00 | 7,00                          | E.3662.0.5500-6600.215       | 657,30        |   |
| 55,00 - 66,00 | 500,00 | 535,00 | 716,00 | 4,00 | 7,00                          | E.3662.0.5500-6600.500       | 1183,10       |   |
| 65,00 - 80,00 | 270,00 | 320,00 | 536,00 | 5,00 | 9,00                          | E.3662.0.6500-8000.270       | 788,70        |   |
| 65,00 - 80,00 | 500,00 | 550,00 | 766,00 | 5,00 | 9,00                          | E.3662.0.6500-8000.500       | 1201,90       |   |
| 78,00 - 91,00 | 270,00 | 320,00 | 536,00 | 5,00 | 9,00                          | E.3662.0.7800-9100.270       | 901,40        |   |
| 78,00 - 91,00 | 500,00 | 550,00 | 766,00 | 5,00 | 9,00                          | E.3662.0.7800-9100.500       | 1408,40       |   |

**Bohrer VHM**  
Wendeplattenbohrer

Wendeplatten mit Fase für Halter E.3661 - E.3662.0

**E.3664.2**



-  Inserts with chamfer for holder E.3661 - E.3662.0
-  Płytki wymienne do wiertel składanych E.3661 - E.3662.0
-  Inserti intercambiabili con smussi per mandrini
-  Plaquetas intercambiables con margen para portaherramientas E.3661 - E.3662



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |



Schnittwerte Seite 3103  
Cutting data page 3103

| d1            | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|---------------|-------------------------------|------------------------------|--------------------|
| 10,00 - 14,00 | 2,5                           | E.3664.2.1000-1400           | 56.70              |
| 13,50 - 20,00 | 3,5                           | E.3664.2.1350-2000           | 75.20              |
| 18,95 - 26,00 | 4,0                           | E.3664.2.1895-2600           | 95.00              |
| 24,00 - 29,00 | 5,0                           | E.3664.2.2400-2900           | 113.40             |
| 29,10 - 36,00 | 5,0                           | E.3664.2.2910-3600           | 120.50             |
| 35,00 - 45,50 | 7,0                           | E.3664.2.3500-4550           | 156.00             |
| 36,10 - 40,50 | 5,0                           | E.3664.2.3610-4050           | 127.60             |
| 46,00 - 55,50 | 7,0                           | E.3664.2.4600-5550           | 191.40             |
| 56,00 - 66,00 | 7,0                           | E.3664.2.5600-6600           | 226.80             |

Wendeplatten mit Fase für Halter E.3661 - E.3662.0

**E.3664.3**



-  Inserts with chamfer for holder E.3661 - E.3662.0
-  Płytki wymienne do wiertel składanych E.3661 - E.3662.0
-  Inserti intercambiabili con smussi per mandrini
-  Plaquetas intercambiables con margen para portaherramientas E.3661 - E.3662



|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

Schnittwerte Seite 3102  
Cutting data page 3102

| d1              | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------|-------------------------------|------------------------------|--------------------|
| 10,00 - 14,00   | 2,5                           | E.3664.3.01000-01400         | 42.60              |
| 13,50 - 20,00   | 3,5                           | E.3664.3.01350-02000         | 40.40              |
| 18,95 - 26,00   | 4,0                           | E.3664.3.01895-02600         | 48.20              |
| 24,00 - 29,00   | 5,0                           | E.3664.3.02400-02900         | 58.20              |
| 29,10 - 36,00   | 5,0                           | E.3664.3.02910-03600         | 58.20              |
| 35,00 - 45,50   | 7,0                           | E.3664.3.03500-04550         | 68.10              |
| 36,10 - 40,50   | 5,0                           | E.3664.3.03610-04050         | 68.10              |
| 46,00 - 55,50   | 7,0                           | E.3664.3.04600-05550         | 78.00              |
| 56,00 - 66,00   | 7,0                           | E.3664.3.05600-06600         | 86.50              |
| 65,00 - 75,00   | 9,0                           | E.3664.3.06500-07500         | 116.30             |
| 76,00 - 90,00   | 9,0                           | E.3664.3.07600-09000         | 129.10             |
| 91,00 - 102,00  | 9,0                           | E.3664.3.09100-10200         | 148.90             |
| 103,00 - 130,00 | 9,0                           | E.3664.3.10300-13000         | 170.10             |

Wendepplatten mit Fase für Halter E.3661 - E.3662.0

E.3664.4



Inserts with chamfer for holder E.3661 - E.3662.0  
 Płytki wymienne do wiertel składanych E.3661 - E.3662.0  
 Inserti intercambiabili con smussi per mandrini  
 Plaquetas intercambiables con margen para portaherramientas E.3661 - E.3662



Schnittwerte Seite 3102  
Cutting data page 3102

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1              | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|-----------------|-------------------------------|------------------------------|--------------------|
| 10,00 - 14,00   | 2,5                           | E.3664.4.01000-01400         | 42.60              |
| 13,50 - 20,00   | 3,5                           | E.3664.4.01350-02000         | 42.60              |
| 18,95 - 26,00   | 4,0                           | E.3664.4.01895-02600         | 51.10              |
| 24,00 - 29,00   | 5,0                           | E.3664.4.02400-02900         | 62.40              |
| 29,10 - 36,00   | 5,0                           | E.3664.4.02910-03600         | 65.30              |
| 35,00 - 45,50   | 7,0                           | E.3664.4.03500-04550         | 76.60              |
| 36,10 - 40,50   | 5,0                           | E.3664.4.03610-04050         | 70.90              |
| 46,00 - 55,50   | 7,0                           | E.3664.4.04600-05550         | 89.40              |
| 56,00 - 66,00   | 7,0                           | E.3664.4.05600-06600         | 97.90              |
| 65,00 - 75,00   | 9,0                           | E.3664.4.06500-07500         | 122.00             |
| 76,00 - 90,00   | 9,0                           | E.3664.4.07600-09000         | 136.10             |
| 91,00 - 102,00  | 9,0                           | E.3664.4.09100-10200         | 156.00             |
| 103,00 - 130,00 | 9,0                           | E.3664.4.10300-13000         | 177.20             |

Wendepplatten mit Fase für Halter E.3661 - E.3662.0

E.3664.5



Inserts with chamfer for holder E.3661 - E.3662.0  
 Płytki wymienne do wiertel składanych E.3661 - E.3662.0  
 Inserti intercambiabili con smussi per mandrini  
 Plaquetas intercambiables con margen para portaherramientas E.3661 - E.3662



Schnittwerte Seite 3103  
Cutting data page 3103

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Material | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 3.1 | 3.2 |
| Material | 3.3 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 6.1 | 6.2 | 6.3 |     |

| d1            | WP-Stärke<br>insert thickness | Artikelnummer<br>Article-No. | €<br>Stück / piece |
|---------------|-------------------------------|------------------------------|--------------------|
| 10,00 - 14,00 | 2,5                           | E.3664.5.1000-1400           | 53.90              |
| 13,50 - 20,00 | 3,5                           | E.3664.5.1350-2000           | 72.40              |
| 18,95 - 26,00 | 4,0                           | E.3664.5.1895-2600           | 92.20              |
| 24,00 - 29,00 | 5,0                           | E.3664.5.2400-2900           | 109.20             |
| 29,10 - 36,00 | 5,0                           | E.3664.5.2910-3600           | 116.30             |
| 35,00 - 45,50 | 7,0                           | E.3664.5.3500-4550           | 148.90             |
| 36,10 - 40,50 | 5,0                           | E.3664.5.3610-4050           | 123.40             |
| 46,00 - 55,50 | 7,0                           | E.3664.5.4600-5550           | 184.30             |

Gewinde-schneider  
 Bohrer HSS/E  
 Bohrer VHM  
 Reibahlen HSS/E  
 Reibahlen VHM  
 Fräsrifte HM  
 Fräser VHM  
 Spannmittel  
 Fräser HSSE  
 Sägen  
 Lehren  
 Technik

# Bohrer VHM

## Einsatzrichtwerte

| E.3638.0 - E.3653.0 |  |     |     |                      |       |                     |       |                      |       |                     |       |
|---------------------|--|-----|-----|----------------------|-------|---------------------|-------|----------------------|-------|---------------------|-------|
|                     |  |     | Vc  | f mm/U<br>Ø 0,5-1,25 |       | f mm/U<br>Ø 1,6-2,5 |       | f mm/U<br>Ø 3,15-4,0 |       | f mm/U<br>Ø 5,0-6,3 |       |
|                     | Materialbezeichnung / material description   | Nr. |     | von                  | bis   | von                 | bis   | von                  | bis   | von                 | bis   |
| Bohrer<br>VHM       | allg. Stähle / general steels <500 N/mm  | 1.1 | 80  | 0,020                | 0,030 | 0,080               | 0,100 | 0,100                | 0,130 | 0,130               | 0,200 |
|                     | allg. Stähle / general steels <700 N/mm  | 1.2 | 80  | 0,020                | 0,030 | 0,080               | 0,100 | 0,100                | 0,130 | 0,130               | 0,200 |
|                     | allg. Stähle / general steels < 850 N/mm   | 1.3 | 75  | 0,020                | 0,030 | 0,080               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | allg. Stähle / general steels <1000 N/mm   | 1.4 | 70  | 0,020                | 0,030 | 0,080               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | allg. Stähle / general steels <1400 N/mm   | 1.5 | 35  | 0,010                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 65  | 0,010                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 65  | 0,010                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 65  | 0,010                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 40  | 0,010                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
| Reibahlen<br>HSS/E  | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30  | 0,010                | 0,010 | 0,020               | 0,020 | 0,020                | 0,030 | 0,030               | 0,070 |
|                     | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 25  | 0,010                | 0,010 | 0,020               | 0,020 | 0,020                | 0,030 | 0,030               | 0,070 |
| Reibahlen<br>VHM    | Gusseisen / cast iron <180 HB  | 3.1 | 70  | 0,040                | 0,040 | 0,070               | 0,080 | 0,080                | 0,130 | 0,130               | 0,180 |
|                     | Temperguss / malleable cast iron   | 3.2 | 70  | 0,020                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
|                     | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 70  | 0,020                | 0,020 | 0,060               | 0,080 | 0,080                | 0,100 | 0,100               | 0,150 |
| Fräsriffe<br>HM     | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 200 | 0,010                | 0,010 | 0,020               | 0,020 | 0,020                | 0,030 | 0,030               | 0,070 |
|                     | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 180 | 0,010                | 0,010 | 0,020               | 0,020 | 0,020                | 0,030 | 0,030               | 0,070 |
|                     | AL-Legierungen / AL alloys >12% Si   | 4.3 | 160 | 0,010                | 0,010 | 0,020               | 0,020 | 0,020                | 0,030 | 0,030               | 0,070 |
|                     | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass                     | 4.4 | 100 | 0,010                | 0,010 | 0,010               | 0,010 | 0,010                | 0,020 | 0,020               | 0,060 |
|                     | Duro- und Thermoplaste / duro- and thermoplastics  | 4.5 | 45  | 0,050                | 0,050 | 0,050               | 0,050 | 0,050                | 0,050 | 0,100               | 0,140 |
| S                   | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 25  | 0,010                | 0,020 | 0,020               | 0,020 | 0,020                | 0,030 | 0,030               | 0,070 |

| E.3639.0       |  |     |     |                     |  |                     |  |                  |  |       |  |
|----------------|--|-----|-----|---------------------|--|---------------------|--|------------------|--|-------|--|
|                |  |     | Vc  | f mm/U<br>Ø 3,4-5,5 |  | f mm/U<br>Ø 6,6-9,0 |  | f mm/U<br>Ø 11,0 |  |       |  |
|                | Materialbezeichnung / material description   | Nr. |     |                     |  |                     |  |                  |  |       |  |
| Spannmittel    | allg. Stähle / general steels <500 N/mm  | 1.1 | 75  |                     |  | 0,100               |  | 0,150            |  | 0,210 |  |
|                | allg. Stähle / general steels <700 N/mm  | 1.2 | 75  |                     |  | 0,100               |  | 0,150            |  | 0,210 |  |
|                | allg. Stähle / general steels < 850 N/mm   | 1.3 | 70  |                     |  | 0,100               |  | 0,150            |  | 0,210 |  |
|                | allg. Stähle / general steels <1000 N/mm   | 1.4 | 65  |                     |  | 0,110               |  | 0,130            |  | 0,180 |  |
|                | allg. Stähle / general steels <1400 N/mm   | 1.5 | 35  |                     |  | 0,100               |  | 0,120            |  | 0,170 |  |
|                | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 60  |                     |  | 0,100               |  | 0,120            |  | 0,170 |  |
|                | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 50  |                     |  | 0,100               |  | 0,120            |  | 0,170 |  |
|                | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 45  |                     |  | 0,100               |  | 0,150            |  | 0,210 |  |
|                | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 45  |                     |  | 0,100               |  | 0,120            |  | 0,170 |  |
| Fräser<br>HSSE | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30  |                     |  | 0,090               |  | 0,120            |  | 0,180 |  |
|                | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 25  |                     |  | 0,080               |  | 0,110            |  | 0,160 |  |
| Sägen          | Gusseisen / cast iron <180 HB  | 3.1 | 70  |                     |  | 0,180               |  | 0,240            |  | 0,340 |  |
|                | Temperguss / malleable cast iron   | 3.2 | 60  |                     |  | 0,180               |  | 0,240            |  | 0,340 |  |
|                | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 60  |                     |  | 0,180               |  | 0,240            |  | 0,340 |  |
| Lehren         | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 200 |                     |  | 0,140               |  | 0,200            |  | 0,320 |  |
|                | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 180 |                     |  | 0,140               |  | 0,200            |  | 0,320 |  |
|                | AL-Legierungen / AL alloys >12% Si   | 4.3 | 140 |                     |  | 0,140               |  | 0,200            |  | 0,320 |  |
|                | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass                     | 4.4 | 80  |                     |  | 0,110               |  | 0,180            |  | 0,280 |  |
|                | Duro- und Thermoplaste / duro- and thermoplastics  | 4.5 | 40  |                     |  | 0,080               |  | 0,140            |  | 0,200 |  |
| Technik        | Grafit, GFK / graphite   | 4.6 | 35  |                     |  | 0,080               |  | 0,140            |  | 0,200 |  |
|                | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 35  |                     |  | 0,060               |  | 0,100            |  | 0,150 |  |

| E.3640.1 - E.3642.0 - E.3643.1 - E.3654.1 |   |     | Vc  |  | f mm/U |  | f mm/U |  | f mm/U  |  |
|---|---|-----|-----|--|--------|--|--------|--|---------|--|
|   |   |     |     |  | M3-M6  |  | M8-M10 |  | M12-M16 |  |
|   | Materialbezeichnung / material description  | Nr. |     |  |        |  |        |  |         |  |
| P   | allg. Stähle / general steels <500 N/mm   | 1.1 | 75  |  | 0,100  |  | 0,150  |  | 0,210   |  |
|   | allg. Stähle / general steels <700 N/mm   | 1.2 | 75  |  | 0,100  |  | 0,150  |  | 0,210   |  |
|   | allg. Stähle / general steels < 850 N/mm  | 1.3 | 70  |  | 0,100  |  | 0,150  |  | 0,210   |  |
|   | allg. Stähle / general steels <1000 N/mm  | 1.4 | 65  |  | 0,110  |  | 0,130  |  | 0,180   |  |
|   | allg. Stähle / general steels <1400 N/mm  | 1.5 | 35  |  | 0,100  |  | 0,120  |  | 0,170   |  |
|   | Einsatzstähle / case hardening steels <1000 N/mm                                      | 1.6 | 60  |  | 0,100  |  | 0,120  |  | 0,170   |  |
|   | Nitrierstähle / nitriding steels <1000 N/mm   | 1.7 | 50  |  | 0,100  |  | 0,120  |  | 0,170   |  |
|   | Vergütungsstähle / heat treatable steels <850 N/mm                                    | 1.8 | 45  |  | 0,100  |  | 0,150  |  | 0,210   |  |
|   | Werkzeugstähle (legiert und unlegiert) / tool steels                                  | 1.9 | 45  |  | 0,100  |  | 0,120  |  | 0,170   |  |
| M   | Rost- und säurebeständige Stähle <700 N/mm corrosion- and acid-proof steels <700 N/mm | 2.1 | 30  |  | 0,090  |  | 0,120  |  | 0,180   |  |
|   | Rost- und säurebeständige Stähle >700 N/mm corrosion- and acid-proof steels >700 N/mm | 2.2 | 25  |  | 0,080  |  | 0,110  |  | 0,160   |  |
| K   | Gusseisen / cast iron <180 HB   | 3.1 | 70  |  | 0,180  |  | 0,240  |  | 0,340   |  |
|   | Temperguss / malleable cast iron  | 3.2 | 60  |  | 0,180  |  | 0,240  |  | 0,340   |  |
|   | Gusseisen mit Kugelgraphit / ductile cast iron  | 3.3 | 60  |  | 0,180  |  | 0,240  |  | 0,340   |  |
| N   | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                                     | 4.1 | 200 |  | 0,140  |  | 0,200  |  | 0,320   |  |
|   | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                    | 4.2 | 180 |  | 0,140  |  | 0,200  |  | 0,320   |  |
|   | AL-Legierungen / AL alloys >12% Si  | 4.3 | 140 |  | 0,140  |  | 0,200  |  | 0,320   |  |
|   | Messing, Kupfer, Bronze, Rotguss brass, copper, bronze, red brass                     | 4.4 | 80  |  | 0,110  |  | 0,180  |  | 0,280   |  |
|   | Duro- und Thermoplaste / duro- and thermoplastics                                     | 4.5 | 40  |  | 0,080  |  | 0,140  |  | 0,200   |  |
|   | Grafit, GFK / graphite  | 4.6 | 35  |  | 0,080  |  | 0,140  |  | 0,200   |  |
| S   | Titan und Titanlegierungen / titanium and tit.-alloys                                 | 5.1 | 35  |  | 0,060  |  | 0,100  |  | 0,150   |  |

| E.3601.0 - E.3615.1 - E.3673.0  |   |   | Vc m/min |     | f mm/U    |       | f mm/U    |       | f mm/U    |       | f mm/U    |       | f mm/U    |       | f mm/U    |       |
|---|---|---|----------|-----|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|
|   |   |   |          |     | Ø 0,1-0,3 |       | Ø 0,3-0,5 |       | Ø 0,5-0,8 |       | Ø 0,8-1,0 |       | Ø 1,0-1,5 |       | Ø 1,5-2,5 |       |
|   | Materialbezeichnung / material description                        | Nr.   | von      | bis | von       | bis   | von       | bis   | von       | bis   | von       | bis   | von       | bis   | von       | bis   |
| P   | allg. Stähle / general steels <500 N/mm                           | 1.1   | 50       | 60  | 0,005     | 0,012 | 0,012     | 0,012 | 0,012     | 0,025 | 0,025     | 0,040 | 0,040     | 0,050 | 0,050     | 0,070 |
|   | allg. Stähle / general steels <700 N/mm                           | 1.2   | 50       | 60  | 0,004     | 0,010 | 0,010     | 0,012 | 0,012     | 0,020 | 0,020     | 0,035 | 0,035     | 0,045 | 0,045     | 0,060 |
|   | allg. Stähle / general steels < 850 N/mm                          | 1.3   | 50       | 60  | 0,004     | 0,010 | 0,010     | 0,012 | 0,012     | 0,020 | 0,020     | 0,035 | 0,035     | 0,045 | 0,045     | 0,060 |
|   | allg. Stähle / general steels <1000 N/mm                          | 1.4   | 40       | 50  | 0,004     | 0,010 | 0,010     | 0,012 | 0,012     | 0,020 | 0,020     | 0,035 | 0,035     | 0,045 | 0,045     | 0,060 |
|   | Einsatzstähle / case hardening steels <1000 N/mm                  | 1.6   | 35       | 45  | 0,003     | 0,006 | 0,006     | 0,008 | 0,008     | 0,015 | 0,015     | 0,030 | 0,030     | 0,040 | 0,040     | 0,050 |
|   | Nitrierstähle / nitriding steels <1000 N/mm                       | 1.7   | 35       | 45  | 0,003     | 0,006 | 0,006     | 0,008 | 0,008     | 0,015 | 0,015     | 0,030 | 0,030     | 0,040 | 0,040     | 0,050 |
|   | Vergütungsstähle / heat treatable steels <850 N/mm                | 1.8   | 40       | 50  | 0,003     | 0,006 | 0,006     | 0,008 | 0,008     | 0,015 | 0,015     | 0,030 | 0,030     | 0,040 | 0,040     | 0,050 |
|   | Werkzeugstähle (legiert und unlegiert) / tool steels              | 1.9   | 30       | 40  | 0,003     | 0,006 | 0,006     | 0,008 | 0,008     | 0,015 | 0,015     | 0,030 | 0,030     | 0,040 | 0,040     | 0,050 |
|   | M   | Rost- und säurebeständige Stähle <700 N/mm corrosion- and acid-proof steels <700 N/mm | 2.1      | 20  | 30        | 0,003 | 0,006     | 0,006 | 0,008     | 0,008 | 0,015     | 0,015 | 0,030     | 0,030 | 0,040     | 0,040 |
| Rost- und säurebeständige Stähle >700 N/mm corrosion- and acid-proof steels >700 N/mm |   | 2.2   | 20       | 30  | 0,003     | 0,005 | 0,005     | 0,007 | 0,007     | 0,012 | 0,012     | 0,025 | 0,025     | 0,035 | 0,035     | 0,050 |
| K   | Gusseisen / cast iron <180 HB                                     | 3.1   | 60       | 80  | 0,005     | 0,012 | 0,012     | 0,012 | 0,012     | 0,025 | 0,025     | 0,040 | 0,040     | 0,050 | 0,050     | 0,070 |
|   | Temperguss / malleable cast iron                                  | 3.2   | 50       | 60  | 0,005     | 0,012 | 0,012     | 0,012 | 0,012     | 0,025 | 0,025     | 0,040 | 0,040     | 0,050 | 0,050     | 0,070 |
|   | Gusseisen mit Kugelgraphit / ductile cast iron                    | 3.3   | 50       | 60  | 0,005     | 0,012 | 0,012     | 0,012 | 0,012     | 0,025 | 0,025     | 0,040 | 0,040     | 0,050 | 0,050     | 0,070 |
| N   | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                 | 4.1   | 120      | 180 | 0,010     | 0,020 | 0,020     | 0,025 | 0,025     | 0,040 | 0,040     | 0,060 | 0,060     | 0,070 | 0,070     | 0,095 |
|   | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                | 4.2   | 80       | 120 | 0,006     | 0,015 | 0,015     | 0,020 | 0,020     | 0,030 | 0,030     | 0,050 | 0,050     | 0,060 | 0,060     | 0,085 |
|   | AL-Legierungen / AL alloys >12% Si                                | 4.3   | 60       | 80  | 0,006     | 0,015 | 0,015     | 0,020 | 0,020     | 0,030 | 0,030     | 0,050 | 0,050     | 0,060 | 0,060     | 0,085 |
|   | Messing, Kupfer, Bronze, Rotguss brass, copper, bronze, red brass | 4.4   | 40       | 60  | 0,005     | 0,012 | 0,012     | 0,012 | 0,012     | 0,025 | 0,025     | 0,040 | 0,040     | 0,050 | 0,050     | 0,070 |
|   | Duro- und Thermoplaste / duro- and thermoplastics                 | 4.5   | 30       | 50  | 0,003     | 0,006 | 0,006     | 0,008 | 0,008     | 0,015 | 0,015     | 0,030 | 0,030     | 0,040 | 0,040     | 0,050 |
|   | S   | Titan und Titanlegierungen / titanium and tit.-alloys                                 | 5.1      | 20  | 30        | 0,003 | 0,006     | 0,006 | 0,008     | 0,008 | 0,015     | 0,015 | 0,030     | 0,030 | 0,040     | 0,040 |

Gewinde-schneider  
Bohrer HSS/E  
Bohrer VHM  
Reibahlen HSS/E  
Reibahlen VHM  
Frässtifte HM  
Fräser VHM  
Spannmittel  
Fräser HSSE  
Sägen  
Lehren  
Technik



## Bohrer VHM

### Einsatzrichtwerte

| <b>E.3676.1</b>        |  |     |          |     |                     |       |                     |       |                     |       |                     |       |                     |       |
|------------------------|--|-----|----------|-----|---------------------|-------|---------------------|-------|---------------------|-------|---------------------|-------|---------------------|-------|
|                        | Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U<br>Ø 0,7-1,0 |       | f mm/V<br>Ø 1,0-1,7 |       | f mm/U<br>Ø 1,7-2,0 |       | f mm/U<br>Ø 2,0-2,5 |       | f mm/V<br>Ø 2,5-3,0 |       |
|                        |  |     | von      | bis | von                 | bis   | von                 | bis   | von                 | bis   | von                 | bis   | von                 | bis   |
| <b>Bohrer VHM</b>      | allg. Stähle / general steels <500 N/mm  | 1.1 | 70       | 90  | 0,020               | 0,035 | 0,035               | 0,050 | 0,050               | 0,080 | 0,080               | 0,012 | 0,012               | 0,200 |
|                        | allg. Stähle / general steels <700 N/mm  | 1.2 | 60       | 80  | 0,020               | 0,035 | 0,035               | 0,050 | 0,050               | 0,080 | 0,080               | 0,012 | 0,012               | 0,200 |
|                        | allg. Stähle / general steels < 850 N/mm   | 1.3 | 60       | 80  | 0,020               | 0,035 | 0,035               | 0,050 | 0,050               | 0,080 | 0,080               | 0,012 | 0,012               | 0,200 |
|                        | allg. Stähle / general steels <1000 N/mm   | 1.4 | 50       | 70  | 0,020               | 0,035 | 0,035               | 0,050 | 0,050               | 0,080 | 0,080               | 0,012 | 0,012               | 0,200 |
|                        | allg. Stähle / general steels <1400 N/mm   | 1.5 | 25       | 40  | 0,010               | 0,030 | 0,030               | 0,040 | 0,040               | 0,050 | 0,050               | 0,090 | 0,090               | 0,150 |
|                        | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 50       | 65  | 0,020               | 0,030 | 0,030               | 0,050 | 0,050               | 0,070 | 0,070               | 0,110 | 0,110               | 0,180 |
|                        | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 50       | 65  | 0,020               | 0,030 | 0,030               | 0,050 | 0,050               | 0,070 | 0,070               | 0,110 | 0,110               | 0,180 |
|                        | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 50       | 65  | 0,020               | 0,030 | 0,030               | 0,050 | 0,050               | 0,070 | 0,070               | 0,110 | 0,110               | 0,180 |
|                        | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 40       | 60  | 0,010               | 0,030 | 0,030               | 0,040 | 0,040               | 0,050 | 0,050               | 0,100 | 0,100               | 0,150 |
| <b>Reibahlen HSS/E</b> | rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30       | 40  | 0,010               | 0,030 | 0,030               | 0,040 | 0,040               | 0,050 | 0,050               | 0,100 | 0,100               | 0,150 |
|                        | rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 30       | 40  | 0,010               | 0,030 | 0,030               | 0,040 | 0,040               | 0,050 | 0,050               | 0,100 | 0,100               | 0,150 |
| <b>Reibahlen VHM</b>   | Gusseisen / cast iron <180 HB  | 3.1 | 80       | 100 | 0,030               | 0,040 | 0,040               | 0,060 | 0,060               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 |
|                        | Temperguss / malleable cast iron   | 3.2 | 80       | 100 | 0,030               | 0,040 | 0,040               | 0,060 | 0,060               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 |
|                        | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 70       | 90  | 0,030               | 0,040 | 0,040               | 0,060 | 0,060               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 |
| <b>Frässäge HM</b>     | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 180      | 220 | 0,030               | 0,040 | 0,040               | 0,060 | 0,060               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 |
|                        | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 140      | 180 | 0,030               | 0,040 | 0,040               | 0,060 | 0,060               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 |
|                        | AL-Legierungen / AL alloys >12% Si   | 4.3 | 100      | 140 | 0,030               | 0,040 | 0,040               | 0,060 | 0,060               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 |
|                        | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass                     | 4.4 | 120      | 160 | 0,020               | 0,035 | 0,035               | 0,050 | 0,050               | 0,080 | 0,080               | 0,012 | 0,012               | 0,200 |
|                        | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 20       | 30  | 0,010               | 0,030 | 0,030               | 0,040 | 0,040               | 0,050 | 0,050               | 0,100 | 0,100               | 0,150 |

| <b>E.3605.0 - E.3606.0 - E.3607.0 - E.3609.0 - E.3677.0</b> |  |     |          |     |                     |       |                     |       |                     |       |                       |       |                       |       |
|---|--|-----|----------|-----|---------------------|-------|---------------------|-------|---------------------|-------|-----------------------|-------|-----------------------|-------|
|   | Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U<br>Ø 0,3-2,9 |       | f mm/V<br>Ø 3,0-5,9 |       | f mm/U<br>Ø 6,0-9,9 |       | f mm/U<br>Ø 10,0-15,9 |       | f mm/V<br>Ø 16,0-20,0 |       |
|   |  |     | von      | bis | von                 | bis   | von                 | bis   | von                 | bis   | von                   | bis   | von                   | bis   |
| <b>Bohrer VHM</b>   | allg. Stähle / general steels <500 N/mm  | 1.1 | 60       | 80  | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | allg. Stähle / general steels <700 N/mm  | 1.2 | 60       | 80  | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | allg. Stähle / general steels < 850 N/mm   | 1.3 | 60       | 80  | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | allg. Stähle / general steels <1000 N/mm   | 1.4 | 50       | 70  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
|   | allg. Stähle / general steels <1400 N/mm   | 1.5 | 20       | 35  | 0,010               | 0,080 | 0,080               | 0,100 | 0,100               | 0,150 | 0,150                 | 0,180 | 0,180                 | 0,220 |
|   | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 35       | 50  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
|   | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 35       | 50  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
|   | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 40       | 56  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
|   | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 20       | 35  | 0,010               | 0,080 | 0,080               | 0,100 | 0,100               | 0,150 | 0,150                 | 0,180 | 0,180                 | 0,220 |
| <b>Reibahlen HSS/E</b>                                      | rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 25       | 35  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
|   | rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 20       | 30  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
| <b>Reibahlen VHM</b>  | Gusseisen / cast iron <180 HB  | 3.1 | 80       | 100 | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | Temperguss / malleable cast iron   | 3.2 | 70       | 90  | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 60       | 80  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |
| <b>Frässäge HM</b>  | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 180      | 220 | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 130      | 180 | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | AL-Legierungen / AL alloys >12% Si   | 4.3 | 90       | 130 | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass                     | 4.4 | 120      | 160 | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | Duro- und Thermoplaste / duro- and thermoplastics  | 4.5 | 40       | 60  | 0,010               | 0,080 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
|   | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 20       | 35  | 0,010               | 0,080 | 0,080               | 0,120 | 0,120               | 0,180 | 0,180                 | 0,220 | 0,220                 | 0,280 |





| E.3611.1 - E.3684.1 - E.3612.1 - E.3685.1 |   |          |           |           |       |
|---|---|----------|-----------|-----------|-------|
|   |   |          | f mm/U    | f mm/U    |       |
|   |   | Vc m/min | Ø 1,0-2,0 | Ø 2,0-3,0 |       |
|   | Materialbezeichnung / material description  | Nr.      |           |           |       |
| P   | allg. Stähle / general steels <500 N/mm   | 1.1      | 80        | 0,060     | 0,100 |
|   | allg. Stähle / general steels <700 N/mm   | 1.2      | 75        | 0,060     | 0,100 |
|   | allg. Stähle / general steels < 850 N/mm  | 1.3      | 70        | 0,060     | 0,100 |
|   | allg. Stähle / general steels <1000 N/mm  | 1.4      | 65        | 0,050     | 0,070 |
|   | allg. Stähle / general steels <1400 N/mm  | 1.5      | 35        | 0,050     | 0,070 |
|   | Einsatzstähle / case hardening steels <1000 N/mm                                      | 1.6      | 70        | 0,030     | 0,070 |
|   | Nitrierstähle / nitriding steels <1000 N/mm   | 1.7      | 60        | 0,030     | 0,070 |
|   | Vergütungsstähle / heat treatable steels <850 N/mm                                    | 1.8      | 50        | 0,030     | 0,070 |
|   | Werkzeugstähle (legiert und unlegiert) / tool steels                                  | 1.9      | 40        | 0,030     | 0,070 |
| M   | Post- und säurebeständige Stähle <700 N/mm corrosion- and acid-proof steels <700 N/mm | 2.1      | 30        | 0,030     | 0,040 |
|   | Post- und säurebeständige Stähle >700 N/mm corrosion- and acid-proof steels >700 N/mm | 2.2      | 25        | 0,020     | 0,040 |
| K   | Gusseisen / cast iron <180 HB   | 3.1      | 70        | 0,060     | 0,100 |
|   | Temperguss / malleable cast iron  | 3.2      | 60        | 0,030     | 0,100 |
|   | Gusseisen mit Kugelgraphit / ductile cast iron  | 3.3      | 60        | 0,030     | 0,100 |
| N   | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                                     | 4.1      | 200       | 0,030     | 0,070 |
|   | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                    | 4.2      | 180       | 0,030     | 0,070 |
|   | AL-Legierungen / AL alloys >12% Si  | 4.3      | 140       | 0,030     | 0,070 |
|   | Messing, Kupfer, Bronze, Rotguss brass, copper, bronze, red brass                     | 4.4      | 80        | 0,030     | 0,070 |
|   | Duro- und Thermoplaste / duro- and thermoplastics                                     | 4.5      | 40        | 0,020     | 0,040 |
| S   | Titan und Titanlegierungen / titanium and tit.-alloys                                 | 5.1      | 35        | 0,020     | 0,030 |
|   | Nickel / nickel   | 5.2      | 35        | 0,020     | 0,030 |

| E.3631.0 - E.3632.0 - E.3633.0 - E.3634.0 - E.3635.0 - E.3671.0 |   |          |           |     |           |       |           |       |            |       |             |       |       |
|---|---|----------|-----------|-----|-----------|-------|-----------|-------|------------|-------|-------------|-------|-------|
|   |   |          | f mm/U    |     | f mm/U    |       | f mm/U    |       | f mm/U     |       | f mm/U      |       |       |
|   |   | Vc m/min | Ø 1,0-3,0 |     | Ø 3,0-5,0 |       | Ø 5,0-6,0 |       | Ø 6,0-12,0 |       | Ø 12,0-20,0 |       |       |
|   | Materialbezeichnung / material description  | Nr.      | von       | bis | von       | bis   | von       | bis   | von        | bis   | von         | bis   |       |
| P   | allg. Stähle / general steels <500 N/mm   | 1.1      | 70        | 80  | 0,050     | 0,060 | 0,060     | 0,110 | 0,110      | 0,140 | 0,140       | 0,160 | 0,160 |
|   | allg. Stähle / general steels <700 N/mm   | 1.2      | 65        | 75  | 0,050     | 0,060 | 0,060     | 0,110 | 0,110      | 0,140 | 0,140       | 0,160 | 0,160 |
|   | allg. Stähle / general steels < 850 N/mm  | 1.3      | 55        | 65  | 0,050     | 0,060 | 0,060     | 0,110 | 0,110      | 0,140 | 0,140       | 0,160 | 0,160 |
|   | allg. Stähle / general steels <1000 N/mm  | 1.4      | 40        | 50  | 0,040     | 0,050 | 0,050     | 0,090 | 0,090      | 0,120 | 0,120       | 0,140 | 0,140 |
|   | allg. Stähle / general steels <1400 N/mm  | 1.5      | 25        | 35  | 0,030     | 0,040 | 0,040     | 0,090 | 0,090      | 0,110 | 0,110       | 0,130 | 0,130 |
|   | Einsatzstähle / case hardening steels <1000 N/mm                                      | 1.6      | 30        | 40  | 0,040     | 0,050 | 0,050     | 0,090 | 0,090      | 0,120 | 0,120       | 0,140 | 0,140 |
|   | Nitrierstähle / nitriding steels <1000 N/mm   | 1.7      | 30        | 40  | 0,040     | 0,050 | 0,050     | 0,090 | 0,090      | 0,120 | 0,120       | 0,140 | 0,140 |
|   | Vergütungsstähle / heat treatable steels <850 N/mm                                    | 1.8      | 40        | 50  | 0,040     | 0,050 | 0,050     | 0,090 | 0,090      | 0,120 | 0,120       | 0,140 | 0,140 |
|   | Werkzeugstähle (legiert und unlegiert) / tool steels                                  | 1.9      | 25        | 35  | 0,030     | 0,040 | 0,040     | 0,090 | 0,090      | 0,110 | 0,110       | 0,130 | 0,130 |
| M   | Post- und säurebeständige Stähle <700 N/mm corrosion- and acid-proof steels <700 N/mm | 2.1      | 20        | 30  | 0,010     | 0,010 | 0,010     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |
|   | Post- und säurebeständige Stähle >700 N/mm corrosion- and acid-proof steels >700 N/mm | 2.2      | 20        | 25  | 0,010     | 0,010 | 0,010     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |
| K   | Gusseisen / cast iron <180 HB   | 3.1      | 60        | 70  | 0,030     | 0,040 | 0,040     | 0,090 | 0,090      | 0,110 | 0,110       | 0,130 | 0,130 |
|   | Temperguss / malleable cast iron  | 3.2      | 60        | 70  | 0,030     | 0,040 | 0,040     | 0,090 | 0,090      | 0,110 | 0,110       | 0,130 | 0,130 |
|   | Gusseisen mit Kugelgraphit / ductile cast iron  | 3.3      | 60        | 70  | 0,030     | 0,040 | 0,040     | 0,090 | 0,090      | 0,110 | 0,110       | 0,130 | 0,130 |
| N   | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                                     | 4.1      | 180       | 200 | 0,020     | 0,020 | 0,020     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |
|   | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                    | 4.2      | 160       | 180 | 0,020     | 0,020 | 0,020     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |
|   | AL-Legierungen / AL alloys >12% Si  | 4.3      | 140       | 160 | 0,020     | 0,020 | 0,020     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |
|   | Messing, Kupfer, Bronze, Rotguss brass, copper, bronze, red brass                     | 4.4      | 60        | 80  | 0,010     | 0,010 | 0,010     | 0,020 | 0,020      | 0,060 | 0,060       | 0,070 | 0,070 |
|   | Duro- und Thermoplaste / duro- and thermoplastics                                     | 4.5      | 40        | 50  | 0,010     | 0,010 | 0,010     | 0,020 | 0,020      | 0,040 | 0,040       | 0,060 | 0,060 |
| S   | Titan und Titanlegierungen / titanium and tit.-alloys                                 | 5.1      | 25        | 35  | 0,010     | 0,010 | 0,010     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |
|   | Nickel / nickel   | 5.2      | 25        | 35  | 0,010     | 0,010 | 0,010     | 0,030 | 0,030      | 0,070 | 0,070       | 0,070 | 0,070 |

Gewinde-schneider  
Bohrer HSS/E  
Bohrer VHM  
Reibahlen HSS/E  
Reibahlen VHM  
Fräsräfte HM  
Fräser VHM  
Spannmittel  
Fräser HSSE  
Sägen  
Lehren  
Technik

# Bohrer VHM

## Einsatzrichtwerte

### E.3636.1 - E.3637.1 - E.3652.1

|                 | Materialbezeichnung / material description  | Nr. | Vc m/min | f mm/U    |           | f mm/U    |            | f mm/U      |       | f mm/U |       | f mm/U |       |
|-----------------|---|-----|----------|-----------|-----------|-----------|------------|-------------|-------|--------|-------|--------|-------|
|                 |   |     |          | Ø 1,0-3,0 | Ø 3,0-5,0 | Ø 5,0-6,0 | Ø 6,0-12,0 | Ø 12,0-20,0 |       |        |       |        |       |
| Bohrer VHM      | allg. Stähle / general steels <500 N/mm   | 1.1 | 80       | 0,050     | 0,060     | 0,060     | 0,110      | 0,110       | 0,140 | 0,140  | 0,160 | 0,160  | 0,160 |
|                 | allg. Stähle / general steels <700 N/mm   | 1.2 | 75       | 0,050     | 0,060     | 0,060     | 0,110      | 0,110       | 0,140 | 0,140  | 0,160 | 0,160  | 0,160 |
|                 | allg. Stähle / general steels < 850 N/mm  | 1.3 | 65       | 0,050     | 0,060     | 0,060     | 0,110      | 0,110       | 0,140 | 0,140  | 0,160 | 0,160  | 0,160 |
|                 | allg. Stähle / general steels <1000 N/mm  | 1.4 | 50       | 0,040     | 0,050     | 0,050     | 0,090      | 0,090       | 0,120 | 0,120  | 0,140 | 0,140  | 0,140 |
|                 | allg. Stähle / general steels <1400 N/mm  | 1.5 | 35       | 0,030     | 0,040     | 0,040     | 0,090      | 0,090       | 0,110 | 0,110  | 0,130 | 0,130  | 0,130 |
|                 | Einsatzstähle / case hardening steels <1000 N/mm                                      | 1.6 | 40       | 0,040     | 0,050     | 0,050     | 0,090      | 0,090       | 0,120 | 0,120  | 0,140 | 0,140  | 0,140 |
|                 | Nitrierstähle / nitriding steels <1000 N/mm   | 1.7 | 40       | 0,040     | 0,050     | 0,050     | 0,090      | 0,090       | 0,120 | 0,120  | 0,140 | 0,140  | 0,140 |
|                 | Vergütungsstähle / heat treatable steels <850 N/mm                                    | 1.8 | 50       | 0,040     | 0,050     | 0,050     | 0,090      | 0,090       | 0,120 | 0,120  | 0,140 | 0,140  | 0,140 |
|                 | Werkzeugstähle (legiert und unlegiert) / tool steels                                  | 1.9 | 35       | 0,030     | 0,040     | 0,040     | 0,090      | 0,090       | 0,110 | 0,110  | 0,130 | 0,130  | 0,130 |
| Reibahlen HSS/E | Post- und säurebeständige Stähle <700 N/mm corrosion- and acid-proof steels <700 N/mm | 2.1 | 30       | 0,010     | 0,010     | 0,010     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
|                 | Post- und säurebeständige Stähle >700 N/mm corrosion- and acid-proof steels >700 N/mm | 2.2 | 25       | 0,010     | 0,010     | 0,010     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
| Reibahlen VHM   | Gusseisen / cast iron <180 HB   | 3.1 | 70       | 0,030     | 0,040     | 0,040     | 0,090      | 0,090       | 0,110 | 0,110  | 0,130 | 0,130  | 0,130 |
|                 | Temperguss / malleable cast iron  | 3.2 | 70       | 0,030     | 0,040     | 0,040     | 0,090      | 0,090       | 0,110 | 0,110  | 0,130 | 0,130  | 0,130 |
|                 | Gusseisen mit Kugelgraphit / ductile cast iron  | 3.3 | 70       | 0,030     | 0,040     | 0,040     | 0,090      | 0,090       | 0,110 | 0,110  | 0,130 | 0,130  | 0,130 |
| N               | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                                     | 4.1 | 200      | 0,020     | 0,020     | 0,020     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
|                 | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                    | 4.2 | 180      | 0,020     | 0,020     | 0,020     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
|                 | AL-Legierungen / AL alloys >12% Si  | 4.3 | 160      | 0,020     | 0,020     | 0,020     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
| S               | Messing, Kupfer, Bronze, Rotguss brass, copper, bronze, red brass                     | 4.4 | 80       | 0,010     | 0,010     | 0,010     | 0,020      | 0,020       | 0,060 | 0,060  | 0,070 | 0,070  | 0,070 |
|                 | Titan und Titanlegierungen / titanium and tit.-alloys                                 | 5.1 | 35       | 0,010     | 0,010     | 0,010     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
| H               | Nickel / nickel   | 5.2 | 35       | 0,010     | 0,010     | 0,010     | 0,030      | 0,030       | 0,070 | 0,070  | 0,070 | 0,070  | 0,070 |
|                 | gehärtete Stähle / hardened steels 45-55 HRC  | 6.1 | 25       | 0,040     | 0,060     | 0,060     | 0,080      | 0,080       | 0,090 | 0,090  | 0,120 | 0,120  | 0,130 |
|                 | gehärtete Stähle / hardened steels 55-60 HRC  | 6.2 | 15       | 0,040     | 0,060     | 0,060     | 0,080      | 0,080       | 0,090 | 0,090  | 0,120 | 0,120  | 0,130 |
|                 | gehärtete Stähle / hardened steels 60-65 HRC  | 6.3 | 10       | 0,040     | 0,060     | 0,060     | 0,080      | 0,080       | 0,090 | 0,090  | 0,120 | 0,120  | 0,130 |

### E.3645.1

|             | Materialbezeichnung / material description  | Nr. | Vc m/min | f mm/U    |            | f mm/U      |             | f mm/U |       | f mm/U |       |       |
|-------------|---|-----|----------|-----------|------------|-------------|-------------|--------|-------|--------|-------|-------|
|             |   |     |          | Ø 3,0-6,0 | Ø 6,0-10,0 | Ø 10,0-16,0 | Ø 16,0-20,0 |        |       |        |       |       |
| Fräser HSSE | allg. Stähle / general steels <500 N/mm   | 1.1 | 80       | 100       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | allg. Stähle / general steels <700 N/mm   | 1.2 | 80       | 100       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | allg. Stähle / general steels < 850 N/mm  | 1.3 | 80       | 100       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | allg. Stähle / general steels <1000 N/mm  | 1.4 | 70       | 90        | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | allg. Stähle / general steels <1400 N/mm  | 1.5 | 30       | 50        | 0,060      | 0,120       | 0,120       | 0,150  | 0,150 | 0,200  | 0,200 | 0,300 |
|             | Einsatzstähle / case hardening steels <1000 N/mm                                      | 1.6 | 60       | 80        | 0,070      | 0,130       | 0,130       | 0,160  | 0,160 | 0,220  | 0,220 | 0,300 |
|             | Nitrierstähle / nitriding steels <1000 N/mm   | 1.7 | 60       | 80        | 0,070      | 0,130       | 0,130       | 0,160  | 0,160 | 0,220  | 0,220 | 0,300 |
|             | Vergütungsstähle / heat treatable steels <850 N/mm                                    | 1.8 | 50       | 70        | 0,070      | 0,130       | 0,130       | 0,160  | 0,160 | 0,220  | 0,220 | 0,300 |
|             | Werkzeugstähle (legiert und unlegiert) / tool steels                                  | 1.9 | 30       | 50        | 0,060      | 0,120       | 0,120       | 0,150  | 0,150 | 0,200  | 0,200 | 0,300 |
| M           | Post- und säurebeständige Stähle <700 N/mm corrosion- and acid-proof steels <700 N/mm | 2.1 | 30       | 50        | 0,060      | 0,100       | 0,100       | 0,150  | 0,150 | 0,180  | 0,180 | 0,250 |
|             | Post- und säurebeständige Stähle >700 N/mm corrosion- and acid-proof steels >700 N/mm | 2.2 | 25       | 40        | 0,060      | 0,100       | 0,100       | 0,150  | 0,150 | 0,180  | 0,180 | 0,250 |
| K           | Gusseisen / cast iron <180 HB   | 3.1 | 100      | 120       | 0,050      | 0,130       | 0,130       | 0,170  | 0,170 | 0,220  | 0,220 | 0,350 |
|             | Temperguss / malleable cast iron  | 3.2 | 100      | 120       | 0,050      | 0,130       | 0,130       | 0,170  | 0,170 | 0,220  | 0,220 | 0,350 |
|             | Gusseisen mit Kugelgraphit / ductile cast iron  | 3.3 | 80       | 110       | 0,050      | 0,130       | 0,130       | 0,170  | 0,170 | 0,220  | 0,220 | 0,350 |
| N           | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                                     | 4.1 | 200      | 250       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                    | 4.2 | 160      | 200       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | AL-Legierungen / AL alloys >12% Si  | 4.3 | 120      | 180       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
| S           | Messing, Kupfer, Bronze, Rotguss brass, copper, bronze, red brass                     | 4.4 | 10       | 200       | 0,080      | 0,150       | 0,150       | 0,200  | 0,200 | 0,250  | 0,250 | 0,350 |
|             | Titan und Titanlegierungen / titanium and tit.-alloys                                 | 5.1 | 25       | 40        | 0,060      | 0,100       | 0,100       | 0,150  | 0,150 | 0,180  | 0,180 | 0,250 |

| E.3603.1 |  |     |           |     |           |       |            |       |             |       |        |       |
|----------|--|-----|-----------|-----|-----------|-------|------------|-------|-------------|-------|--------|-------|
|          |  |     | Vc m/min  |     | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U |       |
|          |  |     | Ø 1,0-3,0 |     | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       |        |       |
|          | Materialbezeichnung / material description     | Nr. | von       | bis | von       | bis   | von        | bis   | von         | bis   | von    | bis   |
| <b>P</b> | allg. Stähle / general steels <1400 N/mm       | 1.5 | 35        | 45  | 0,050     | 0,080 | 0,080      | 0,120 | 0,120       | 0,150 | 0,150  | 0,200 |
| <b>K</b> | Gusseisen / cast iron <180 HB                  | 3.1 | 65        | 85  | 0,070     | 0,150 | 0,015      | 0,250 | 0,250       | 0,450 | 0,450  | 0,550 |
|          | Temperguss / malleable cast iron               | 3.2 | 60        | 80  | 0,070     | 0,150 | 0,015      | 0,250 | 0,250       | 0,450 | 0,450  | 0,550 |
|          | Gusseisen mit Kugelgraphit / ductile cast iron | 3.3 | 45        | 60  | 0,070     | 0,120 | 0,120      | 0,140 | 0,140       | 0,180 | 0,180  | 0,200 |
| <b>H</b> | gehärtete Stähle / hardened steels 45-55 HRC   | 6.1 | 20        | 30  | 0,050     | 0,080 | 0,080      | 0,100 | 0,100       | 0,120 | 0,120  | 0,140 |
|          | gehärtete Stähle / hardened steels 55-60 HRC   | 6.2 | 10        | 20  | 0,050     | 0,080 | 0,080      | 0,100 | 0,100       | 0,120 | 0,120  | 0,140 |
|          | gehärtete Stähle / hardened steels 60-65 HRC   | 6.3 | 8         | 15  | 0,050     | 0,080 | 0,080      | 0,100 | 0,100       | 0,120 | 0,120  | 0,140 |

| E.3646.1 |  |     |           |     |            |       |             |       |             |       |        |       |
|----------|--|-----|-----------|-----|------------|-------|-------------|-------|-------------|-------|--------|-------|
|          |  |     | Vc m/min  |     | f mm/U     |       | f mm/U      |       | f mm/U      |       | f mm/U |       |
|          |  |     | Ø 3,0-6,0 |     | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |        |       |
|          | Materialbezeichnung / material description                           | Nr. | von       | bis | von        | bis   | von         | bis   | von         | bis   | von    | bis   |
| <b>P</b> | allg. Stähle / general steels <500 N/mm                              | 1.1 | 100       | 130 | 0,120      | 0,180 | 0,180       | 0,230 | 0,230       | 0,270 | 0,270  | 0,300 |
|          | allg. Stähle / general steels <700 N/mm                              | 1.2 | 100       | 130 | 0,120      | 0,180 | 0,180       | 0,230 | 0,230       | 0,270 | 0,270  | 0,300 |
|          | allg. Stähle / general steels <850 N/mm                              | 1.3 | 100       | 130 | 0,120      | 0,180 | 0,180       | 0,230 | 0,230       | 0,270 | 0,270  | 0,300 |
|          | allg. Stähle / general steels <1000 N/mm                             | 1.4 | 90        | 120 | 0,120      | 0,180 | 0,180       | 0,230 | 0,230       | 0,270 | 0,270  | 0,300 |
|          | allg. Stähle / general steels <1400 N/mm                             | 1.5 | 35        | 55  | 0,060      | 0,090 | 0,090       | 0,150 | 0,150       | 0,200 | 0,200  | 0,230 |
|          | Einsatzstähle / case hardening steels <1000 N/mm                     | 1.6 | 80        | 100 | 0,100      | 0,160 | 0,160       | 0,200 | 0,200       | 0,220 | 0,220  | 0,250 |
|          | Nitrierstähle / nitriding steels <1000 N/mm                          | 1.7 | 80        | 100 | 0,100      | 0,160 | 0,160       | 0,200 | 0,200       | 0,220 | 0,220  | 0,250 |
|          | Vergütungsstähle / heat treatable steels <850 N/mm                   | 1.8 | 80        | 100 | 0,100      | 0,160 | 0,160       | 0,200 | 0,200       | 0,220 | 0,220  | 0,250 |
|          | Werkzeugstähle (legiert und unlegiert) / tool steels                 | 1.9 | 50        | 80  | 0,100      | 0,160 | 0,160       | 0,200 | 0,200       | 0,220 | 0,220  | 0,250 |
| <b>N</b> | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                    | 4.1 | 220       | 260 | 0,150      | 0,250 | 0,250       | 0,380 | 0,380       | 0,420 | 0,420  | 0,550 |
|          | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                   | 4.2 | 220       | 260 | 0,150      | 0,250 | 0,250       | 0,380 | 0,380       | 0,420 | 0,420  | 0,550 |
|          | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass | 4.4 | 90        | 110 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,400 | 0,400  | 0,500 |

| E.3665.1 |  |     |           |     |           |       |            |       |             |       |             |       |        |       |
|----------|--|-----|-----------|-----|-----------|-------|------------|-------|-------------|-------|-------------|-------|--------|-------|
|          |  |     | Vc m/min  |     | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       | f mm/U |       |
|          |  |     | Ø 1,0-3,0 |     | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |        |       |
|          | Materialbezeichnung / material description   | Nr. | von       | bis | von       | bis   | von        | bis   | von         | bis   | von         | bis   | von    | bis   |
| <b>P</b> | allg. Stähle / general steels <500 N/mm  | 1.1 | 80        | 100 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | allg. Stähle / general steels <700 N/mm  | 1.2 | 80        | 100 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | allg. Stähle / general steels <850 N/mm  | 1.3 | 80        | 100 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | allg. Stähle / general steels <1000 N/mm   | 1.4 | 70        | 90  | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | allg. Stähle / general steels <1400 N/mm   | 1.5 | 30        | 50  | 0,030     | 0,060 | 0,060      | 0,120 | 0,120       | 0,150 | 0,150       | 0,200 | 0,200  | 0,300 |
|          | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 60        | 80  | 0,030     | 0,070 | 0,070      | 0,130 | 0,130       | 0,160 | 0,160       | 0,220 | 0,220  | 0,300 |
|          | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 60        | 80  | 0,030     | 0,070 | 0,070      | 0,130 | 0,130       | 0,160 | 0,160       | 0,220 | 0,220  | 0,300 |
|          | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 50        | 70  | 0,030     | 0,070 | 0,070      | 0,130 | 0,130       | 0,160 | 0,160       | 0,220 | 0,220  | 0,300 |
|          | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 30        | 50  | 0,030     | 0,070 | 0,060      | 0,120 | 0,120       | 0,150 | 0,150       | 0,200 | 0,200  | 0,300 |
| <b>M</b> | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30        | 50  | 0,020     | 0,060 | 0,060      | 0,100 | 0,100       | 0,150 | 0,150       | 0,180 | 0,180  | 0,250 |
|          | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 25        | 40  | 0,020     | 0,060 | 0,060      | 0,100 | 0,100       | 0,150 | 0,150       | 0,180 | 0,180  | 0,250 |
| <b>K</b> | Gusseisen / cast iron <180 HB  | 3.1 | 100       | 120 | 0,030     | 0,060 | 0,050      | 0,130 | 0,130       | 0,170 | 0,170       | 0,220 | 0,220  | 0,350 |
|          | Temperguss / malleable cast iron   | 3.2 | 100       | 120 | 0,030     | 0,050 | 0,050      | 0,130 | 0,130       | 0,170 | 0,170       | 0,220 | 0,220  | 0,350 |
|          | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 80        | 110 | 0,030     | 0,050 | 0,050      | 0,130 | 0,130       | 0,170 | 0,170       | 0,220 | 0,220  | 0,350 |
| <b>N</b> | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 200       | 250 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 160       | 200 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | AL-Legierungen / AL alloys >12% Si   | 4.3 | 120       | 180 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
|          | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass                     | 4.4 | 160       | 200 | 0,040     | 0,080 | 0,080      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,350 |
| <b>S</b> | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 25        | 40  | 0,020     | 0,060 | 0,060      | 0,100 | 0,100       | 0,150 | 0,150       | 0,180 | 0,180  | 0,250 |

Gewinde-  
schneider  
Bohrer  
HSS/E  
Bohrer  
VHM  
Reibahlen  
HSS/E  
Reibahlen  
VHM  
Frässtifte  
HM  
Fräser  
VHM  
Spannmittel  
Fräser  
HSSE  
Sägen  
Lehren  
Technik

# Bohrer VHM

## Einsatzrichtwerte

### E.3647.1

| Materialbezeichnung / material description  | Nr. | Vc m/min |     | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       |
|---|-----|----------|-----|-----------|-------|------------|-------|-------------|-------|-------------|-------|
|   |     |          |     | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |
|   |     | von      | bis | von       | bis   | von        | bis   | von         | bis   | von         | bis   |
| <b>P</b> allg. Stähle / general steels <500 N/mm  | 1.1 | 100      | 130 | 0,100     | 0,150 | 0,150      | 0,200 | 0,200       | 0,220 | 0,220       | 0,300 |
| <b>M</b> Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 40       | 60  | 0,080     | 0,120 | 0,120      | 0,160 | 0,160       | 0,200 | 0,200       | 0,250 |
| Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm          | 2.2 | 40       | 60  | 0,080     | 0,120 | 0,120      | 0,160 | 0,160       | 0,200 | 0,200       | 0,250 |
| <b>K</b> Gusseisen / cast iron <180 HB  | 3.1 | 60       | 80  | 0,130     | 0,180 | 0,180      | 0,240 | 0,240       | 0,280 | 0,280       | 0,320 |
| Temperguss / malleable cast iron  | 3.2 | 60       | 80  | 0,130     | 0,180 | 0,180      | 0,240 | 0,240       | 0,280 | 0,280       | 0,320 |
| <b>N</b> AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 120      | 160 | 0,130     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,450 |
| AL- und AL-Legierungen / AL- and AL-alloys <12% Si  | 4.2 | 120      | 160 | 0,130     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,450 |
| AL-Legierungen / AL alloys >12% Si  | 4.3 | 100      | 140 | 0,130     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,450 |
| <b>S</b> Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 30       | 50  | 0,080     | 0,120 | 0,120      | 0,160 | 0,160       | 0,200 | 0,200       | 0,250 |

### E.3617.1 - E.3649.1

| Materialbezeichnung / material description                           | Nr. | Vc m/min |     | f mm/U    |       | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       |
|--|-----|----------|-----|-----------|-------|-----------|-------|------------|-------|-------------|-------|-------------|-------|
|  |     |          |     | Ø 1,0-3,0 |       | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |
|  |     | von      | bis | von       | bis   | von       | bis   | von        | bis   | von         | bis   | von         | bis   |
| <b>P</b> allg. Stähle / general steels <500 N/mm                     | 1.1 | 100      | 130 | 0,070     | 0,120 | 0,120     | 0,180 | 0,180      | 0,230 | 0,230       | 0,270 | 0,270       | 0,300 |
| allg. Stähle / general steels <700 N/mm                              | 1.2 | 100      | 130 | 0,070     | 0,120 | 0,120     | 0,180 | 0,180      | 0,230 | 0,230       | 0,270 | 0,270       | 0,300 |
| allg. Stähle / general steels < 850 N/mm                             | 1.3 | 100      | 130 | 0,070     | 0,120 | 0,120     | 0,180 | 0,180      | 0,230 | 0,230       | 0,270 | 0,270       | 0,300 |
| allg. Stähle / general steels <1000 N/mm                             | 1.4 | 90       | 120 | 0,070     | 0,120 | 0,120     | 0,180 | 0,180      | 0,230 | 0,230       | 0,270 | 0,270       | 0,300 |
| allg. Stähle / general steels <1400 N/mm                             | 1.5 | 35       | 55  | 0,040     | 0,060 | 0,060     | 0,090 | 0,090      | 0,150 | 0,150       | 0,200 | 0,200       | 0,230 |
| Einsatzstähle / case hardening steels <1000 N/mm                     | 1.6 | 80       | 100 | 0,060     | 0,100 | 0,100     | 0,160 | 0,160      | 0,200 | 0,200       | 0,220 | 0,220       | 0,250 |
| Nitrierstähle / nitriding steels <1000 N/mm                          | 1.7 | 80       | 100 | 0,060     | 0,100 | 0,100     | 0,160 | 0,160      | 0,200 | 0,200       | 0,220 | 0,220       | 0,250 |
| Vergütungsstähle / heat treatable steels <850 N/mm                   | 1.8 | 80       | 100 | 0,060     | 0,100 | 0,100     | 0,160 | 0,160      | 0,200 | 0,200       | 0,220 | 0,220       | 0,250 |
| Werkzeugstähle (legiert und unlegiert) / tool steels                 | 1.9 | 50       | 80  | 0,050     | 0,100 | 0,100     | 0,160 | 0,160      | 0,200 | 0,200       | 0,220 | 0,220       | 0,250 |
| <b>N</b> AL- und AL-Legierungen / AL- and AL-alloys <6% Si           | 4.1 | 220      | 260 | 0,100     | 0,150 | 0,150     | 0,250 | 0,250      | 0,380 | 0,380       | 0,420 | 0,420       | 0,550 |
| AL- und AL-Legierungen / AL- and AL-alloys <12% Si                   | 4.2 | 220      | 260 | 0,100     | 0,150 | 0,150     | 0,250 | 0,250      | 0,380 | 0,380       | 0,420 | 0,420       | 0,550 |
| Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass | 4.4 | 90       | 110 | 0,100     | 0,150 | 0,150     | 0,220 | 0,220      | 0,300 | 0,300       | 0,400 | 0,400       | 0,500 |

### E.3618.1

| Materialbezeichnung / material description  | Nr. | Vc m/min |     | f mm/U    |       | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       |
|---|-----|----------|-----|-----------|-------|-----------|-------|------------|-------|-------------|-------|-------------|-------|
|   |     |          |     | Ø 1,0-3,0 |       | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |
|   |     | von      | bis | von       | bis   | von       | bis   | von        | bis   | von         | bis   | von         | bis   |
| <b>P</b> allg. Stähle / general steels <500 N/mm  | 1.1 | 100      | 130 | 0,060     | 0,100 | 0,100     | 0,150 | 0,150      | 0,200 | 0,200       | 0,220 | 0,220       | 0,300 |
| <b>M</b> Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 40       | 60  | 0,030     | 0,070 | 0,070     | 0,120 | 0,120      | 0,160 | 0,160       | 0,200 | 0,200       | 0,250 |
| Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm          | 2.2 | 40       | 60  | 0,030     | 0,070 | 0,070     | 0,120 | 0,120      | 0,160 | 0,160       | 0,200 | 0,200       | 0,250 |
| <b>K</b> Gusseisen / cast iron <180 HB  | 3.1 | 60       | 80  | 0,100     | 0,130 | 0,130     | 0,180 | 0,180      | 0,240 | 0,240       | 0,280 | 0,280       | 0,320 |
| Temperguss / malleable cast iron  | 3.2 | 60       | 80  | 0,100     | 0,130 | 0,130     | 0,180 | 0,180      | 0,240 | 0,240       | 0,280 | 0,280       | 0,320 |
| <b>N</b> AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 120      | 160 | 0,100     | 0,130 | 0,130     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,450 |
| AL- und AL-Legierungen / AL- and AL-alloys <12% Si  | 4.2 | 120      | 160 | 0,100     | 0,130 | 0,130     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,450 |
| AL-Legierungen / AL alloys >12% Si  | 4.3 | 100      | 140 | 0,100     | 0,130 | 0,130     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,450 |
| <b>S</b> Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 30       | 50  | 0,030     | 0,070 | 0,070     | 0,120 | 0,120      | 0,160 | 0,160       | 0,200 | 0,200       | 0,250 |

| E.3619.1 |  |     |           |     |            |       |             |       |             |       |        |       |
|----------|--|-----|-----------|-----|------------|-------|-------------|-------|-------------|-------|--------|-------|
|          |  |     | Vc m/min  |     | f mm/U     |       | f mm/U      |       | f mm/U      |       | f mm/U |       |
|          |  |     | Ø 3,0-6,0 |     | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |        |       |
|          | Materialbezeichnung / material description   | Nr. | von       | bis | von        | bis   | von         | bis   | von         | bis   | von    | bis   |
| <b>P</b> | allg. Stähle / general steels <500 N/mm  | 1.1 | 100       | 130 | 0,100      | 0,150 | 0,150       | 0,200 | 0,200       | 0,250 | 0,250  | 0,300 |
| <b>M</b> | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 40        | 60  | 0,080      | 0,120 | 0,120       | 0,160 | 0,160       | 0,200 | 0,200  | 0,250 |
|          | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 40        | 60  | 0,080      | 0,120 | 0,120       | 0,160 | 0,160       | 0,200 | 0,200  | 0,250 |
| <b>K</b> | Gusseisen / cast iron <180 HB  | 3.1 | 60        | 80  | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,500 | 0,500  | 0,600 |
|          | Temperguss / malleable cast iron   | 3.2 | 60        | 80  | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,500 | 0,500  | 0,600 |
| <b>N</b> | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 220       | 260 | 0,180      | 0,250 | 0,250       | 0,380 | 0,380       | 0,450 | 0,450  | 0,550 |
|          | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 160       | 220 | 0,180      | 0,250 | 0,250       | 0,380 | 0,380       | 0,450 | 0,450  | 0,550 |
|          | AL-Legierungen / AL alloys >12% Si   | 4.3 | 120       | 160 | 0,150      | 0,200 | 0,200       | 0,300 | 0,300       | 0,380 | 0,380  | 0,400 |
| <b>S</b> | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 30        | 50  | 0,080      | 0,120 | 0,120       | 0,160 | 0,160       | 0,200 | 0,200  | 0,250 |

| E.3650.1 |  |     |           |     |            |       |             |       |             |       |        |       |
|----------|--|-----|-----------|-----|------------|-------|-------------|-------|-------------|-------|--------|-------|
|          |  |     | Vc m/min  |     | f mm/U     |       | f mm/U      |       | f mm/U      |       | f mm/U |       |
|          |  |     | Ø 3,0-6,0 |     | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |        |       |
|          | Materialbezeichnung / material description           | Nr. | von       | bis | von        | bis   | von         | bis   | von         | bis   | von    | bis   |
| <b>P</b> | allg. Stähle / general steels <500 N/mm              | 1.1 | 170       | 190 | 0,180      | 0,250 | 0,250       | 0,300 | 0,300       | 0,380 | 0,380  | 0,380 |
|          | allg. Stähle / general steels <700 N/mm              | 1.2 | 150       | 170 | 0,180      | 0,250 | 0,250       | 0,300 | 0,300       | 0,380 | 0,380  | 0,380 |
|          | allg. Stähle / general steels < 850 N/mm             | 1.3 | 140       | 160 | 0,180      | 0,250 | 0,250       | 0,300 | 0,300       | 0,380 | 0,380  | 0,380 |
|          | allg. Stähle / general steels <1000 N/mm             | 1.4 | 110       | 130 | 0,160      | 0,200 | 0,200       | 0,260 | 0,260       | 0,340 | 0,340  | 0,340 |
|          | allg. Stähle / general steels <1400 N/mm             | 1.5 | 70        | 90  | 0,120      | 0,180 | 0,180       | 0,150 | 0,150       | 0,220 | 0,220  | 0,220 |
|          | Einsatzstähle / case hardening steels <1000 N/mm     | 1.6 | 90        | 110 | 0,140      | 0,200 | 0,200       | 0,260 | 0,260       | 0,340 | 0,340  | 0,340 |
|          | Nitrierstähle / nitriding steels <1000 N/mm          | 1.7 | 85        | 105 | 0,150      | 0,200 | 0,200       | 0,270 | 0,270       | 0,350 | 0,350  | 0,350 |
|          | Vergütungsstähle / heat treatable steels <850 N/mm   | 1.8 | 110       | 130 | 0,150      | 0,200 | 0,200       | 0,300 | 0,300       | 0,380 | 0,380  | 0,380 |
|          | Werkzeugstähle (legiert und unlegiert) / tool steels | 1.9 | 80        | 100 | 0,070      | 0,120 | 0,120       | 0,180 | 0,180       | 0,250 | 0,250  | 0,250 |
| <b>K</b> | Gusseisen / cast iron <180 HB                        | 3.1 | 160       | 180 | 0,130      | 0,200 | 0,200       | 0,230 | 0,230       | 0,340 | 0,340  | 0,340 |
|          | Temperguss / malleable cast iron                     | 3.2 | 115       | 135 | 0,130      | 0,200 | 0,200       | 0,230 | 0,230       | 0,340 | 0,340  | 0,340 |
|          | Gusseisen mit Kugelgraphit / ductile cast iron       | 3.3 | 130       | 150 | 0,110      | 0,200 | 0,200       | 0,220 | 0,220       | 0,280 | 0,280  | 0,280 |

| E.3651.1 |  |     |           |     |            |       |             |       |             |       |        |       |
|----------|--|-----|-----------|-----|------------|-------|-------------|-------|-------------|-------|--------|-------|
|          |  |     | Vc m/min  |     | f mm/U     |       | f mm/U      |       | f mm/U      |       | f mm/U |       |
|          |  |     | Ø 3,0-6,0 |     | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |        |       |
|          | Materialbezeichnung / material description   | Nr. | von       | bis | von        | bis   | von         | bis   | von         | bis   | von    | bis   |
| <b>P</b> | allg. Stähle / general steels <500 N/mm  | 1.1 | 190       | 210 | 0,150      | 0,200 | 0,200       | 0,300 | 0,300       | 0,350 | 0,350  | 0,380 |
|          | allg. Stähle / general steels <700 N/mm  | 1.2 | 170       | 190 | 0,150      | 0,200 | 0,200       | 0,300 | 0,300       | 0,350 | 0,350  | 0,380 |
|          | allg. Stähle / general steels < 850 N/mm   | 1.3 | 140       | 160 | 0,150      | 0,200 | 0,200       | 0,300 | 0,300       | 0,350 | 0,350  | 0,380 |
|          | allg. Stähle / general steels <1000 N/mm   | 1.4 | 130       | 150 | 0,140      | 0,200 | 0,200       | 0,260 | 0,260       | 0,310 | 0,310  | 0,340 |
|          | allg. Stähle / general steels <1400 N/mm   | 1.5 | 90        | 110 | 0,080      | 0,120 | 0,120       | 0,150 | 0,150       | 0,200 | 0,200  | 0,220 |
|          | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 110       | 130 | 0,140      | 0,200 | 0,200       | 0,260 | 0,260       | 0,310 | 0,310  | 0,340 |
|          | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 100       | 120 | 0,150      | 0,200 | 0,200       | 0,270 | 0,270       | 0,320 | 0,320  | 0,350 |
|          | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 125       | 145 | 0,150      | 0,200 | 0,200       | 0,300 | 0,300       | 0,350 | 0,350  | 0,380 |
|          | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 90        | 110 | 0,070      | 0,120 | 0,120       | 0,150 | 0,150       | 0,200 | 0,200  | 0,250 |
| <b>M</b> | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 75        | 95  | 0,100      | 0,150 | 0,150       | 0,190 | 0,190       | 0,220 | 0,220  | 0,280 |
|          | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 65        | 80  | 0,080      | 0,120 | 0,120       | 0,150 | 0,150       | 0,160 | 0,160  | 0,230 |
| <b>K</b> | Gusseisen / cast iron <180 HB  | 3.1 | 140       | 160 | 0,130      | 0,200 | 0,200       | 0,230 | 0,230       | 0,270 | 0,270  | 0,340 |
|          | Temperguss / malleable cast iron   | 3.2 | 110       | 130 | 0,130      | 0,200 | 0,200       | 0,230 | 0,230       | 0,270 | 0,270  | 0,340 |
|          | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 70        | 90  | 0,110      | 0,200 | 0,200       | 0,220 | 0,220       | 0,250 | 0,250  | 0,280 |

Gewinde-  
schneider  
Bohrer  
HSS/E  
Bohrer  
VHM  
Reibahlen  
HSS/E  
Reibahlen  
VHM  
Frässtifte  
HM  
Fräser  
VHM  
Spannmittel  
Fräser  
HSSE  
Sägen  
Lehren  
Technik

# Bohrer VHM

## Einsatzrichtwerte

### E.3628.0 - E.3629.0

| Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       |
|--|-----|----------|-----|-----------|-------|------------|-------|-------------|-------|-------------|-------|
|  |     |          |     | Ø 2,8-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |
|  |     | von      | bis | von       | bis   | von        | bis   | von         | bis   | von         | bis   |
| K<br>Gusseisen / cast iron <180 HB<br>Temperguss / malleable cast iron<br>Gusseisen mit Kugelgraphit / ductile cast iron   | 3.1 | 100      | 120 | 0,100     | 0,180 | 0,180      | 0,320 | 0,320       | 0,400 | 0,400       | 0,500 |
|  | 3.2 | 90       | 110 | 0,100     | 0,180 | 0,180      | 0,320 | 0,320       | 0,400 | 0,400       | 0,500 |
|  | 3.3 | 80       | 100 | 0,100     | 0,180 | 0,180      | 0,320 | 0,320       | 0,400 | 0,400       | 0,500 |
| N<br>AL- und AL-Legierungen / AL- and AL-alloys <12% Si<br>AL-Legierungen / AL alloys >12% Si<br>Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass<br>Duro- und Thermoplaste / duro- and thermoplastics | 4.2 | 300      | 350 | 0,100     | 0,180 | 0,180      | 0,320 | 0,320       | 0,400 | 0,400       | 0,500 |
|  | 4.3 | 280      | 330 | 0,100     | 0,180 | 0,180      | 0,320 | 0,320       | 0,400 | 0,400       | 0,500 |
|  | 4.4 | 200      | 250 | 0,100     | 0,120 | 0,120      | 0,160 | 0,160       | 0,250 | 0,250       | 0,300 |
|  | 4.5 | 120      | 150 | 0,050     | 0,090 | 0,070      | 0,140 | 0,120       | 0,200 | 0,140       | 0,250 |

### E.3666.1

| Materialbezeichnung / material description  | Nr. | Vc m/min |     | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       |
|---|-----|----------|-----|-----------|-------|------------|-------|-------------|-------|-------------|-------|
|   |     |          |     | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |
|   |     | von      | bis | von       | bis   | von        | bis   | von         | bis   | von         | bis   |
| P<br>allg. Stähle / general steels <500 N/mm<br>allg. Stähle / general steels <700 N/mm<br>allg. Stähle / general steels <850 N/mm<br>allg. Stähle / general steels <1000 N/mm<br>allg. Stähle / general steels <1400 N/mm<br>Einsatzstähle / case hardening steels <1000 N/mm<br>Nitrierstähle / nitriding steels <1000 N/mm<br>Vergütungsstähle / heat treatable steels <850 N/mm<br>Werkzeugstähle (legiert und unlegiert) / tool steels | 1.1 | 90       | 120 | 0,120     | 0,200 | 0,200      | 0,250 | 0,250       | 0,400 | 0,400       | 0,48  |
|   | 1.2 | 80       | 100 | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.3 | 80       | 100 | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.4 | 60       | 80  | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.5 | 30       | 45  | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.6 | 60       | 80  | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.7 | 60       | 80  | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.8 | 60       | 80  | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
|   | 1.9 | 30       | 50  | 0,100     | 0,150 | 0,150      | 0,220 | 0,220       | 0,300 | 0,300       | 0,350 |
| M<br>Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm<br>Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm   | 2.1 | 35       | 50  | 0,050     | 0,100 | 0,100      | 0,120 | 0,100       | 0,180 | 0,180       | 0,220 |
|   | 2.2 | 30       | 45  | 0,050     | 0,100 | 0,100      | 0,120 | 0,100       | 0,180 | 0,180       | 0,220 |
| K<br>Gusseisen / cast iron <180 HB<br>Temperguss / malleable cast iron<br>Gusseisen mit Kugelgraphit / ductile cast iron  | 3.1 | 70       | 90  | 0,150     | 0,250 | 0,250      | 0,320 | 0,320       | 0,360 | 0,360       | 0,420 |
|   | 3.2 | 70       | 90  | 0,150     | 0,250 | 0,250      | 0,320 | 0,320       | 0,360 | 0,360       | 0,420 |
|   | 3.3 | 65       | 85  | 0,150     | 0,220 | 0,220      | 0,300 | 0,300       | 0,350 | 0,350       | 0,380 |
| N<br>AL- und AL-Legierungen / AL- and AL-alloys <6% Si<br>AL- und AL-Legierungen / AL- and AL-alloys <12% Si<br>AL-Legierungen / AL alloys >12% Si  | 4.1 | 180      | 220 | 0,120     | 0,200 | 0,200      | 0,250 | 0,250       | 0,400 | 0,400       | 0,480 |
|   | 4.2 | 150      | 200 | 0,120     | 0,200 | 0,200      | 0,250 | 0,250       | 0,400 | 0,400       | 0,480 |
|   | 4.3 | 100      | 150 | 0,120     | 0,200 | 0,200      | 0,250 | 0,250       | 0,400 | 0,400       | 0,480 |
| S<br>Titan und Titanlegierungen / titanium and tit.-alloys  | 5.1 | 20       | 35  | 0,050     | 0,080 | 0,080      | 0,110 | 0,100       | 0,150 | 0,140       | 0,170 |

### E.3623.1

| Materialbezeichnung / material description  | Nr. | Vc m/min |     | f mm/U    |       | f mm/U     |       | f mm/U      |       | f mm/U      |       |
|---|-----|----------|-----|-----------|-------|------------|-------|-------------|-------|-------------|-------|
|   |     |          |     | Ø 3,0-6,0 |       | Ø 6,0-10,0 |       | Ø 10,0-16,0 |       | Ø 16,0-20,0 |       |
|   |     | von      | bis | von       | bis   | von        | bis   | von         | bis   | von         | bis   |
| P<br>allg. Stähle / general steels <500 N/mm  | 1.1 | 80       | 120 | 0,120     | 0,200 | 0,200      | 0,300 | 0,300       | 0,400 | 0,400       | 0,500 |
| M<br>Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm<br>Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.1 | 35       | 45  | 0,050     | 0,100 | 0,100      | 0,130 | 0,130       | 0,180 | 0,180       | 0,220 |
|   | 2.2 | 30       | 40  | 0,050     | 0,100 | 0,100      | 0,130 | 0,130       | 0,180 | 0,180       | 0,220 |
| K<br>Gusseisen / cast iron <180 HB<br>Temperguss / malleable cast iron<br>Gusseisen mit Kugelgraphit / ductile cast iron  | 3.1 | 60       | 80  | 0,160     | 0,250 | 0,250      | 0,320 | 0,320       | 0,380 | 0,380       | 0,420 |
|   | 3.2 | 55       | 75  | 0,160     | 0,250 | 0,250      | 0,320 | 0,320       | 0,380 | 0,380       | 0,420 |
|   | 3.3 | 55       | 75  | 0,150     | 0,220 | 0,220      | 0,300 | 0,300       | 0,350 | 0,350       | 0,400 |
| N<br>AL- und AL-Legierungen / AL- and AL-alloys <6% Si<br>AL- und AL-Legierungen / AL- and AL-alloys <12% Si<br>AL-Legierungen / AL alloys >12% Si  | 4.1 | 180      | 220 | 0,150     | 0,200 | 0,200      | 0,280 | 0,280       | 0,400 | 0,400       | 0,460 |
|   | 4.2 | 150      | 200 | 0,150     | 0,200 | 0,200      | 0,280 | 0,280       | 0,400 | 0,400       | 0,460 |
|   | 4.3 | 110      | 150 | 0,150     | 0,200 | 0,200      | 0,280 | 0,280       | 0,400 | 0,400       | 0,460 |
| S<br>Titan und Titanlegierungen / titanium and tit.-alloys  | 5.1 | 15       | 25  | 0,050     | 0,080 | 0,080      | 0,100 | 0,100       | 0,140 | 0,140       | 0,180 |



| E.3624.1 |  |     |          |     |                     |       |                      |       |                       |       |                       |       |
|----------|--|-----|----------|-----|---------------------|-------|----------------------|-------|-----------------------|-------|-----------------------|-------|
|          | Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U<br>Ø 3,0-6,0 |       | f mm/U<br>Ø 6,0-10,0 |       | f mm/U<br>Ø 10,0-16,0 |       | f mm/U<br>Ø 16,0-20,0 |       |
|          |  |     | von      | bis | von                 | bis   | von                  | bis   | von                   | bis   | von                   | bis   |
| <b>P</b> | allg. Stähle / general steels <500 N/mm  | 1.1 | 100      | 130 | 0,100               | 0,150 | 0,150                | 0,200 | 0,200                 | 0,250 | 0,250                 | 0,300 |
| <b>M</b> | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 40       | 60  | 0,080               | 0,120 | 0,120                | 0,160 | 0,160                 | 0,200 | 0,200                 | 0,250 |
|          | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 40       | 60  | 0,080               | 0,120 | 0,120                | 0,160 | 0,160                 | 0,200 | 0,200                 | 0,250 |
| <b>K</b> | Gusseisen / cast iron <180 HB  | 3.1 | 60       | 80  | 0,200               | 0,300 | 0,300                | 0,400 | 0,400                 | 0,500 | 0,500                 | 0,600 |
|          | Temperguss / malleable cast iron   | 3.2 | 60       | 80  | 0,200               | 0,300 | 0,300                | 0,400 | 0,400                 | 0,500 | 0,500                 | 0,600 |
| <b>N</b> | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 220      | 260 | 0,180               | 0,250 | 0,250                | 0,380 | 0,380                 | 0,450 | 0,450                 | 0,550 |
|          | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 160      | 220 | 0,180               | 0,250 | 0,250                | 0,380 | 0,380                 | 0,450 | 0,450                 | 0,550 |
|          | AL-Legierungen / AL alloys >12% Si   | 4.3 | 120      | 160 | 0,150               | 0,200 | 0,200                | 0,300 | 0,300                 | 0,380 | 0,380                 | 0,400 |
| <b>S</b> | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 30       | 50  | 0,080               | 0,120 | 0,120                | 0,160 | 0,160                 | 0,200 | 0,200                 | 0,250 |

| E.3667.1 - E.3625.1 |  |     |          |     |                     |       |                     |       |                      |       |                       |       |                       |       |
|---------------------|--|-----|----------|-----|---------------------|-------|---------------------|-------|----------------------|-------|-----------------------|-------|-----------------------|-------|
|                     | Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U<br>Ø 1,0-3,0 |       | f mm/U<br>Ø 3,0-6,0 |       | f mm/U<br>Ø 6,0-10,0 |       | f mm/U<br>Ø 10,0-16,0 |       | f mm/U<br>Ø 16,0-20,0 |       |
|                     |  |     | von      | bis | von                 | bis   | von                 | bis   | von                  | bis   | von                   | bis   | von                   | bis   |
| <b>P</b>            | allg. Stähle / general steels <500 N/mm  | 1.1 | 90       | 110 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                | 0,300 | 0,300                 | 0,400 | 0,350                 | 0,450 |
|                     | allg. Stähle / general steels <700 N/mm  | 1.2 | 70       | 90  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | allg. Stähle / general steels < 850 N/mm   | 1.3 | 70       | 90  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | allg. Stähle / general steels <1000 N/mm   | 1.4 | 60       | 80  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | allg. Stähle / general steels <1400 N/mm   | 1.5 | 30       | 45  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 60       | 80  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 60       | 80  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 60       | 80  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
|                     | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 30       | 50  | 0,060               | 0,100 | 0,100               | 0,150 | 0,150                | 0,220 | 0,220                 | 0,300 | 0,300                 | 0,350 |
| <b>M</b>            | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30       | 50  | 0,050               | 0,100 | 0,100               | 0,120 | 0,120                | 0,140 | 0,140                 | 0,240 | 0,240                 | 0,300 |
|                     | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 30       | 40  | 0,050               | 0,100 | 0,100               | 0,120 | 0,120                | 0,140 | 0,140                 | 0,240 | 0,240                 | 0,300 |
| <b>K</b>            | Gusseisen / cast iron <180 HB  | 3.1 | 60       | 80  | 0,100               | 0,180 | 0,180               | 0,250 | 0,250                | 0,320 | 0,320                 | 0,370 | 0,370                 | 0,420 |
|                     | Temperguss / malleable cast iron   | 3.2 | 60       | 80  | 0,100               | 0,180 | 0,180               | 0,250 | 0,250                | 0,320 | 0,320                 | 0,370 | 0,370                 | 0,420 |
|                     | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 60       | 70  | 0,080               | 0,160 | 0,160               | 0,220 | 0,220                | 0,300 | 0,300                 | 0,360 | 0,360                 | 0,400 |
| <b>N</b>            | AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 170      | 220 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                | 0,300 | 0,300                 | 0,400 | 0,350                 | 0,450 |
|                     | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 150      | 200 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                | 0,300 | 0,300                 | 0,400 | 0,350                 | 0,450 |
|                     | AL-Legierungen / AL alloys >12% Si   | 4.3 | 100      | 150 | 0,080               | 0,150 | 0,150               | 0,200 | 0,200                | 0,300 | 0,300                 | 0,400 | 0,350                 | 0,450 |
| <b>S</b>            | Duro- und Thermoplaste / duro- and thermoplastics  | 4.5 | 30       | 50  | 0,050               | 0,080 | 0,080               | 0,120 | 0,120                | 0,150 | 0,150                 | 0,220 | 0,220                 | 0,300 |
| <b>S</b>            | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 20       | 35  | 0,050               | 0,100 | 0,100               | 0,120 | 0,120                | 0,140 | 0,140                 | 0,240 | 0,240                 | 0,300 |

Gewinde-  
schneider  
Bohrer  
HSS/E  
Bohrer  
VHM  
Reibahlen  
HSS/E  
Reibahlen  
VHM  
Frästrifte  
HM  
Fräser  
VHM  
Spannmittel  
Fräser  
HSSE  
Sägen  
Lehren  
Technik

# Bohrer VHM

## Einsatzrichtwerte

### E.3674.1

| Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U |       | f mm/U |       | f mm/U |       | f mm/U |       | f mm/U |       |
|--|-----|----------|-----|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
|  |     | von      | bis | von    | bis   | von    | bis   | von    | bis   | von    | bis   | von    | bis   |
| allg. Stähle / general steels <500 N/mm  | 1.1 | 90       | 110 | 0,080  | 0,150 | 0,150  | 0,200 | 0,200  | 0,300 | 0,300  | 0,400 | 0,350  | 0,450 |
| allg. Stähle / general steels <700 N/mm  | 1.2 | 70       | 90  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| allg. Stähle / general steels < 850 N/mm   | 1.3 | 70       | 90  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| allg. Stähle / general steels <1000 N/mm   | 1.4 | 60       | 80  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| allg. Stähle / general steels <1400 N/mm   | 1.5 | 30       | 45  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| Einsatzstähle / case hardening steels <1000 N/mm   | 1.6 | 60       | 80  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| Nitrierstähle / nitriding steels <1000 N/mm  | 1.7 | 60       | 80  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 60       | 80  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 30       | 50  | 0,060  | 0,100 | 0,100  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 | 0,300  | 0,350 |
| Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30       | 50  | 0,050  | 0,100 | 0,100  | 0,120 | 0,120  | 0,140 | 0,140  | 0,240 | 0,240  | 0,300 |
| Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 30       | 40  | 0,050  | 0,100 | 0,100  | 0,120 | 0,120  | 0,140 | 0,140  | 0,240 | 0,240  | 0,300 |
| Gusseisen / cast iron <180 HB  | 3.1 | 60       | 80  | 0,100  | 0,180 | 0,180  | 0,250 | 0,250  | 0,320 | 0,320  | 0,370 | 0,370  | 0,420 |
| Temperguss / malleable cast iron   | 3.2 | 60       | 80  | 0,100  | 0,180 | 0,180  | 0,250 | 0,250  | 0,320 | 0,320  | 0,370 | 0,370  | 0,420 |
| Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 60       | 70  | 0,080  | 0,160 | 0,160  | 0,220 | 0,220  | 0,300 | 0,300  | 0,360 | 0,360  | 0,400 |
| AL- und AL-Legierungen / AL- and AL-alloys <6% Si  | 4.1 | 170      | 220 | 0,080  | 0,150 | 0,150  | 0,200 | 0,200  | 0,300 | 0,300  | 0,400 | 0,350  | 0,450 |
| AL- und AL-Legierungen / AL- and AL-alloys <12% Si                                       | 4.2 | 150      | 200 | 0,080  | 0,150 | 0,150  | 0,200 | 0,200  | 0,300 | 0,300  | 0,400 | 0,350  | 0,450 |
| AL-Legierungen / AL alloys >12% Si   | 4.3 | 100      | 150 | 0,080  | 0,150 | 0,150  | 0,200 | 0,200  | 0,300 | 0,300  | 0,400 | 0,350  | 0,450 |
| Duro- und Thermoplaste / duro- and thermoplastics  | 4.5 | 30       | 50  | 0,050  | 0,080 | 0,080  | 0,120 | 0,120  | 0,150 | 0,150  | 0,220 | 0,220  | 0,300 |
| Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 20       | 35  | 0,050  | 0,100 | 0,100  | 0,120 | 0,120  | 0,140 | 0,140  | 0,240 | 0,240  | 0,300 |

### E.3664.3 - E.3664.4

| Materialbezeichnung / material description   | Nr. | Vc m/min |     | f mm/U |       | f mm/U |       | f mm/U |       | f mm/U |       | f mm/U |       |
|--|-----|----------|-----|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
|  |     | von      | bis | von    | bis   | von    | bis   | von    | bis   | von    | bis   | von    | bis   |
| allg. Stähle / general steels <500 N/mm  | 1.1 | 75       | 95  | 0,150  | 0,300 | 0,300  | 0,380 | 0,380  | 0,480 | 0,480  | 0,550 | 0,550  | 0,750 |
| allg. Stähle / general steels <700 N/mm  | 1.2 | 70       | 95  | 0,150  | 0,300 | 0,300  | 0,380 | 0,380  | 0,480 | 0,480  | 0,550 | 0,550  | 0,750 |
| allg. Stähle / general steels < 850 N/mm   | 1.3 | 70       | 95  | 0,150  | 0,300 | 0,300  | 0,380 | 0,380  | 0,480 | 0,480  | 0,550 | 0,550  | 0,750 |
| allg. Stähle / general steels <1000 N/mm   | 1.4 | 60       | 75  | 0,130  | 0,250 | 0,250  | 0,300 | 0,300  | 0,420 | 0,420  | 0,500 | 0,500  | 0,680 |
| allg. Stähle / general steels <1400 N/mm   | 1.5 | 20       | 35  | 0,100  | 0,200 | 0,200  | 0,250 | 0,250  | 0,300 | 0,300  | 0,420 | 0,420  | 0,480 |
| Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8 | 40       | 60  | 0,130  | 0,250 | 0,250  | 0,300 | 0,300  | 0,420 | 0,420  | 0,500 | 0,500  | 0,680 |
| Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9 | 35       | 55  | 0,100  | 0,200 | 0,200  | 0,250 | 0,250  | 0,300 | 0,300  | 0,420 | 0,420  | 0,480 |
| Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1 | 30       | 40  | 0,100  | 0,200 | 0,200  | 0,300 | 0,300  | 0,380 | 0,380  | 0,420 | 0,420  | 0,520 |
| Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2 | 25       | 35  | 0,100  | 0,180 | 0,180  | 0,250 | 0,250  | 0,300 | 0,300  | 0,380 | 0,380  | 0,460 |
| Gusseisen / cast iron <180 HB  | 3.1 | 70       | 95  | 0,150  | 0,400 | 0,400  | 0,520 | 0,520  | 0,620 | 0,620  | 0,700 | 0,700  | 0,780 |
| Temperguss / malleable cast iron   | 3.2 | 65       | 85  | 0,130  | 0,360 | 0,360  | 0,480 | 0,480  | 0,550 | 0,550  | 0,650 | 0,650  | 0,710 |
| Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3 | 50       | 70  | 0,130  | 0,360 | 0,360  | 0,480 | 0,480  | 0,550 | 0,550  | 0,650 | 0,650  | 0,710 |
| Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1 | 12       | 20  | 0,100  | 0,180 | 0,180  | 0,250 | 0,250  | 0,300 | 0,300  | 0,380 | 0,380  | 0,460 |
| Nickel / nickel  | 5.2 | 12       | 20  | 0,100  | 0,180 | 0,180  | 0,250 | 0,250  | 0,300 | 0,300  | 0,380 | 0,380  | 0,460 |

## E.3664.2 - nur bis 100 mm Tiefe / only up to 100 mm depth

|   |  | bis 5xD siehe Tabelle<br>bis 8xD Faktor 0,90<br>bis 12xD Faktor 0,80 |     | bis 16xD Faktor 0,80<br>bis 20xD Faktor 0,75 |       | f mm/U      |       | f mm/U      |       | f mm/U      |       | f mm/U |  |
|---|--|--|-----|--|-------|-------------|-------|-------------|-------|-------------|-------|--------|--|
|   |  | Vc m/min   |     | Ø 10,0-18,0                                  |       | Ø 18,0-25,0 |       | Ø 25,0-36,0 |       | Ø 36,0-66,0 |       |        |  |
|   | Materialbezeichnung / material description   | Nr.  | von | bis  | von   | bis         | von   | bis         | von   | bis         | von   | bis    |  |
| P | allg. Stähle / general steels <500 N/mm  | 1.1  | 135 | 160  | 0,180 | 0,350       | 0,350 | 0,450       | 0,450 | 0,500       | 0,500 | 0,600  |  |
|   | allg. Stähle / general steels <700 N/mm  | 1.2  | 120 | 140  | 0,180 | 0,350       | 0,350 | 0,450       | 0,450 | 0,500       | 0,500 | 0,600  |  |
|   | allg. Stähle / general steels < 850 N/mm   | 1.3  | 120 | 140  | 0,180 | 0,350       | 0,350 | 0,450       | 0,450 | 0,500       | 0,500 | 0,600  |  |
|   | allg. Stähle / general steels <1000 N/mm   | 1.4  | 80  | 100  | 0,150 | 0,250       | 0,250 | 0,320       | 0,320 | 0,400       | 0,400 | 0,500  |  |
|   | allg. Stähle / general steels <1400 N/mm   | 1.5  | 45  | 65   | 0,100 | 0,200       | 0,200 | 0,250       | 0,250 | 0,300       | 0,300 | 0,400  |  |
|   | Einsatzstähle / case hardening steels <1000 N/mm   | 1.6  | 70  | 100  | 0,150 | 0,250       | 0,250 | 0,320       | 0,320 | 0,400       | 0,400 | 0,500  |  |
|   | Nitrierstähle / nitriding steels <1000 N/mm  | 1.7  | 70  | 100  | 0,150 | 0,250       | 0,250 | 0,320       | 0,320 | 0,400       | 0,400 | 0,500  |  |
|   | Vergütungsstähle / heat treatable steels <850 N/mm                                       | 1.8  | 70  | 100  | 0,150 | 0,250       | 0,250 | 0,320       | 0,320 | 0,400       | 0,400 | 0,500  |  |
|   | Werkzeugstähle (legiert und unlegiert) / tool steels                                     | 1.9  | 50  | 70   | 0,100 | 0,200       | 0,200 | 0,250       | 0,250 | 0,300       | 0,300 | 0,400  |  |
| M | Rost- und säurebeständige Stähle <700 N/mm<br>corrosion- and acid-proof steels <700 N/mm | 2.1  | 60  | 80   | 0,180 | 0,250       | 0,250 | 0,300       | 0,300 | 0,380       | 0,380 | 0,450  |  |
|   | Rost- und säurebeständige Stähle >700 N/mm<br>corrosion- and acid-proof steels >700 N/mm | 2.2  | 50  | 70   | 0,150 | 0,250       | 0,220 | 0,280       | 0,280 | 0,300       | 0,300 | 0,400  |  |
| K | Gusseisen / cast iron <180 HB  | 3.1  | 145 | 165  | 0,180 | 0,350       | 0,350 | 0,450       | 0,450 | 0,500       | 0,500 | 0,600  |  |
|   | Temperguss / malleable cast iron   | 3.2  | 135 | 160  | 0,150 | 0,250       | 0,250 | 0,320       | 0,320 | 0,400       | 0,400 | 0,500  |  |
|   | Gusseisen mit Kugelgraphit / ductile cast iron   | 3.3  | 125 | 150  | 0,150 | 0,250       | 0,250 | 0,320       | 0,320 | 0,400       | 0,400 | 0,500  |  |
| S | Titan und Titanlegierungen / titanium and tit.-alloys                                    | 5.1  | 50  | 70   | 0,150 | 0,220       | 0,220 | 0,280       | 0,280 | 0,300       | 0,300 | 0,400  |  |
|   | Nickel / nickel  | 5.2  | 50  | 70   | 0,150 | 0,220       | 0,220 | 0,280       | 0,280 | 0,300       | 0,300 | 0,400  |  |

## E.3664.5 - nur bis 100 mm Tiefe / only up to 100 mm depth

|   |  | bis 5xD siehe Tabelle<br>bis 8xD Faktor 0,90<br>bis 12xD Faktor 0,80 |     | bis 16xD Faktor 0,80<br>bis 20xD Faktor 0,75 |       | f mm/U      |       | f mm/U      |       | f mm/U      |       | f mm/U |  |
|---|--|--|-----|--|-------|-------------|-------|-------------|-------|-------------|-------|--------|--|
|   |  | Vc m/min   |     | Ø 10,0-18,0                                  |       | Ø 18,0-25,0 |       | Ø 25,0-36,0 |       | Ø 36,0-66,0 |       |        |  |
|   | Materialbezeichnung / material description                           | Nr.  | von | bis  | von   | bis         | von   | bis         | von   | bis         | von   | bis    |  |
| K | Gusseisen / cast iron <180 HB  | 3.1  | 90  | 110  | 0,300 | 0,450       | 0,450 | 0,630       | 0,630 | 0,680       | 0,680 | 0,130  |  |
|   | Temperguss / malleable cast iron                                     | 3.2  | 70  | 100  | 0,300 | 0,450       | 0,450 | 0,630       | 0,630 | 0,680       | 0,680 | 0,130  |  |
|   | Gusseisen mit Kugelgraphit / ductile cast iron                       | 3.3  | 70  | 90   | 0,300 | 0,450       | 0,450 | 0,630       | 0,630 | 0,680       | 0,680 | 0,130  |  |
| N | AL- und AL-Legierungen / AL- and AL-alloys <6% Si                    | 4.1  | 160 | 200  | 0,300 | 0,450       | 0,450 | 0,630       | 0,630 | 0,680       | 0,680 | 0,130  |  |
|   | AL- und AL-Legierungen / AL- and AL-alloys <12% Si                   | 4.2  | 140 | 160  | 0,300 | 0,450       | 0,450 | 0,630       | 0,630 | 0,680       | 0,680 | 0,130  |  |
|   | AL-Legierungen / AL alloys >12% Si                                   | 4.3  | 100 | 140  | 0,300 | 0,450       | 0,450 | 0,630       | 0,630 | 0,680       | 0,680 | 0,130  |  |
|   | Messing, Kupfer, Bronze, Rotguss<br>brass, copper, bronze, red brass | 4.4  | 60  | 90   | 0,250 | 0,350       | 0,350 | 0,500       | 0,500 | 0,580       | 0,580 | 0,100  |  |
|   | Duro- und Thermoplaste / duro- and thermoplastics                    | 4.5  | 45  | 60   | 0,200 | 0,280       | 0,280 | 0,400       | 0,400 | 0,480       | 0,480 | 0,800  |  |

Gewinde-  
schneiderBohrer  
HSS/EBohrer  
VHMReißahlen  
HSS/EReißahlen  
VHMFrässtifte  
HMFräser  
VHM

Spannmittel

Fräser  
HSSE

Sägen

Lehren

Technik





3.104