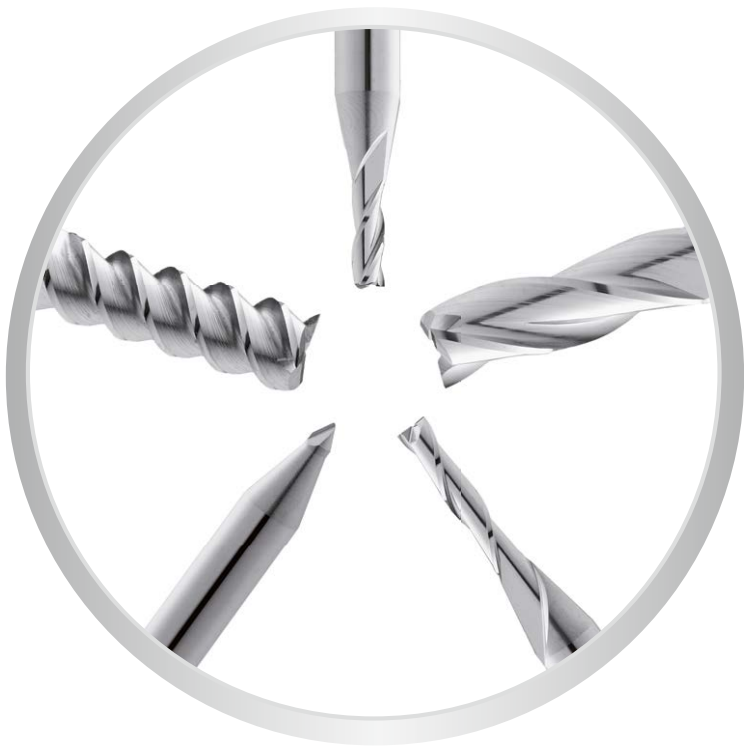







MICRO-Line

APPLITEC



| | | |
|--|--|---------------|
| Micro-fraises Micropräzisionsfräser Micro end mills | Paramètres de coupe indicatifs Empfohlene Schnittwerte Standard machining data | > 8.02 |
| Micro-fraises Micropräzisionsfräser Micro end mills |  | > 8.03 |
| Micro-forets / Centreurs NC Microbohrer / NC-Zentrierbohrer Micro drills / NC centering drills | Paramètres de coupe indicatifs Empfohlene Schnittwerte Standard machining data | > 8.10 |
| Centreurs NC NC-Zentrierbohrer NC centering drills |  | > 8.11 |
| Micro-forets Microbohrer Micro drills |  | > 8.13 |
| Fraises à graver Gravierfräser Engraving mills | Paramètres de coupe indicatifs Empfohlene Schnittwerte Standard machining data | > 8.26 |
| Fraises à graver Gravierfräser Engraving mills |  | > 8.26 |
| Fraises en bout de finition Schlicht Schafffräser Finishing end mills | Paramètres de coupe indicatifs Empfohlene Schnittwerte Standard machining data | > 8.28 |
| Fraises en bout de finition Schlicht Schafffräser Finishing end mills |  | > 8.29 |

MICRO-Line

Micro-fraises

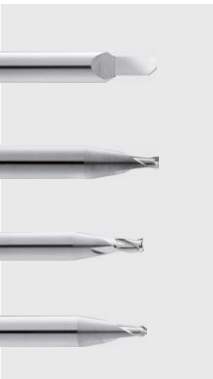


Micropräzisionsfräser

Micro end mills

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

| | | Z | L2 | Spiral | Type | page | | | |
|---|---|-------|--------|--------|-----------|------|-----------|------|-----|
|  |  | Z = 1 | 2 x D1 | 0° | 3170-2 | 8.03 | NEW | | |
| | | | | | 3170R-2 | 8.03 | NEW | | |
| | | Z = 2 | | | | 30° | 0.75 x D1 | 8.04 | NEW |
| | | | | | | | 1.5 x D1 | 8.04 | |
| | | | | | | | 3 x D1 | 8.05 | |
| | | | | | | | 5 x D1 | 8.05 | |
| | | | | | | | 8 x D1 | 8.06 | NEW |
| | | Z = 3 | | | | 30° | 1.3 x D1 | 8.06 | |
| | | | | | | | 2 x D1 | 8.07 | NEW |
| | | | | | | | 3 x D1 | 8.07 | |
| Z = 2 |  | | | 30° | 0.75 x D1 | 8.08 | NEW | | |
| | | | | | 1.5 x D1 | 8.08 | | | |
| | | | | | 3 x D1 | 8.09 | | | |

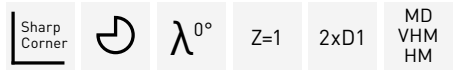
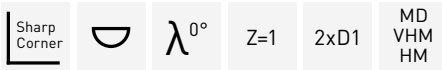
| Matière Werkstoff Material | VC (m/min) | fz [mm/z] | |
|--|------------|---------------|---------------|
| | | Ø 0.2 - 1.2 | Ø 1.3 - 2.9 |
| Acier Stahl Steel < 700 N/mm ² | 30 - 90 | 0.002 - 0.010 | 0.005 - 0.018 |
| Acier Stahl Steel > 700 N/mm ² | 25 - 60 | 0.001 - 0.007 | 0.002 - 0.012 |
| Acier inoxydable Rostfreistahl Stainless steel | 30 - 70 | 0.001 - 0.008 | 0.004 - 0.020 |
| Titane Titan Titanium | 25 - 40 | 0.001 - 0.008 | 0.003 - 0.010 |
| Aluminium | 80 - 250 | 0.002 - 0.010 | 0.005 - 0.020 |
| Cuivre Kupfer Copper | 60 - 120 | 0.001 - 0.080 | 0.004 - 0.020 |
| Laiton Messing Brass | 80 - 180 | 0.002 - 0.012 | 0.006 - 0.025 |
| Or Gold Gold | 80 - 160 | 0.002 - 0.012 | 0.006 - 0.025 |

Micro-fraises

Micropräzisionsfräser

Micro end mills

3170 / 3170R



| D1 +0.005 / -0.010 | L2 | D2 h6 | L1 | Art. N° |
|-----------------------|-----|-------|----|--------------------|
| 0.20 | 0.4 | 3.00 | 39 | 3170-2-0.20 |
| 0.30 | 0.6 | 3.00 | 39 | 3170-2-0.30 |
| 0.40 | 0.8 | 3.00 | 39 | 3170-2-0.40 |
| 0.50 | 1.0 | 3.00 | 39 | 3170-2-0.50 |
| 0.60 | 1.2 | 3.00 | 39 | 3170-2-0.60 |
| 0.70 | 1.4 | 3.00 | 39 | 3170-2-0.70 |
| 0.80 | 1.6 | 3.00 | 39 | 3170-2-0.80 |
| 0.90 | 1.8 | 3.00 | 39 | 3170-2-0.90 |
| 1.00 | 2.0 | 3.00 | 39 | 3170-2-1.00 |
| 1.10 | 2.2 | 3.00 | 39 | 3170-2-1.10 |
| 1.20 | 2.4 | 3.00 | 39 | 3170-2-1.20 |
| 1.30 | 2.6 | 3.00 | 39 | 3170-2-1.30 |
| 1.40 | 2.8 | 3.00 | 39 | 3170-2-1.40 |
| 1.50 | 3.0 | 3.00 | 39 | 3170-2-1.50 |
| 1.60 | 3.2 | 3.00 | 39 | 3170-2-1.60 |
| 1.70 | 3.4 | 3.00 | 39 | 3170-2-1.70 |
| 1.80 | 3.6 | 3.00 | 39 | 3170-2-1.80 |
| 1.90 | 3.8 | 3.00 | 39 | 3170-2-1.90 |
| 2.00 | 4.0 | 3.00 | 39 | 3170-2-2.00 |
| 2.50 | 5.0 | 3.00 | 39 | 3170-2-2.50 |
| 3.00 | 6.0 | 4.00 | 40 | 3170-2-3.00 |

| D1 +0.005 / -0.010 | L2 | D2 h6 | L1 | Art. N° |
|-----------------------|-----|-------|----|---------------------|
| 0.20 | 0.4 | 3.00 | 39 | 3170R-2-0.20 |
| 0.30 | 0.6 | 3.00 | 39 | 3170R-2-0.30 |
| 0.40 | 0.8 | 3.00 | 39 | 3170R-2-0.40 |
| 0.50 | 1.0 | 3.00 | 39 | 3170R-2-0.50 |
| 0.60 | 1.2 | 3.00 | 39 | 3170R-2-0.60 |
| 0.70 | 1.4 | 3.00 | 39 | 3170R-2-0.70 |
| 0.80 | 1.6 | 3.00 | 39 | 3170R-2-0.80 |
| 0.90 | 1.8 | 3.00 | 39 | 3170R-2-0.90 |
| 1.00 | 2.0 | 3.00 | 39 | 3170R-2-1.00 |
| 1.10 | 2.2 | 3.00 | 39 | 3170R-2-1.10 |
| 1.20 | 2.4 | 3.00 | 39 | 3170R-2-1.20 |
| 1.30 | 2.6 | 3.00 | 39 | 3170R-2-1.30 |
| 1.40 | 2.8 | 3.00 | 39 | 3170R-2-1.40 |
| 1.50 | 3.0 | 3.00 | 39 | 3170R-2-1.50 |
| 1.60 | 3.2 | 3.00 | 39 | 3170R-2-1.60 |
| 1.70 | 3.4 | 3.00 | 39 | 3170R-2-1.70 |
| 1.80 | 3.6 | 3.00 | 39 | 3170R-2-1.80 |
| 1.90 | 3.8 | 3.00 | 39 | 3170R-2-1.90 |
| 2.00 | 4.0 | 3.00 | 39 | 3170R-2-2.00 |
| 2.10 | 4.1 | 3.00 | 39 | 3170R-2-2.10 |
| 2.20 | 4.4 | 3.00 | 39 | 3170R-2-2.20 |
| 2.30 | 4.6 | 3.00 | 39 | 3170R-2-2.30 |
| 2.40 | 4.8 | 3.00 | 39 | 3170R-2-2.40 |
| 2.50 | 5.0 | 3.00 | 39 | 3170R-2-2.50 |
| 2.60 | 5.2 | 3.00 | 39 | 3170R-2-2.60 |
| 2.70 | 5.4 | 3.00 | 39 | 3170R-2-2.70 |
| 2.80 | 5.6 | 3.00 | 39 | 3170R-2-2.80 |
| 2.90 | 5.8 | 3.00 | 39 | 3170R-2-2.90 |
| 3.00 | 6.0 | 4.00 | 40 | 3170R-2-3.00 |

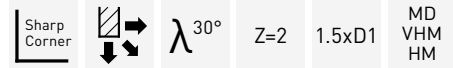
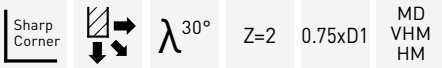
MICRO-Line

Micro-fraises

Micropräzisionsfräser

Micro end mills

3271-0.75 / 3271-1.5



| D1 +0.005 / -0.010 | L2 | D2 h6 | L1 | Art. N° |
|-----------------------|------|-------|----|-----------------------|
| 0.20 | 0.15 | 3.00 | 39 | 3271-0.75-0.20 |
| 0.30 | 0.25 | 3.00 | 39 | 3271-0.75-0.30 |
| 0.40 | 0.3 | 3.00 | 39 | 3271-0.75-0.40 |
| 0.50 | 0.37 | 3.00 | 39 | 3271-0.75-0.50 |
| 0.60 | 0.45 | 3.00 | 39 | 3271-0.75-0.60 |
| 0.70 | 0.53 | 3.00 | 39 | 3271-0.75-0.70 |
| 0.80 | 0.6 | 3.00 | 39 | 3271-0.75-0.80 |
| 0.90 | 0.7 | 3.00 | 39 | 3271-0.75-0.90 |
| 1.00 | 0.75 | 3.00 | 39 | 3271-0.75-1.00 |
| 1.10 | 0.9 | 3.00 | 39 | 3271-0.75-1.10 |
| 1.20 | 0.9 | 3.00 | 39 | 3271-0.75-1.20 |
| 1.30 | 1.0 | 3.00 | 39 | 3271-0.75-1.30 |
| 1.40 | 1.1 | 3.00 | 39 | 3271-0.75-1.40 |
| 1.50 | 1.15 | 3.00 | 39 | 3271-0.75-1.50 |
| 1.60 | 1.2 | 3.00 | 39 | 3271-0.75-1.60 |
| 1.70 | 1.3 | 3.00 | 39 | 3271-0.75-1.70 |
| 1.80 | 1.4 | 3.00 | 39 | 3271-0.75-1.80 |
| 1.90 | 1.45 | 3.00 | 39 | 3271-0.75-1.90 |
| 2.00 | 1.5 | 3.00 | 39 | 3271-0.75-2.00 |

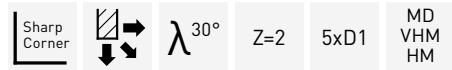
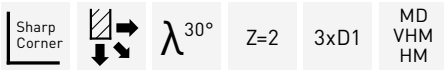
| D1 +0.005 / -0.010 | L2 | D2 h6 | L1 | Art. N° |
|-----------------------|------|-------|----|----------------------|
| 0.10 | 0.15 | 3.00 | 39 | 3271-1.5-0.10 |
| 0.15 | 0.2 | 3.00 | 39 | 3271-1.5-0.15 |
| 0.20 | 0.3 | 3.00 | 39 | 3271-1.5-0.20 |
| 0.25 | 0.35 | 3.00 | 39 | 3271-1.5-0.25 |
| 0.30 | 0.45 | 3.00 | 39 | 3271-1.5-0.30 |
| 0.40 | 0.6 | 3.00 | 39 | 3271-1.5-0.40 |
| 0.50 | 0.75 | 3.00 | 39 | 3271-1.5-0.50 |
| 0.60 | 0.9 | 3.00 | 39 | 3271-1.5-0.60 |
| 0.70 | 1.05 | 3.00 | 39 | 3271-1.5-0.70 |
| 0.80 | 1.2 | 3.00 | 39 | 3271-1.5-0.80 |
| 0.90 | 1.35 | 3.00 | 39 | 3271-1.5-0.90 |
| 1.00 | 1.5 | 3.00 | 39 | 3271-1.5-1.00 |
| 1.10 | 1.65 | 3.00 | 39 | 3271-1.5-1.10 |
| 1.20 | 1.8 | 3.00 | 39 | 3271-1.5-1.20 |
| 1.30 | 1.95 | 3.00 | 39 | 3271-1.5-1.30 |
| 1.40 | 2.1 | 3.00 | 39 | 3271-1.5-1.40 |
| 1.50 | 2.25 | 3.00 | 39 | 3271-1.5-1.50 |
| 1.60 | 2.4 | 3.00 | 39 | 3271-1.5-1.60 |
| 1.70 | 2.55 | 3.00 | 39 | 3271-1.5-1.70 |
| 1.80 | 2.7 | 3.00 | 39 | 3271-1.5-1.80 |
| 1.90 | 2.85 | 3.00 | 39 | 3271-1.5-1.90 |
| 2.00 | 3.0 | 3.00 | 39 | 3271-1.5-2.00 |

Micro-fraises

Micropräzisionsfräser

Micro end mills

3271-3 / 3271-5



| D1 +0.005 / -0.010 | L2 | D2 h6 | L1 | Art. N° |
|-----------------------|------|-------|----|-------------|
| 0.10 | 0.25 | 3.00 | 39 | 3271-3-0.10 |
| 0.15 | 0.3 | 3.00 | 39 | 3271-3-0.15 |
| 0.20 | 0.5 | 3.00 | 39 | 3271-3-0.20 |
| 0.25 | 0.5 | 3.00 | 39 | 3271-3-0.25 |
| 0.30 | 1.0 | 3.00 | 39 | 3271-3-0.30 |
| 0.40 | 1.2 | 3.00 | 39 | 3271-3-0.40 |
| 0.50 | 1.5 | 3.00 | 39 | 3271-3-0.50 |
| 0.60 | 2.0 | 3.00 | 39 | 3271-3-0.60 |
| 0.70 | 2.0 | 3.00 | 39 | 3271-3-0.70 |
| 0.75 | 2.0 | 3.00 | 39 | 3271-3-0.75 |
| 0.80 | 2.5 | 3.00 | 39 | 3271-3-0.80 |
| 0.90 | 2.5 | 3.00 | 39 | 3271-3-0.90 |
| 1.00 | 3.0 | 3.00 | 39 | 3271-3-1.00 |
| 1.10 | 3.0 | 3.00 | 39 | 3271-3-1.10 |
| 1.20 | 4.0 | 3.00 | 39 | 3271-3-1.20 |
| 1.30 | 4.0 | 3.00 | 39 | 3271-3-1.30 |
| 1.40 | 4.0 | 3.00 | 39 | 3271-3-1.40 |
| 1.50 | 4.5 | 3.00 | 39 | 3271-3-1.50 |
| 1.60 | 4.5 | 3.00 | 39 | 3271-3-1.60 |
| 1.70 | 5.0 | 3.00 | 39 | 3271-3-1.70 |
| 1.80 | 6.0 | 3.00 | 39 | 3271-3-1.80 |
| 1.90 | 6.0 | 3.00 | 39 | 3271-3-1.90 |
| 2.00 | 6.0 | 3.00 | 39 | 3271-3-2.00 |
| 2.10 | 6.0 | 3.00 | 39 | 3271-3-2.10 |
| 2.20 | 6.5 | 3.00 | 39 | 3271-3-2.20 |
| 2.30 | 7.0 | 3.00 | 39 | 3271-3-2.30 |
| 2.40 | 7.0 | 3.00 | 39 | 3271-3-2.40 |
| 2.50 | 7.5 | 3.00 | 39 | 3271-3-2.50 |
| 2.60 | 7.5 | 3.00 | 39 | 3271-3-2.60 |
| 2.70 | 8.0 | 3.00 | 39 | 3271-3-2.70 |
| 2.80 | 8.0 | 3.00 | 39 | 3271-3-2.80 |
| 2.90 | 8.0 | 3.00 | 39 | 3271-3-2.90 |

| D1 +0.005 / -0.010 | L2 | D2 h6 | L1 | Art. N° |
|-----------------------|------|-------|----|-------------|
| 0.30 | 1.5 | 3.00 | 39 | 3271-5-0.30 |
| 0.40 | 2.0 | 3.00 | 39 | 3271-5-0.40 |
| 0.50 | 2.5 | 3.00 | 39 | 3271-5-0.50 |
| 0.60 | 3.0 | 3.00 | 39 | 3271-5-0.60 |
| 0.70 | 3.5 | 3.00 | 39 | 3271-5-0.70 |
| 0.80 | 4.0 | 3.00 | 39 | 3271-5-0.80 |
| 0.90 | 4.5 | 3.00 | 39 | 3271-5-0.90 |
| 1.00 | 5.0 | 3.00 | 39 | 3271-5-1.00 |
| 1.10 | 5.5 | 3.00 | 39 | 3271-5-1.10 |
| 1.20 | 6.0 | 3.00 | 39 | 3271-5-1.20 |
| 1.50 | 7.5 | 3.00 | 39 | 3271-5-1.50 |
| 2.00 | 10.0 | 3.00 | 39 | 3271-5-2.00 |
| 2.50 | 12.5 | 3.00 | 39 | 3271-5-2.50 |

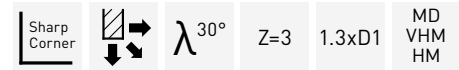
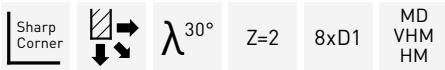
MICRO-Line

Micro-fraises

Micropräzisionsfräser

Micro end mills

3271-8 / 3371-1.3



| D1 +0.005 / -0.010 | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|------|-------------------|----|--------------------|
| 0.40 | 3.2 | 3.00 | 39 | 3271-8-0.40 |
| 0.50 | 4.0 | 3.00 | 39 | 3271-8-0.50 |
| 0.60 | 5.0 | 3.00 | 39 | 3271-8-0.60 |
| 0.70 | 5.6 | 3.00 | 39 | 3271-8-0.70 |
| 0.80 | 6.0 | 3.00 | 39 | 3271-8-0.80 |
| 0.90 | 7.2 | 3.00 | 39 | 3271-8-0.90 |
| 1.00 | 8.0 | 3.00 | 39 | 3271-8-1.00 |
| 1.20 | 9.0 | 3.00 | 39 | 3271-8-1.20 |
| 1.50 | 12.0 | 4.00 | 50 | 3271-8-1.50 |
| 2.00 | 16.0 | 4.00 | 50 | 3271-8-2.00 |
| 2.50 | 20.0 | 4.00 | 50 | 3271-8-2.50 |

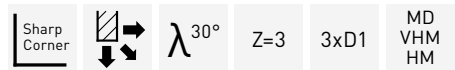
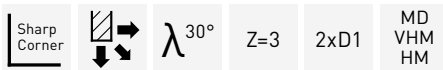
| D1 +0.005 / -0.010 | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|-----|-------------------|----|----------------------|
| 0.30 | 0.4 | 3.00 | 39 | 3371-1.3-0.30 |
| 0.40 | 0.5 | 3.00 | 39 | 3371-1.3-0.40 |
| 0.45 | 0.6 | 3.00 | 39 | 3371-1.3-0.45 |
| 0.50 | 0.7 | 3.00 | 39 | 3371-1.3-0.50 |
| 0.60 | 0.8 | 3.00 | 39 | 3371-1.3-0.60 |
| 0.70 | 0.9 | 3.00 | 39 | 3371-1.3-0.70 |
| 0.80 | 1.0 | 3.00 | 39 | 3371-1.3-0.80 |
| 0.90 | 1.3 | 3.00 | 39 | 3371-1.3-0.90 |
| 1.00 | 1.3 | 3.00 | 39 | 3371-1.3-1.00 |
| 1.10 | 1.5 | 3.00 | 39 | 3371-1.3-1.10 |
| 1.20 | 1.6 | 3.00 | 39 | 3371-1.3-1.20 |
| 1.30 | 1.8 | 3.00 | 39 | 3371-1.3-1.30 |
| 1.40 | 1.8 | 3.00 | 39 | 3371-1.3-1.40 |
| 1.50 | 2.0 | 3.00 | 39 | 3371-1.3-1.50 |
| 1.60 | 2.0 | 3.00 | 39 | 3371-1.3-1.60 |
| 1.70 | 2.0 | 3.00 | 39 | 3371-1.3-1.70 |
| 1.80 | 2.4 | 3.00 | 39 | 3371-1.3-1.80 |
| 1.90 | 2.4 | 3.00 | 39 | 3371-1.3-1.90 |
| 2.00 | 2.6 | 3.00 | 39 | 3371-1.3-2.00 |
| 2.20 | 3.0 | 3.00 | 39 | 3371-1.3-2.20 |
| 2.50 | 3.3 | 3.00 | 39 | 3371-1.3-2.50 |
| 2.80 | 3.5 | 3.00 | 39 | 3371-1.3-2.80 |
| 2.90 | 3.5 | 3.00 | 39 | 3371-1.3-2.90 |

Micro-fraises

Micropräzisionsfräser

Micro end mills

3371-2 / 3371-3



| D1 +0.005 / -0.010 | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|-----|-------------------|----|--------------------|
| 0.30 | 0.6 | 3.00 | 39 | 3371-2-0.30 |
| 0.40 | 0.8 | 3.00 | 39 | 3371-2-0.40 |
| 0.50 | 1.0 | 3.00 | 39 | 3371-2-0.50 |
| 0.60 | 1.2 | 3.00 | 39 | 3371-2-0.60 |
| 0.70 | 1.4 | 3.00 | 39 | 3371-2-0.70 |
| 0.75 | 1.5 | 3.00 | 39 | 3371-2-0.75 |
| 0.80 | 1.6 | 3.00 | 39 | 3371-2-0.80 |
| 0.90 | 1.8 | 3.00 | 39 | 3371-2-0.90 |
| 1.00 | 2.0 | 3.00 | 39 | 3371-2-1.00 |
| 1.10 | 2.2 | 3.00 | 39 | 3371-2-1.10 |
| 1.20 | 2.4 | 3.00 | 39 | 3371-2-1.20 |
| 1.30 | 2.6 | 3.00 | 39 | 3371-2-1.30 |
| 1.40 | 2.8 | 3.00 | 39 | 3371-2-1.40 |
| 1.50 | 3.0 | 3.00 | 39 | 3371-2-1.50 |
| 1.60 | 3.2 | 3.00 | 39 | 3371-2-1.60 |
| 1.70 | 3.4 | 3.00 | 39 | 3371-2-1.70 |
| 1.80 | 3.6 | 3.00 | 39 | 3371-2-1.80 |
| 1.90 | 3.8 | 3.00 | 39 | 3371-2-1.90 |
| 2.00 | 4.0 | 3.00 | 39 | 3371-2-2.00 |
| 2.10 | 4.2 | 3.00 | 39 | 3371-2-2.10 |
| 2.20 | 4.4 | 3.00 | 39 | 3371-2-2.20 |
| 2.30 | 4.6 | 3.00 | 39 | 3371-2-2.30 |
| 2.40 | 4.8 | 3.00 | 39 | 3371-2-2.40 |
| 2.50 | 5.0 | 3.00 | 39 | 3371-2-2.50 |
| 2.60 | 5.2 | 3.00 | 39 | 3371-2-2.60 |
| 2.70 | 5.4 | 3.00 | 39 | 3371-2-2.70 |
| 2.80 | 5.6 | 3.00 | 39 | 3371-2-2.80 |
| 2.90 | 5.8 | 3.00 | 39 | 3371-2-2.90 |

| D1 +0.005 / -0.010 | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|-----|-------------------|----|--------------------|
| 0.30 | 0.9 | 3.00 | 39 | 3371-3-0.30 |
| 0.40 | 1.2 | 3.00 | 39 | 3371-3-0.40 |
| 0.50 | 1.5 | 3.00 | 39 | 3371-3-0.50 |
| 0.60 | 2.0 | 3.00 | 39 | 3371-3-0.60 |
| 0.70 | 2.0 | 3.00 | 39 | 3371-3-0.70 |
| 0.75 | 2.0 | 3.00 | 39 | 3371-3-0.75 |
| 0.80 | 2.5 | 3.00 | 39 | 3371-3-0.80 |
| 0.90 | 2.5 | 3.00 | 39 | 3371-3-0.90 |
| 1.00 | 3.0 | 3.00 | 39 | 3371-3-1.00 |
| 1.10 | 3.3 | 3.00 | 39 | 3371-3-1.10 |
| 1.20 | 4.0 | 3.00 | 39 | 3371-3-1.20 |
| 1.30 | 4.0 | 3.00 | 39 | 3371-3-1.30 |
| 1.40 | 4.0 | 3.00 | 39 | 3371-3-1.40 |
| 1.50 | 4.5 | 3.00 | 39 | 3371-3-1.50 |
| 1.60 | 4.5 | 3.00 | 39 | 3371-3-1.60 |
| 1.70 | 5.0 | 3.00 | 39 | 3371-3-1.70 |
| 1.80 | 6.0 | 3.00 | 39 | 3371-3-1.80 |
| 1.90 | 6.0 | 3.00 | 39 | 3371-3-1.90 |
| 2.00 | 6.0 | 3.00 | 39 | 3371-3-2.00 |
| 2.10 | 6.0 | 3.00 | 39 | 3371-3-2.10 |
| 2.20 | 6.5 | 3.00 | 39 | 3371-3-2.20 |
| 2.30 | 7.0 | 3.00 | 39 | 3371-3-2.30 |
| 2.40 | 7.0 | 3.00 | 39 | 3371-3-2.40 |
| 2.50 | 7.5 | 3.00 | 39 | 3371-3-2.50 |
| 2.60 | 7.5 | 3.00 | 39 | 3371-3-2.60 |
| 2.70 | 8.0 | 3.00 | 39 | 3371-3-2.70 |
| 2.80 | 8.0 | 3.00 | 39 | 3371-3-2.80 |
| 2.90 | 8.5 | 3.00 | 39 | 3371-3-2.90 |

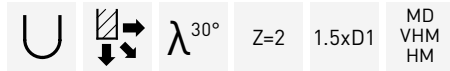
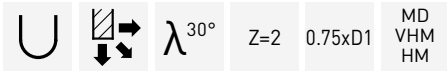
MICRO-Line

Micro-fraises

Micropräzisionsfräser

Micro end mills

3278-0.75 / 3278-1.5



| D1 +0.005 / -0.010 | R | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|------|------|-------------------|----|-----------------------|
| 0.20 | 0.10 | 0.15 | 3.00 | 39 | 3278-0.75-0.20 |
| 0.30 | 0.15 | 0.20 | 3.00 | 39 | 3278-0.75-0.30 |
| 0.40 | 0.20 | 0.30 | 3.00 | 39 | 3278-0.75-0.40 |
| 0.50 | 0.25 | 0.37 | 3.00 | 39 | 3278-0.75-0.50 |
| 0.60 | 0.30 | 0.45 | 3.00 | 39 | 3278-0.75-0.60 |
| 0.80 | 0.40 | 0.60 | 3.00 | 39 | 3278-0.75-0.80 |
| 1.00 | 0.50 | 0.75 | 3.00 | 39 | 3278-0.75-1.00 |

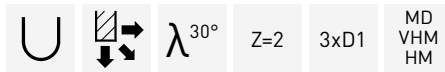
| D1 +0.005 / -0.010 | R | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|-------|------|-------------------|----|----------------------|
| 0.20 | 0.10 | 0.3 | 3.00 | 39 | 3278-1.5-0.20 |
| 0.25 | 0.125 | 0.35 | 3.00 | 39 | 3278-1.5-0.25 |
| 0.30 | 0.15 | 0.45 | 3.00 | 39 | 3278-1.5-0.30 |
| 0.40 | 0.20 | 0.6 | 3.00 | 39 | 3278-1.5-0.40 |
| 0.50 | 0.25 | 0.75 | 3.00 | 39 | 3278-1.5-0.50 |
| 0.60 | 0.30 | 0.9 | 3.00 | 39 | 3278-1.5-0.60 |
| 0.70 | 0.35 | 1.05 | 3.00 | 39 | 3278-1.5-0.70 |
| 0.80 | 0.40 | 1.2 | 3.00 | 39 | 3278-1.5-0.80 |
| 0.90 | 0.45 | 1.35 | 3.00 | 39 | 3278-1.5-0.90 |
| 1.00 | 0.50 | 1.5 | 3.00 | 39 | 3278-1.5-1.00 |
| 1.10 | 0.55 | 1.65 | 3.00 | 39 | 3278-1.5-1.10 |
| 1.20 | 0.60 | 1.8 | 3.00 | 39 | 3278-1.5-1.20 |
| 1.30 | 0.65 | 1.95 | 3.00 | 39 | 3278-1.5-1.30 |
| 1.40 | 0.70 | 2.1 | 3.00 | 39 | 3278-1.5-1.40 |
| 1.50 | 0.75 | 2.25 | 3.00 | 39 | 3278-1.5-1.50 |
| 1.60 | 0.80 | 2.4 | 3.00 | 39 | 3278-1.5-1.60 |
| 1.80 | 0.90 | 2.7 | 3.00 | 39 | 3278-1.5-1.80 |
| 2.00 | 1.00 | 3.0 | 3.00 | 39 | 3278-1.5-2.00 |

Micro-fraises

Micropräzisionsfräser

Micro end mills

3278-3





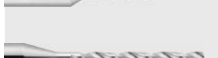



| D1 +0.005 / -0.010 | R | L2 | D2 h ₆ | L1 | Art. N° |
|-----------------------|------|-----|-------------------|----|-------------|
| 0.20 | 0.10 | 0.6 | 3.00 | 39 | 3278-3-0.20 |
| 0.30 | 0.15 | 1.0 | 3.00 | 39 | 3278-3-0.30 |
| 0.40 | 0.20 | 1.0 | 3.00 | 39 | 3278-3-0.40 |
| 0.50 | 0.25 | 1.5 | 3.00 | 39 | 3278-3-0.50 |
| 0.60 | 0.30 | 1.5 | 3.00 | 39 | 3278-3-0.60 |
| 0.70 | 0.35 | 2.0 | 3.00 | 39 | 3278-3-0.70 |
| 0.80 | 0.40 | 2.0 | 3.00 | 39 | 3278-3-0.80 |
| 0.90 | 0.45 | 2.5 | 3.00 | 39 | 3278-3-0.90 |
| 1.00 | 0.50 | 3.0 | 3.00 | 39 | 3278-3-1.00 |
| 1.20 | 0.60 | 4.0 | 3.00 | 39 | 3278-3-1.20 |
| 1.40 | 0.70 | 4.0 | 3.00 | 39 | 3278-3-1.40 |
| 1.50 | 0.75 | 4.0 | 3.00 | 39 | 3278-3-1.50 |
| 1.60 | 0.80 | 4.0 | 3.00 | 39 | 3278-3-1.60 |
| 1.80 | 0.90 | 5.5 | 3.00 | 39 | 3278-3-1.80 |
| 2.00 | 1.00 | 6.0 | 3.00 | 39 | 3278-3-2.00 |
| 2.10 | 1.05 | 6.0 | 3.00 | 39 | 3278-3-2.10 |
| 2.20 | 1.10 | 6.0 | 3.00 | 39 | 3278-3-2.20 |
| 2.50 | 1.25 | 7.5 | 3.00 | 39 | 3278-3-2.50 |
| 2.80 | 1.40 | 8.4 | 3.00 | 39 | 3278-3-2.80 |

MICRO-Line

Micro-forets / Centreurs NC
Microbohrer / NC-Zentrierbohrer
Micro drills / NC centering drills

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

| | Spiral | L2 | Type | page |
|---|--------|---------|---------------------|------|
|  | 25° | - | 1680-90 / 2680-90 | 8.11 |
| | 25° | - | 1680-120 / 2680-120 | 8.12 |
|  | | | 1010 / 2010 | 8.13 |
| | 35° | - | 2011 | 8.14 |
|  | 24° | - | 2012 | 8.14 |
| | 35° | - | 2013 | 8.15 |
|  | 30° | - | 2014 | 8.15 |
| | 30° | 2 x D1 | 2020 | 8.16 |
|  | 35° | 6 x D1 | 2023 | 8.18 |
| | 25° | 12 x D1 | 2026 | 8.21 |
|  | 35° | 5 x D1 | 2030 (Z=3) | 8.23 |

NEW
NEW
NEW
NEW

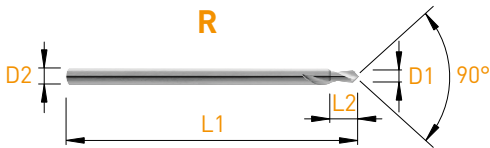
| Matière Werkstoff Material | VC (m/min) | fz [mm/z] | | | |
|--|------------|---------------|---------------|---------------|---------------|
| | | Ø 0.4 - 0.6 | Ø 0.6 - 1.0 | Ø 1.0 - 3.0 | Ø 3.0 - 6.0 |
| Acier Stahl Steel < 700 N/mm ² | 60 - 100 | 0.004 - 0.008 | 0.006 - 0.015 | 0.010 - 0.040 | 0.040 - 0.100 |
| Acier Stahl Steel > 700 N/mm ² | 30 - 60 | 0.003 - 0.005 | 0.005 - 0.012 | 0.010 - 0.040 | 0.040 - 0.080 |
| Acier inoxydable Rostfreistahl Stainless steel | 30 - 60 | 0.003 - 0.006 | 0.005 - 0.012 | 0.010 - 0.040 | 0.040 - 0.080 |
| Titane Titan Titanium | 25 - 50 | 0.002 - 0.005 | 0.004 - 0.010 | 0.008 - 0.030 | 0.030 - 0.070 |
| Aluminium | 60 - 150 | 0.004 - 0.010 | 0.006 - 0.030 | 0.020 - 0.070 | 0.050 - 0.150 |
| Cuivre Kupfer Copper | 50 - 80 | 0.004 - 0.012 | 0.007 - 0.020 | 0.050 - 0.060 | 0.050 - 0.120 |
| Laiton Messing Brass | 60 - 100 | 0.005 - 0.015 | 0.008 - 0.030 | 0.020 - 0.070 | 0.060 - 0.150 |
| Or Gold Gold | 50 - 100 | 0.004 - 0.010 | 0.006 - 0.030 | 0.020 - 0.070 | 0.060 - 0.150 |

Centreurs NC

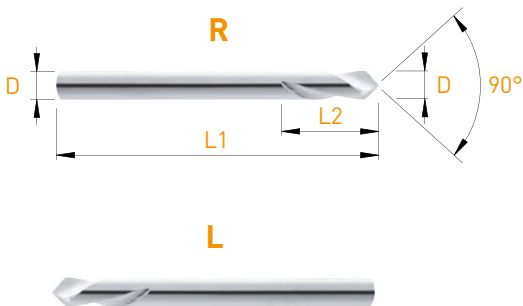
NC-Zentrierbohrer

NC centering drills

1680-90° / 2680-90°



| MD VHM HM | | | | R |
|-----------------|-----|-------|----|-------------|
| D1 h6 | L2 | D2 h6 | L1 | Art. N° |
| 0.50 | 1.5 | 2.00 | 39 | 2680-0.5-90 |
| 1.00 | 3.0 | 2.00 | 39 | 2680-1.0-90 |
| 1.50 | 4.0 | 2.00 | 39 | 2680-1.5-90 |



| MD VHM HM | | | L | R |
|-----------------|----|----|-------------|-------------|
| D h6 | L2 | L1 | Art. N° | Art. N° |
| 2.0 | 8 | 38 | 1680-2-90 | 2680-2-90 |
| 2.5 | 8 | 38 | 1680-2.5-90 | 2680-2.5-90 |
| 3.0 | 10 | 38 | 1680-3-90 | 2680-3-90 |
| 4.0 | 12 | 50 | 1680-4-90 | 2680-4-90 |
| 5.0 | 15 | 50 | 1680-5-90 | 2680-5-90 |
| 6.0 | 16 | 57 | 1680-6-90 | 2680-6-90 |
| 8.0 | 20 | 63 | 1680-8-90 | 2680-8-90 |
| 10.0 | 22 | 72 | 1680-10-90 | 2680-10-90 |
| 12.0 | 24 | 73 | 1680-12-90 | 2680-12-90 |
| 16.0 | 26 | 82 | 1680-16-90 | 2680-16-90 |
| 20.0 | 30 | 92 | - | 2680-20-90 |

| HSS | | | R |
|------|----|----|----------------|
| D h6 | L2 | L1 | Art. N° |
| 3.0 | 10 | 38 | 2680-3-90-HSS |
| 4.0 | 12 | 50 | 2680-4-90-HSS |
| 5.0 | 15 | 50 | 2680-5-90-HSS |
| 6.0 | 16 | 57 | 2680-6-90-HSS |
| 8.0 | 20 | 63 | 2680-8-90-HSS |
| 10.0 | 22 | 72 | 2680-10-90-HSS |
| 12.0 | 24 | 73 | 2680-12-90-HSS |

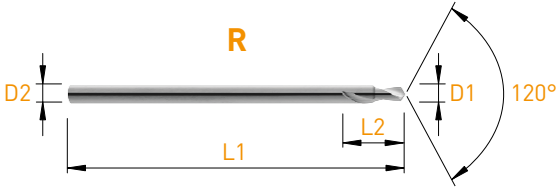
MICRO-Line

Centreurs NC

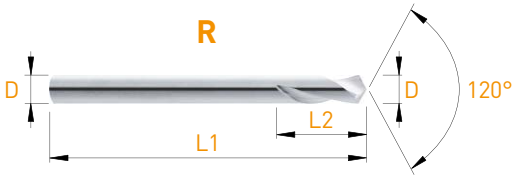
NC-Zentrierbohrer

NC centering drills

1680-120° / 2680-120°



| MD VHM HM | | | | R |
|-------------------|-----|-------------------|----|---------------------|
| D1 h ₆ | L2 | D2 h ₆ | L1 | Art. N° |
| 0.50 | 1.5 | 2.00 | 39 | 2680-0.5-120 |
| 1.00 | 3.0 | 2.00 | 39 | 2680-1.0-120 |
| 1.50 | 4.0 | 2.00 | 39 | 2680-1.5-120 |



| MD VHM HM | | | L | R |
|------------------|----|----|---------------------|---------------------|
| D h ₆ | L2 | L1 | Art. N° | Art. N° |
| 2.0 | 8 | 38 | 1680-2-120 | 2680-2-120 |
| 2.5 | 8 | 38 | 1680-2.5-120 | 2680-2.5-120 |
| 3.0 | 10 | 38 | 1680-3-120 | 2680-3-120 |
| 4.0 | 12 | 50 | 1680-4-120 | 2680-4-120 |
| 5.0 | 15 | 50 | 1680-5-120 | 2680-5-120 |
| 6.0 | 16 | 57 | 1680-6-120 | 2680-6-120 |
| 8.0 | 20 | 63 | 1680-8-120 | 2680-8-120 |
| 10.0 | 22 | 72 | 1680-10-120 | 2680-10-120 |
| 12.0 | 24 | 73 | 1680-12-120 | 2680-12-120 |
| 16.0 | 26 | 82 | - | 2680-16-120 |
| 20.0 | 30 | 92 | - | 2680-20-120 |

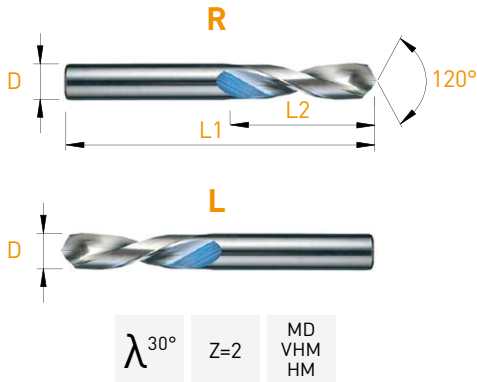


Forets cylindriques

Zylindrische Bohrer

Cylindrical drills

1010 / 2010



| D h ₆ | L1 | L2 | L | R |
|------------------|----|----|-----------|-----------|
| | | | Art. N° | Art. N° |
| 0.50 | 30 | 5 | 1010-0.50 | 2010-0.50 |
| 0.55 | 30 | 5 | 1010-0.55 | 2010-0.55 |
| 0.60 | 30 | 5 | 1010-0.60 | 2010-0.60 |
| 0.65 | 30 | 6 | 1010-0.65 | 2010-0.65 |
| 0.70 | 30 | 6 | 1010-0.70 | 2010-0.70 |
| 0.75 | 30 | 8 | 1010-0.75 | 2010-0.75 |
| 0.80 | 30 | 8 | 1010-0.80 | 2010-0.80 |
| 0.85 | 30 | 9 | 1010-0.85 | 2010-0.85 |
| 0.90 | 30 | 9 | 1010-0.90 | 2010-0.90 |
| 0.95 | 30 | 10 | 1010-0.95 | 2010-0.95 |
| 1.00 | 30 | 10 | 1010-1.00 | 2010-1.00 |
| 1.05 | 30 | 10 | 1010-1.05 | 2010-1.05 |
| 1.10 | 30 | 10 | 1010-1.10 | 2010-1.10 |
| 1.15 | 30 | 12 | 1010-1.15 | 2010-1.15 |
| 1.20 | 30 | 12 | 1010-1.20 | 2010-1.20 |
| 1.25 | 30 | 12 | 1010-1.25 | 2010-1.25 |
| 1.30 | 30 | 12 | 1010-1.30 | 2010-1.30 |
| 1.35 | 30 | 12 | 1010-1.35 | 2010-1.35 |
| 1.40 | 30 | 12 | 1010-1.40 | 2010-1.40 |
| 1.45 | 30 | 12 | 1010-1.45 | 2010-1.45 |
| 1.50 | 30 | 12 | 1010-1.50 | 2010-1.50 |
| 1.55 | 40 | 16 | 1010-1.55 | 2010-1.55 |
| 1.60 | 40 | 16 | 1010-1.60 | 2010-1.60 |
| 1.65 | 40 | 16 | 1010-1.65 | 2010-1.65 |
| 1.70 | 40 | 16 | 1010-1.70 | 2010-1.70 |
| 1.75 | 40 | 16 | 1010-1.75 | 2010-1.75 |
| 1.80 | 40 | 16 | 1010-1.80 | 2010-1.80 |
| 1.85 | 40 | 16 | 1010-1.85 | 2010-1.85 |
| 1.90 | 40 | 16 | 1010-1.90 | 2010-1.90 |
| 1.95 | 40 | 16 | 1010-1.95 | 2010-1.95 |
| 2.00 | 40 | 16 | 1010-2.00 | 2010-2.00 |
| 2.05 | 40 | 18 | 1010-2.05 | 2010-2.05 |
| 2.10 | 40 | 18 | 1010-2.10 | 2010-2.10 |

| D h ₆ | L1 | L2 | L | R |
|------------------|----|----|-----------|-----------|
| | | | Art. N° | Art. N° |
| 2.15 | 40 | 18 | 1010-2.15 | 2010-2.15 |
| 2.20 | 40 | 18 | 1010-2.20 | 2010-2.20 |
| 2.25 | 40 | 18 | 1010-2.25 | 2010-2.25 |
| 2.30 | 40 | 18 | 1010-2.30 | 2010-2.30 |
| 2.35 | 40 | 18 | 1010-2.35 | 2010-2.35 |
| 2.40 | 40 | 18 | 1010-2.40 | 2010-2.40 |
| 2.45 | 40 | 18 | 1010-2.45 | 2010-2.45 |
| 2.50 | 40 | 18 | 1010-2.50 | 2010-2.50 |
| 2.55 | 45 | 18 | 1010-2.55 | 2010-2.55 |
| 2.60 | 45 | 18 | 1010-2.60 | 2010-2.60 |
| 2.65 | 45 | 18 | 1010-2.65 | 2010-2.65 |
| 2.70 | 45 | 18 | 1010-2.70 | 2010-2.70 |
| 2.75 | 45 | 18 | 1010-2.75 | 2010-2.75 |
| 2.80 | 45 | 18 | 1010-2.80 | 2010-2.80 |
| 2.85 | 45 | 18 | 1010-2.85 | 2010-2.85 |
| 2.90 | 45 | 18 | 1010-2.90 | 2010-2.90 |
| 2.95 | 45 | 18 | 1010-2.95 | 2010-2.95 |
| 3.00 | 45 | 18 | 1010-3.00 | 2010-3.00 |
| 3.10 | 45 | 20 | 1010-3.10 | 2010-3.10 |
| 3.20 | 50 | 20 | 1010-3.20 | 2010-3.20 |
| 3.30 | 50 | 20 | 1010-3.30 | 2010-3.30 |
| 3.40 | 50 | 20 | 1010-3.40 | 2010-3.40 |
| 3.50 | 50 | 20 | 1010-3.50 | 2010-3.50 |
| 3.60 | 50 | 20 | 1010-3.60 | 2010-3.60 |
| 3.70 | 50 | 20 | 1010-3.70 | 2010-3.70 |
| 3.80 | 50 | 20 | 1010-3.80 | 2010-3.80 |
| 3.90 | 50 | 20 | 1010-3.90 | 2010-3.90 |
| 4.00 | 50 | 20 | 1010-4.00 | 2010-4.00 |
| 4.10 | 50 | 25 | 1010-4.10 | 2010-4.10 |
| 4.20 | 50 | 25 | 1010-4.20 | 2010-4.20 |
| 4.30 | 50 | 25 | 1010-4.30 | 2010-4.30 |
| 4.40 | 50 | 25 | 1010-4.40 | 2010-4.40 |
| 4.50 | 50 | 25 | 1010-4.50 | 2010-4.50 |
| 4.60 | 50 | 25 | 1010-4.60 | 2010-4.60 |
| 4.70 | 50 | 25 | 1010-4.70 | 2010-4.70 |
| 4.80 | 50 | 25 | 1010-4.80 | 2010-4.80 |
| 4.90 | 50 | 25 | 1010-4.90 | 2010-4.90 |
| 5.00 | 50 | 25 | 1010-5.00 | 2010-5.00 |
| 5.10 | 50 | 25 | 1010-5.10 | 2010-5.10 |
| 5.20 | 50 | 25 | 1010-5.20 | 2010-5.20 |
| 5.30 | 50 | 25 | 1010-5.30 | 2010-5.30 |
| 5.40 | 50 | 25 | 1010-5.40 | 2010-5.40 |
| 5.50 | 50 | 25 | 1010-5.50 | 2010-5.50 |
| 5.60 | 50 | 25 | 1010-5.60 | 2010-5.60 |
| 5.70 | 50 | 25 | 1010-5.70 | 2010-5.70 |
| 5.80 | 50 | 25 | 1010-5.80 | 2010-5.80 |
| 5.90 | 50 | 25 | 1010-5.90 | 2010-5.90 |
| 6.00 | 50 | 25 | 1010-6.00 | 2010-6.00 |

MICRO-Line

Micro-forets

Microbohrer

Micro drills

2011 / 2012



λ^{35°

Z=2

MD
VHM
HM

λ^{24°

Z=2

MD
VHM
HM

| D1 h6 | L2 | D2 h6 | L1 | Art. N° |
|-------|-----|-------|----|------------------|
| 0.80 | 2.0 | 2.00 | 30 | 2011-0.80 |
| 0.90 | 2.0 | 2.00 | 30 | 2011-0.90 |
| 1.00 | 2.0 | 2.00 | 30 | 2011-1.00 |
| 1.10 | 2.0 | 2.00 | 30 | 2011-1.10 |
| 1.20 | 2.5 | 2.00 | 30 | 2011-1.20 |
| 1.30 | 2.5 | 2.00 | 30 | 2011-1.30 |
| 1.40 | 2.5 | 2.00 | 30 | 2011-1.40 |
| 1.50 | 4.0 | 2.00 | 30 | 2011-1.50 |
| 2.00 | 5.0 | 2.00 | 30 | 2011-2.00 |

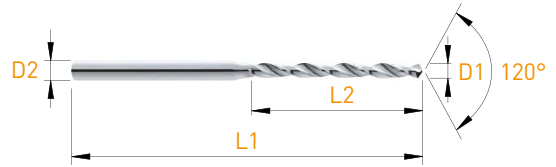
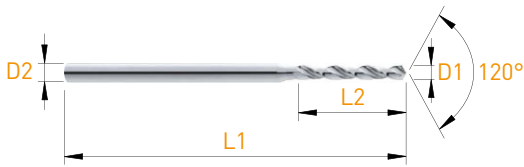
| D1 h6 | L2 | D2 h6 | L1 | Art. N° |
|-------|-----|-------|----|------------------|
| 0.50 | 1.7 | 1.50 | 30 | 2012-0.50 |
| 0.55 | 1.9 | 1.50 | 30 | 2012-0.55 |
| 0.60 | 1.9 | 1.50 | 30 | 2012-0.60 |
| 0.65 | 1.9 | 1.50 | 30 | 2012-0.65 |
| 0.70 | 2.4 | 1.50 | 30 | 2012-0.70 |
| 0.75 | 2.4 | 1.50 | 30 | 2012-0.75 |
| 0.80 | 2.6 | 1.50 | 30 | 2012-0.80 |
| 0.85 | 2.6 | 1.50 | 30 | 2012-0.85 |
| 0.90 | 3.0 | 1.50 | 30 | 2012-0.90 |
| 0.95 | 3.0 | 1.50 | 30 | 2012-0.95 |
| 1.00 | 3.4 | 1.50 | 30 | 2012-1.00 |
| 1.10 | 3.8 | 1.50 | 30 | 2012-1.10 |
| 1.20 | 4.2 | 1.50 | 30 | 2012-1.20 |
| 1.30 | 4.2 | 1.50 | 30 | 2012-1.30 |
| 1.40 | 4.7 | 1.50 | 30 | 2012-1.40 |
| 1.50 | 4.7 | 2.00 | 38 | 2012-1.50 |
| 1.60 | 5.4 | 2.00 | 38 | 2012-1.60 |
| 1.70 | 5.4 | 2.00 | 38 | 2012-1.70 |
| 1.80 | 6.5 | 2.00 | 38 | 2012-1.80 |
| 1.90 | 6.5 | 2.00 | 38 | 2012-1.90 |
| 2.00 | 6.5 | 2.50 | 38 | 2012-2.00 |
| 2.10 | 6.5 | 2.50 | 38 | 2012-2.10 |
| 2.20 | 6.5 | 2.50 | 38 | 2012-2.20 |
| 2.30 | 6.5 | 2.50 | 38 | 2012-2.30 |
| 2.40 | 6.5 | 2.50 | 38 | 2012-2.40 |

Micro-forets

Microbohrer

Micro drills

2013 / 2014



λ 35°

Z=2

MD
VHM
HM

λ 30°

Z=2

MD
VHM
HM

| D1 h6 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|------------------|
| 0.40 | 3.6 | 1.00 | 25 | 2013-0.40 |
| 0.45 | 3.6 | 1.00 | 25 | 2013-0.45 |
| 0.50 | 4.0 | 1.00 | 25 | 2013-0.50 |
| 0.55 | 4.5 | 1.00 | 25 | 2013-0.55 |
| 0.60 | 4.5 | 1.00 | 25 | 2013-0.60 |
| 0.65 | 5.0 | 1.00 | 25 | 2013-0.65 |
| 0.70 | 5.6 | 1.00 | 25 | 2013-0.70 |
| 0.75 | 5.6 | 1.00 | 25 | 2013-0.75 |
| 0.80 | 6.3 | 1.50 | 30 | 2013-0.80 |
| 0.85 | 6.3 | 1.50 | 30 | 2013-0.85 |
| 0.90 | 7.1 | 1.50 | 30 | 2013-0.90 |
| 0.95 | 7.1 | 1.50 | 30 | 2013-0.95 |
| 1.00 | 8.0 | 1.50 | 30 | 2013-1.00 |
| 1.05 | 8.0 | 1.50 | 30 | 2013-1.05 |
| 1.10 | 9.0 | 1.50 | 30 | 2013-1.10 |
| 1.15 | 9.0 | 1.50 | 30 | 2013-1.15 |
| 1.20 | 10.0 | 1.50 | 30 | 2013-1.20 |
| 1.25 | 10.0 | 1.50 | 30 | 2013-1.25 |
| 1.30 | 10.0 | 1.50 | 30 | 2013-1.30 |
| 1.35 | 11.2 | 1.50 | 30 | 2013-1.35 |
| 1.40 | 11.2 | 1.50 | 30 | 2013-1.40 |
| 1.45 | 11.2 | 1.50 | 30 | 2013-1.45 |
| 1.50 | 12.0 | 2.00 | 38 | 2013-1.50 |
| 1.60 | 12.0 | 2.00 | 38 | 2013-1.60 |
| 1.70 | 12.0 | 2.00 | 38 | 2013-1.70 |
| 1.80 | 12.0 | 2.00 | 38 | 2013-1.80 |
| 1.90 | 12.0 | 2.00 | 38 | 2013-1.90 |

| D1 h6 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|------------------|
| 0.50 | 6.0 | 1.50 | 30 | 2014-0.50 |
| 0.55 | 6.5 | 1.50 | 30 | 2014-0.55 |
| 0.60 | 6.5 | 1.50 | 30 | 2014-0.60 |
| 0.65 | 7.5 | 1.50 | 30 | 2014-0.65 |
| 0.70 | 8.5 | 1.50 | 30 | 2014-0.70 |
| 0.75 | 8.5 | 1.50 | 30 | 2014-0.75 |
| 0.80 | 9.5 | 1.50 | 30 | 2014-0.80 |
| 0.85 | 9.5 | 1.50 | 30 | 2014-0.85 |
| 0.90 | 10.5 | 1.50 | 30 | 2014-0.90 |
| 0.95 | 10.5 | 1.50 | 30 | 2014-0.95 |
| 1.00 | 12.0 | 1.50 | 38 | 2014-1.00 |
| 1.05 | 12.0 | 1.50 | 38 | 2014-1.05 |
| 1.10 | 13.5 | 1.50 | 38 | 2014-1.10 |
| 1.15 | 13.5 | 1.50 | 38 | 2014-1.15 |
| 1.20 | 15.0 | 1.50 | 38 | 2014-1.20 |
| 1.25 | 15.0 | 1.50 | 38 | 2014-1.25 |
| 1.30 | 17.0 | 1.50 | 38 | 2014-1.30 |
| 1.35 | 17.0 | 1.50 | 38 | 2014-1.35 |
| 1.40 | 17.0 | 1.50 | 38 | 2014-1.40 |
| 1.45 | 17.0 | 1.50 | 38 | 2014-1.45 |
| 1.50 | 18.0 | 2.00 | 38 | 2014-1.50 |
| 1.55 | 18.0 | 2.00 | 38 | 2014-1.55 |
| 1.60 | 18.0 | 2.00 | 38 | 2014-1.60 |
| 1.65 | 18.0 | 2.00 | 38 | 2014-1.65 |
| 1.70 | 18.0 | 2.00 | 38 | 2014-1.70 |
| 1.75 | 18.0 | 2.00 | 38 | 2014-1.75 |
| 1.80 | 18.0 | 2.00 | 38 | 2014-1.80 |
| 1.85 | 18.0 | 2.00 | 38 | 2014-1.85 |
| 1.90 | 18.0 | 2.00 | 38 | 2014-1.90 |
| 1.95 | 18.0 | 2.00 | 38 | 2014-1.95 |

MICRO-Line

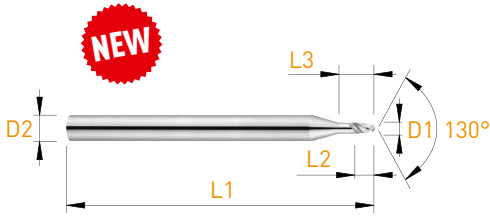
Micro-forets

Microbohrer

Micro drills

Ø 0.10 - Ø 0.99 mm

2020



λ 30° Z=2 2xD1 MD
VHM
HM

| D1 0/+0.005 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|------|----|-------|-----------|
| 0.10 | 0.35 | 0.55 | 38 | 3.00 | 2020-0.10 |
| 0.11 | 0.35 | 0.55 | 38 | 3.00 | 2020-0.11 |
| 0.12 | 0.35 | 0.55 | 38 | 3.00 | 2020-0.12 |
| 0.13 | 0.40 | 0.60 | 38 | 3.00 | 2020-0.13 |
| 0.14 | 0.40 | 0.60 | 38 | 3.00 | 2020-0.14 |
| 0.15 | 0.40 | 0.60 | 38 | 3.00 | 2020-0.15 |
| 0.16 | 0.40 | 0.60 | 38 | 3.00 | 2020-0.16 |
| 0.17 | 0.50 | 0.70 | 38 | 3.00 | 2020-0.17 |
| 0.18 | 0.50 | 0.70 | 38 | 3.00 | 2020-0.18 |
| 0.19 | 0.50 | 0.70 | 38 | 3.00 | 2020-0.19 |
| 0.20 | 0.55 | 0.75 | 38 | 3.00 | 2020-0.20 |
| 0.21 | 0.55 | 0.75 | 38 | 3.00 | 2020-0.21 |
| 0.22 | 0.60 | 0.80 | 38 | 3.00 | 2020-0.22 |
| 0.23 | 0.60 | 0.80 | 38 | 3.00 | 2020-0.23 |
| 0.24 | 0.60 | 0.80 | 38 | 3.00 | 2020-0.24 |
| 0.25 | 0.70 | 0.90 | 38 | 3.00 | 2020-0.25 |
| 0.26 | 0.70 | 0.90 | 38 | 3.00 | 2020-0.26 |
| 0.27 | 0.70 | 0.90 | 38 | 3.00 | 2020-0.27 |
| 0.28 | 0.80 | 1.00 | 38 | 3.00 | 2020-0.28 |
| 0.29 | 0.80 | 1.00 | 38 | 3.00 | 2020-0.29 |
| 0.30 | 0.90 | 1.20 | 38 | 3.00 | 2020-0.30 |
| 0.31 | 0.90 | 1.20 | 38 | 3.00 | 2020-0.31 |
| 0.32 | 0.90 | 1.20 | 38 | 3.00 | 2020-0.32 |
| 0.33 | 0.90 | 1.20 | 38 | 3.00 | 2020-0.33 |
| 0.34 | 0.90 | 1.35 | 38 | 3.00 | 2020-0.34 |
| 0.35 | 0.90 | 1.35 | 38 | 3.00 | 2020-0.35 |
| 0.36 | 0.95 | 1.35 | 38 | 3.00 | 2020-0.36 |
| 0.37 | 0.95 | 1.35 | 38 | 3.00 | 2020-0.37 |
| 0.38 | 0.95 | 1.50 | 38 | 3.00 | 2020-0.38 |
| 0.39 | 0.95 | 1.50 | 38 | 3.00 | 2020-0.39 |
| 0.40 | 0.80 | 1.60 | 38 | 3.00 | 2020-0.40 |
| 0.41 | 0.82 | 1.60 | 38 | 3.00 | 2020-0.41 |
| 0.42 | 0.84 | 1.60 | 38 | 3.00 | 2020-0.42 |
| 0.43 | 0.86 | 1.60 | 38 | 3.00 | 2020-0.43 |
| 0.44 | 0.88 | 1.60 | 38 | 3.00 | 2020-0.44 |
| 0.45 | 0.90 | 1.60 | 38 | 3.00 | 2020-0.45 |
| 0.46 | 0.92 | 1.70 | 38 | 3.00 | 2020-0.46 |
| 0.47 | 0.94 | 1.70 | 38 | 3.00 | 2020-0.47 |
| 0.48 | 0.96 | 1.70 | 38 | 3.00 | 2020-0.48 |

| D1 0/+0.005 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|------|----|-------|-----------|
| 0.49 | 0.98 | 1.70 | 38 | 3.00 | 2020-0.49 |
| 0.50 | 1.00 | 1.70 | 38 | 3.00 | 2020-0.50 |
| 0.51 | 1.02 | 1.80 | 38 | 3.00 | 2020-0.51 |
| 0.52 | 1.04 | 1.80 | 38 | 3.00 | 2020-0.52 |
| 0.53 | 1.06 | 1.80 | 38 | 3.00 | 2020-0.53 |
| 0.54 | 1.08 | 1.80 | 38 | 3.00 | 2020-0.54 |
| 0.55 | 1.10 | 1.80 | 38 | 3.00 | 2020-0.55 |
| 0.56 | 1.12 | 1.90 | 38 | 3.00 | 2020-0.56 |
| 0.57 | 1.14 | 1.90 | 38 | 3.00 | 2020-0.57 |
| 0.58 | 1.16 | 1.90 | 38 | 3.00 | 2020-0.58 |
| 0.59 | 1.18 | 1.90 | 38 | 3.00 | 2020-0.59 |
| 0.60 | 1.20 | 1.90 | 38 | 3.00 | 2020-0.60 |
| 0.61 | 1.22 | 2.00 | 38 | 3.00 | 2020-0.61 |
| 0.62 | 1.24 | 2.00 | 38 | 3.00 | 2020-0.62 |
| 0.63 | 1.26 | 2.00 | 38 | 3.00 | 2020-0.63 |
| 0.64 | 1.28 | 2.00 | 38 | 3.00 | 2020-0.64 |
| 0.65 | 1.30 | 2.00 | 38 | 3.00 | 2020-0.65 |
| 0.66 | 1.32 | 2.10 | 38 | 3.00 | 2020-0.66 |
| 0.67 | 1.34 | 2.10 | 38 | 3.00 | 2020-0.67 |
| 0.68 | 1.36 | 2.10 | 38 | 3.00 | 2020-0.68 |
| 0.69 | 1.38 | 2.10 | 38 | 3.00 | 2020-0.69 |
| 0.70 | 1.40 | 2.10 | 38 | 3.00 | 2020-0.70 |
| 0.71 | 1.42 | 2.20 | 38 | 3.00 | 2020-0.71 |
| 0.72 | 1.44 | 2.20 | 38 | 3.00 | 2020-0.72 |
| 0.73 | 1.46 | 2.20 | 38 | 3.00 | 2020-0.73 |
| 0.74 | 1.48 | 2.20 | 38 | 3.00 | 2020-0.74 |
| 0.75 | 1.50 | 2.20 | 38 | 3.00 | 2020-0.75 |
| 0.76 | 1.52 | 2.30 | 38 | 3.00 | 2020-0.76 |
| 0.77 | 1.54 | 2.30 | 38 | 3.00 | 2020-0.77 |
| 0.78 | 1.56 | 2.30 | 38 | 3.00 | 2020-0.78 |
| 0.79 | 1.58 | 2.30 | 38 | 3.00 | 2020-0.79 |
| 0.80 | 1.60 | 2.30 | 38 | 3.00 | 2020-0.80 |
| 0.81 | 1.62 | 2.40 | 38 | 3.00 | 2020-0.81 |
| 0.82 | 1.64 | 2.40 | 38 | 3.00 | 2020-0.82 |
| 0.83 | 1.66 | 2.40 | 38 | 3.00 | 2020-0.83 |
| 0.84 | 1.68 | 2.40 | 38 | 3.00 | 2020-0.84 |
| 0.85 | 1.70 | 2.40 | 38 | 3.00 | 2020-0.85 |
| 0.86 | 1.72 | 2.50 | 38 | 3.00 | 2020-0.86 |
| 0.87 | 1.74 | 2.50 | 38 | 3.00 | 2020-0.87 |
| 0.88 | 1.76 | 2.50 | 38 | 3.00 | 2020-0.88 |
| 0.89 | 1.78 | 2.50 | 38 | 3.00 | 2020-0.89 |
| 0.90 | 1.80 | 2.50 | 38 | 3.00 | 2020-0.90 |
| 0.91 | 1.82 | 2.60 | 38 | 3.00 | 2020-0.91 |
| 0.92 | 1.84 | 2.60 | 38 | 3.00 | 2020-0.92 |
| 0.93 | 1.86 | 2.60 | 38 | 3.00 | 2020-0.93 |
| 0.94 | 1.88 | 2.60 | 38 | 3.00 | 2020-0.94 |
| 0.95 | 1.90 | 2.60 | 38 | 3.00 | 2020-0.95 |
| 0.96 | 1.92 | 2.70 | 38 | 3.00 | 2020-0.96 |
| 0.97 | 1.94 | 2.70 | 38 | 3.00 | 2020-0.97 |
| 0.98 | 1.96 | 2.70 | 38 | 3.00 | 2020-0.98 |
| 0.99 | 1.98 | 2.70 | 38 | 3.00 | 2020-0.99 |

Micro-forets

Microbohrer

Micro drills

Ø 1.00 - Ø 2.00 mm

2020

| D1 0/+0.005 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|------|----|-------|-----------|
| 1.00 | 2.00 | 2.70 | 38 | 3.00 | 2020-1.00 |
| 1.01 | 2.02 | 3.50 | 38 | 3.00 | 2020-1.01 |
| 1.02 | 2.04 | 3.50 | 38 | 3.00 | 2020-1.02 |
| 1.03 | 2.06 | 3.50 | 38 | 3.00 | 2020-1.03 |
| 1.04 | 2.08 | 3.50 | 38 | 3.00 | 2020-1.04 |
| 1.05 | 2.10 | 3.50 | 38 | 3.00 | 2020-1.05 |
| 1.06 | 2.12 | 3.60 | 38 | 3.00 | 2020-1.06 |
| 1.07 | 2.14 | 3.60 | 38 | 3.00 | 2020-1.07 |
| 1.08 | 2.16 | 3.60 | 38 | 3.00 | 2020-1.08 |
| 1.09 | 2.18 | 3.60 | 38 | 3.00 | 2020-1.09 |
| 1.10 | 2.20 | 3.60 | 38 | 3.00 | 2020-1.10 |
| 1.11 | 2.22 | 3.70 | 38 | 3.00 | 2020-1.11 |
| 1.12 | 2.24 | 3.70 | 38 | 3.00 | 2020-1.12 |
| 1.13 | 2.26 | 3.70 | 38 | 3.00 | 2020-1.13 |
| 1.14 | 2.28 | 3.70 | 38 | 3.00 | 2020-1.14 |
| 1.15 | 2.30 | 3.70 | 38 | 3.00 | 2020-1.15 |
| 1.16 | 2.32 | 3.80 | 38 | 3.00 | 2020-1.16 |
| 1.17 | 2.34 | 3.80 | 38 | 3.00 | 2020-1.17 |
| 1.18 | 2.36 | 3.80 | 38 | 3.00 | 2020-1.18 |
| 1.19 | 2.38 | 3.80 | 38 | 3.00 | 2020-1.19 |
| 1.20 | 2.40 | 3.80 | 38 | 3.00 | 2020-1.20 |
| 1.21 | 2.42 | 4.20 | 38 | 3.00 | 2020-1.21 |
| 1.22 | 2.44 | 4.20 | 38 | 3.00 | 2020-1.22 |
| 1.23 | 2.46 | 4.20 | 38 | 3.00 | 2020-1.23 |
| 1.24 | 2.48 | 4.20 | 38 | 3.00 | 2020-1.24 |
| 1.25 | 2.50 | 4.20 | 38 | 3.00 | 2020-1.25 |
| 1.26 | 2.52 | 4.30 | 38 | 3.00 | 2020-1.26 |
| 1.27 | 2.54 | 4.30 | 38 | 3.00 | 2020-1.27 |
| 1.28 | 2.56 | 4.30 | 38 | 3.00 | 2020-1.28 |
| 1.29 | 2.58 | 4.30 | 38 | 3.00 | 2020-1.29 |
| 1.30 | 2.60 | 4.30 | 38 | 3.00 | 2020-1.30 |
| 1.31 | 2.62 | 4.40 | 38 | 3.00 | 2020-1.31 |
| 1.32 | 2.64 | 4.40 | 38 | 3.00 | 2020-1.32 |
| 1.33 | 2.66 | 4.40 | 38 | 3.00 | 2020-1.33 |
| 1.34 | 2.68 | 4.40 | 38 | 3.00 | 2020-1.34 |
| 1.35 | 2.70 | 4.40 | 38 | 3.00 | 2020-1.35 |
| 1.36 | 2.72 | 4.50 | 38 | 3.00 | 2020-1.36 |
| 1.37 | 2.74 | 4.50 | 38 | 3.00 | 2020-1.37 |
| 1.38 | 2.76 | 4.50 | 38 | 3.00 | 2020-1.38 |
| 1.39 | 2.78 | 4.50 | 38 | 3.00 | 2020-1.39 |
| 1.40 | 2.80 | 4.50 | 38 | 3.00 | 2020-1.40 |
| 1.41 | 2.82 | 4.60 | 38 | 3.00 | 2020-1.41 |
| 1.42 | 2.84 | 4.60 | 38 | 3.00 | 2020-1.42 |
| 1.43 | 2.86 | 4.60 | 38 | 3.00 | 2020-1.43 |
| 1.44 | 2.88 | 4.60 | 38 | 3.00 | 2020-1.44 |
| 1.45 | 2.90 | 4.60 | 38 | 3.00 | 2020-1.45 |
| 1.46 | 2.92 | 4.70 | 38 | 3.00 | 2020-1.46 |
| 1.47 | 2.94 | 4.70 | 38 | 3.00 | 2020-1.47 |
| 1.48 | 2.96 | 4.70 | 38 | 3.00 | 2020-1.48 |
| 1.49 | 2.98 | 4.70 | 38 | 3.00 | 2020-1.49 |
| 1.50 | 3.00 | 4.70 | 38 | 3.00 | 2020-1.50 |

| D1 0/+0.005 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|------|----|-------|-----------|
| 1.51 | 3.02 | 5.10 | 38 | 3.00 | 2020-1.51 |
| 1.52 | 3.04 | 5.10 | 38 | 3.00 | 2020-1.52 |
| 1.53 | 3.06 | 5.10 | 38 | 3.00 | 2020-1.53 |
| 1.54 | 3.08 | 5.10 | 38 | 3.00 | 2020-1.54 |
| 1.55 | 3.10 | 5.10 | 38 | 3.00 | 2020-1.55 |
| 1.56 | 3.12 | 5.20 | 38 | 3.00 | 2020-1.56 |
| 1.57 | 3.14 | 5.20 | 38 | 3.00 | 2020-1.57 |
| 1.58 | 3.16 | 5.20 | 38 | 3.00 | 2020-1.58 |
| 1.59 | 3.18 | 5.20 | 38 | 3.00 | 2020-1.59 |
| 1.60 | 3.20 | 5.20 | 38 | 3.00 | 2020-1.60 |
| 1.61 | 3.22 | 5.30 | 38 | 3.00 | 2020-1.61 |
| 1.62 | 3.24 | 5.30 | 38 | 3.00 | 2020-1.62 |
| 1.63 | 3.26 | 5.30 | 38 | 3.00 | 2020-1.63 |
| 1.64 | 3.28 | 5.30 | 38 | 3.00 | 2020-1.64 |
| 1.65 | 3.30 | 5.30 | 38 | 3.00 | 2020-1.65 |
| 1.66 | 3.32 | 5.40 | 38 | 3.00 | 2020-1.66 |
| 1.67 | 3.34 | 5.40 | 38 | 3.00 | 2020-1.67 |
| 1.68 | 3.36 | 5.40 | 38 | 3.00 | 2020-1.68 |
| 1.69 | 3.38 | 5.40 | 38 | 3.00 | 2020-1.69 |
| 1.70 | 3.40 | 5.40 | 38 | 3.00 | 2020-1.70 |
| 1.71 | 3.42 | 5.50 | 38 | 3.00 | 2020-1.71 |
| 1.72 | 3.44 | 5.50 | 38 | 3.00 | 2020-1.72 |
| 1.73 | 3.46 | 5.50 | 38 | 3.00 | 2020-1.73 |
| 1.74 | 3.48 | 5.50 | 38 | 3.00 | 2020-1.74 |
| 1.75 | 3.50 | 5.50 | 38 | 3.00 | 2020-1.75 |
| 1.76 | 3.52 | 5.60 | 38 | 3.00 | 2020-1.76 |
| 1.77 | 3.54 | 5.60 | 38 | 3.00 | 2020-1.77 |
| 1.78 | 3.56 | 5.60 | 38 | 3.00 | 2020-1.78 |
| 1.79 | 3.58 | 5.60 | 38 | 3.00 | 2020-1.79 |
| 1.80 | 3.60 | 5.60 | 38 | 3.00 | 2020-1.80 |
| 1.81 | 3.62 | 5.70 | 38 | 3.00 | 2020-1.81 |
| 1.82 | 3.64 | 5.70 | 38 | 3.00 | 2020-1.82 |
| 1.83 | 3.66 | 5.70 | 38 | 3.00 | 2020-1.83 |
| 1.84 | 3.68 | 5.70 | 38 | 3.00 | 2020-1.84 |
| 1.85 | 3.70 | 5.70 | 38 | 3.00 | 2020-1.85 |
| 1.86 | 3.72 | 5.80 | 38 | 3.00 | 2020-1.86 |
| 1.87 | 3.74 | 5.80 | 38 | 3.00 | 2020-1.87 |
| 1.88 | 3.76 | 5.80 | 38 | 3.00 | 2020-1.88 |
| 1.89 | 3.78 | 5.80 | 38 | 3.00 | 2020-1.89 |
| 1.90 | 3.80 | 5.80 | 38 | 3.00 | 2020-1.90 |
| 1.91 | 3.82 | 5.90 | 38 | 3.00 | 2020-1.91 |
| 1.92 | 3.84 | 5.90 | 38 | 3.00 | 2020-1.92 |
| 1.93 | 3.86 | 5.90 | 38 | 3.00 | 2020-1.93 |
| 1.94 | 3.88 | 5.90 | 38 | 3.00 | 2020-1.94 |
| 1.95 | 3.90 | 5.90 | 38 | 3.00 | 2020-1.95 |
| 1.96 | 3.92 | 6.00 | 38 | 3.00 | 2020-1.96 |
| 1.97 | 3.94 | 6.00 | 38 | 3.00 | 2020-1.97 |
| 1.98 | 3.96 | 6.00 | 38 | 3.00 | 2020-1.98 |
| 1.99 | 3.98 | 6.00 | 38 | 3.00 | 2020-1.99 |
| 2.00 | 4.00 | 6.00 | 38 | 3.00 | 2020-2.00 |

MICRO-Line

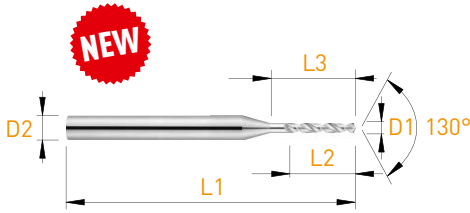
Micro-forets

Microbohrer

Micro drills

Ø 0.10 - Ø 0.99 mm

2023



λ 35°

Z=2

6xD1

MD
VHM
HM

| D1 0/-0.004 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|------|----|-------|-----------|
| 0.10 | 0.50 | 0.70 | 38 | 3.00 | 2023-0.10 |
| 0.11 | 0.50 | 0.70 | 38 | 3.00 | 2023-0.11 |
| 0.12 | 0.50 | 0.70 | 38 | 3.00 | 2023-0.12 |
| 0.13 | 0.80 | 1.00 | 38 | 3.00 | 2023-0.13 |
| 0.14 | 0.80 | 1.00 | 38 | 3.00 | 2023-0.14 |
| 0.15 | 0.80 | 1.00 | 38 | 3.00 | 2023-0.15 |
| 0.16 | 1.10 | 1.40 | 38 | 3.00 | 2023-0.16 |
| 0.17 | 1.10 | 1.40 | 38 | 3.00 | 2023-0.17 |
| 0.18 | 1.10 | 1.40 | 38 | 3.00 | 2023-0.18 |
| 0.19 | 1.10 | 1.40 | 38 | 3.00 | 2023-0.19 |
| 0.20 | 1.50 | 1.80 | 38 | 3.00 | 2023-0.20 |
| 0.21 | 1.50 | 1.80 | 38 | 3.00 | 2023-0.21 |
| 0.22 | 1.50 | 1.80 | 38 | 3.00 | 2023-0.22 |
| 0.23 | 1.50 | 1.80 | 38 | 3.00 | 2023-0.23 |
| 0.24 | 1.50 | 1.80 | 38 | 3.00 | 2023-0.24 |
| 0.25 | 1.90 | 2.20 | 38 | 3.00 | 2023-0.25 |
| 0.26 | 1.90 | 2.20 | 38 | 3.00 | 2023-0.26 |
| 0.27 | 1.90 | 2.20 | 38 | 3.00 | 2023-0.27 |
| 0.28 | 1.90 | 2.20 | 38 | 3.00 | 2023-0.28 |
| 0.29 | 1.90 | 2.20 | 38 | 3.00 | 2023-0.29 |
| 0.30 | 1.80 | 2.40 | 38 | 3.00 | 2023-0.30 |
| 0.31 | 1.80 | 2.40 | 38 | 3.00 | 2023-0.31 |
| 0.32 | 1.80 | 2.40 | 38 | 3.00 | 2023-0.32 |
| 0.33 | 1.80 | 2.40 | 38 | 3.00 | 2023-0.33 |
| 0.34 | 1.80 | 2.40 | 38 | 3.00 | 2023-0.34 |
| 0.35 | 2.20 | 2.80 | 38 | 3.00 | 2023-0.35 |
| 0.36 | 2.20 | 2.80 | 38 | 3.00 | 2023-0.36 |
| 0.37 | 2.20 | 2.80 | 38 | 3.00 | 2023-0.37 |
| 0.38 | 2.20 | 2.80 | 38 | 3.00 | 2023-0.38 |
| 0.39 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.39 |
| 0.40 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.40 |
| 0.41 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.41 |
| 0.42 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.42 |
| 0.43 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.43 |
| 0.44 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.44 |
| 0.45 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.45 |
| 0.46 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.46 |
| 0.47 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.47 |
| 0.48 | 2.70 | 3.60 | 38 | 3.00 | 2023-0.48 |

| D1 0/-0.004 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|------|----|-------|-----------|
| 0.49 | 3.20 | 4.00 | 38 | 3.00 | 2023-0.49 |
| 0.50 | 3.20 | 4.00 | 38 | 3.00 | 2023-0.50 |
| 0.51 | 3.20 | 4.00 | 38 | 3.00 | 2023-0.51 |
| 0.52 | 3.20 | 4.00 | 38 | 3.00 | 2023-0.52 |
| 0.53 | 3.20 | 4.00 | 38 | 3.00 | 2023-0.53 |
| 0.54 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.54 |
| 0.55 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.55 |
| 0.56 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.56 |
| 0.57 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.57 |
| 0.58 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.58 |
| 0.59 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.59 |
| 0.60 | 3.60 | 4.50 | 38 | 3.00 | 2023-0.60 |
| 0.61 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.61 |
| 0.62 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.62 |
| 0.63 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.63 |
| 0.64 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.64 |
| 0.65 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.65 |
| 0.66 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.66 |
| 0.67 | 3.90 | 5.00 | 38 | 3.00 | 2023-0.67 |
| 0.68 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.68 |
| 0.69 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.69 |
| 0.70 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.70 |
| 0.71 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.71 |
| 0.72 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.72 |
| 0.73 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.73 |
| 0.74 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.74 |
| 0.75 | 4.50 | 5.60 | 38 | 3.00 | 2023-0.75 |
| 0.76 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.76 |
| 0.77 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.77 |
| 0.78 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.78 |
| 0.79 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.79 |
| 0.80 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.80 |
| 0.81 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.81 |
| 0.82 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.82 |
| 0.83 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.83 |
| 0.84 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.84 |
| 0.85 | 5.00 | 6.30 | 38 | 3.00 | 2023-0.85 |
| 0.86 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.86 |
| 0.87 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.87 |
| 0.88 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.88 |
| 0.89 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.89 |
| 0.90 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.90 |
| 0.91 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.91 |
| 0.92 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.92 |
| 0.93 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.93 |
| 0.94 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.94 |
| 0.95 | 5.70 | 7.10 | 38 | 3.00 | 2023-0.95 |
| 0.96 | 6.50 | 8.00 | 38 | 3.00 | 2023-0.96 |
| 0.97 | 6.50 | 8.00 | 38 | 3.00 | 2023-0.97 |
| 0.98 | 6.50 | 8.00 | 38 | 3.00 | 2023-0.98 |
| 0.99 | 6.50 | 8.00 | 38 | 3.00 | 2023-0.99 |

Micro-forets

Microbohrer

Micro drills

Ø 1.00 - Ø 2.00 mm

2023

| D1 0/-0.004 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|------|-------|----|-------|-----------|
| 1.00 | 6.50 | 8.00 | 38 | 3.00 | 2023-1.00 |
| 1.01 | 6.50 | 8.00 | 38 | 3.00 | 2023-1.01 |
| 1.02 | 6.50 | 8.00 | 38 | 3.00 | 2023-1.02 |
| 1.03 | 6.50 | 8.00 | 38 | 3.00 | 2023-1.03 |
| 1.04 | 6.50 | 8.00 | 38 | 3.00 | 2023-1.04 |
| 1.05 | 6.50 | 8.00 | 38 | 3.00 | 2023-1.05 |
| 1.06 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.06 |
| 1.07 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.07 |
| 1.08 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.08 |
| 1.09 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.09 |
| 1.10 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.10 |
| 1.11 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.11 |
| 1.12 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.12 |
| 1.13 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.13 |
| 1.14 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.14 |
| 1.15 | 7.30 | 9.00 | 38 | 3.00 | 2023-1.15 |
| 1.16 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.16 |
| 1.17 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.17 |
| 1.18 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.18 |
| 1.19 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.19 |
| 1.20 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.20 |
| 1.21 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.21 |
| 1.22 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.22 |
| 1.23 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.23 |
| 1.24 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.24 |
| 1.25 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.25 |
| 1.26 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.26 |
| 1.27 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.27 |
| 1.28 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.28 |
| 1.29 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.29 |
| 1.30 | 8.20 | 10.00 | 38 | 3.00 | 2023-1.30 |
| 1.31 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.31 |
| 1.32 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.32 |
| 1.33 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.33 |
| 1.34 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.34 |
| 1.35 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.35 |
| 1.36 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.36 |
| 1.37 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.37 |
| 1.38 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.38 |
| 1.39 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.39 |
| 1.40 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.40 |
| 1.41 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.41 |
| 1.42 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.42 |
| 1.43 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.43 |
| 1.44 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.44 |
| 1.45 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.45 |
| 1.46 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.46 |
| 1.47 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.47 |
| 1.48 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.48 |
| 1.49 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.49 |
| 1.50 | 9.20 | 11.20 | 38 | 3.00 | 2023-1.50 |

| D1 0/-0.004 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|-------|-------|----|-------|-----------|
| 1.51 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.51 |
| 1.52 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.52 |
| 1.53 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.53 |
| 1.54 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.54 |
| 1.55 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.55 |
| 1.56 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.56 |
| 1.57 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.57 |
| 1.58 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.58 |
| 1.59 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.59 |
| 1.60 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.60 |
| 1.61 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.61 |
| 1.62 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.62 |
| 1.63 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.63 |
| 1.64 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.64 |
| 1.65 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.65 |
| 1.66 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.66 |
| 1.67 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.67 |
| 1.68 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.68 |
| 1.69 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.69 |
| 1.70 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.70 |
| 1.71 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.71 |
| 1.72 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.72 |
| 1.73 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.73 |
| 1.74 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.74 |
| 1.75 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.75 |
| 1.76 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.76 |
| 1.77 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.77 |
| 1.78 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.78 |
| 1.79 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.79 |
| 1.80 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.80 |
| 1.81 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.81 |
| 1.82 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.82 |
| 1.83 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.83 |
| 1.84 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.84 |
| 1.85 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.85 |
| 1.86 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.86 |
| 1.87 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.87 |
| 1.88 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.88 |
| 1.89 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.89 |
| 1.90 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.90 |
| 1.91 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.91 |
| 1.92 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.92 |
| 1.93 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.93 |
| 1.94 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.94 |
| 1.95 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.95 |
| 1.96 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.96 |
| 1.97 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.97 |
| 1.98 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.98 |
| 1.99 | 11.20 | 13.40 | 38 | 3.00 | 2023-1.99 |
| 2.00 | 11.20 | 13.40 | 38 | 3.00 | 2023-2.00 |

| D1 0/-0.004 | L2 | L3 | L1 | D2 h6 | Art. N° | D1 0/-0.004 | L2 | L3 | L1 | D2 h6 | Art. N° |
|----------------|-------|-------|----|-------|-----------|----------------|-------|-------|----|-------|-----------|
| 2.01 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.01 | 2.51 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.51 |
| 2.02 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.02 | 2.52 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.52 |
| 2.03 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.03 | 2.53 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.53 |
| 2.04 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.04 | 2.54 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.54 |
| 2.05 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.05 | 2.55 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.55 |
| 2.06 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.06 | 2.56 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.56 |
| 2.07 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.07 | 2.57 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.57 |
| 2.08 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.08 | 2.58 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.58 |
| 2.09 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.09 | 2.59 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.59 |
| 2.10 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.10 | 2.60 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.60 |
| 2.11 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.11 | 2.61 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.61 |
| 2.12 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.12 | 2.62 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.62 |
| 2.13 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.13 | 2.63 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.63 |
| 2.14 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.14 | 2.64 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.64 |
| 2.15 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.15 | 2.65 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.65 |
| 2.16 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.16 | 2.66 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.66 |
| 2.17 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.17 | 2.67 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.67 |
| 2.18 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.18 | 2.68 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.68 |
| 2.19 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.19 | 2.69 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.69 |
| 2.20 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.20 | 2.70 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.70 |
| 2.21 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.21 | 2.71 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.71 |
| 2.22 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.22 | 2.72 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.72 |
| 2.23 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.23 | 2.73 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.73 |
| 2.24 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.24 | 2.74 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.74 |
| 2.25 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.25 | 2.75 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.75 |
| 2.26 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.26 | 2.76 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.76 |
| 2.27 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.27 | 2.77 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.77 |
| 2.28 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.28 | 2.78 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.78 |
| 2.29 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.29 | 2.79 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.79 |
| 2.30 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.30 | 2.80 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.80 |
| 2.31 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.31 | 2.81 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.81 |
| 2.32 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.32 | 2.82 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.82 |
| 2.33 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.33 | 2.83 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.83 |
| 2.34 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.34 | 2.84 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.84 |
| 2.35 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.35 | 2.85 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.85 |
| 2.36 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.36 | 2.86 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.86 |
| 2.37 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.37 | 2.87 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.87 |
| 2.38 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.38 | 2.88 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.88 |
| 2.39 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.39 | 2.89 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.89 |
| 2.40 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.40 | 2.90 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.90 |
| 2.41 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.41 | 2.91 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.91 |
| 2.42 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.42 | 2.92 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.92 |
| 2.43 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.43 | 2.93 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.93 |
| 2.44 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.44 | 2.94 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.94 |
| 2.45 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.45 | 2.95 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.95 |
| 2.46 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.46 | 2.96 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.96 |
| 2.47 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.47 | 2.97 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.97 |
| 2.48 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.48 | 2.98 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.98 |
| 2.49 | 12.50 | 14.00 | 38 | 3.00 | 2023-2.49 | 2.99 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.99 |
| 2.50 | 14.00 | 17.00 | 38 | 3.00 | 2023-2.50 | 3.00 | 14.00 | 17.00 | 38 | 3.00 | 2023-3.00 |

Micro-forets

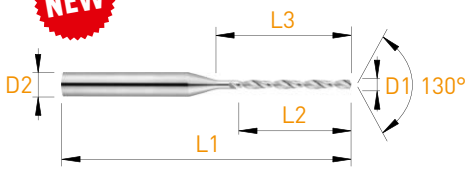
Microbohrer

Micro drills

Ø 0.20 - Ø 1.09 mm

2026

NEW



λ^{25° Z=2 12xD1 MD
VHM
HM

| D1 h ₆ | L2 | L3 | L1 | D2 h ₆ | Art. N° |
|-------------------|------|------|----|-------------------|-----------|
| 0.20 | 2.40 | 3.50 | 38 | 3.00 | 2026-0.20 |
| 0.21 | 2.52 | 3.50 | 38 | 3.00 | 2026-0.21 |
| 0.22 | 2.64 | 3.50 | 38 | 3.00 | 2026-0.22 |
| 0.23 | 2.76 | 3.50 | 38 | 3.00 | 2026-0.23 |
| 0.24 | 2.88 | 4.00 | 38 | 3.00 | 2026-0.24 |
| 0.25 | 3.00 | 4.00 | 38 | 3.00 | 2026-0.25 |
| 0.26 | 3.12 | 4.00 | 38 | 3.00 | 2026-0.26 |
| 0.27 | 3.24 | 4.00 | 38 | 3.00 | 2026-0.27 |
| 0.28 | 3.36 | 4.50 | 38 | 3.00 | 2026-0.28 |
| 0.29 | 3.48 | 4.50 | 38 | 3.00 | 2026-0.29 |
| 0.30 | 3.60 | 4.50 | 38 | 3.00 | 2026-0.30 |
| 0.31 | 3.72 | 4.50 | 38 | 3.00 | 2026-0.31 |
| 0.32 | 3.84 | 5.00 | 38 | 3.00 | 2026-0.32 |
| 0.33 | 3.96 | 5.00 | 38 | 3.00 | 2026-0.33 |
| 0.34 | 4.08 | 5.00 | 38 | 3.00 | 2026-0.34 |
| 0.35 | 4.20 | 5.00 | 38 | 3.00 | 2026-0.35 |
| 0.36 | 4.32 | 5.50 | 38 | 3.00 | 2026-0.36 |
| 0.37 | 4.44 | 5.50 | 38 | 3.00 | 2026-0.37 |
| 0.38 | 4.56 | 5.50 | 38 | 3.00 | 2026-0.38 |
| 0.39 | 4.68 | 5.50 | 38 | 3.00 | 2026-0.39 |
| 0.40 | 4.80 | 6.00 | 38 | 3.00 | 2026-0.40 |
| 0.41 | 4.92 | 6.00 | 38 | 3.00 | 2026-0.41 |
| 0.42 | 5.04 | 6.00 | 38 | 3.00 | 2026-0.42 |
| 0.43 | 5.16 | 6.00 | 38 | 3.00 | 2026-0.43 |
| 0.44 | 5.28 | 6.50 | 38 | 3.00 | 2026-0.44 |
| 0.45 | 5.40 | 6.50 | 38 | 3.00 | 2026-0.45 |
| 0.46 | 5.52 | 6.50 | 38 | 3.00 | 2026-0.46 |
| 0.47 | 5.64 | 6.50 | 38 | 3.00 | 2026-0.47 |
| 0.48 | 5.76 | 7.00 | 38 | 3.00 | 2026-0.48 |
| 0.49 | 5.88 | 7.00 | 38 | 3.00 | 2026-0.49 |
| 0.50 | 6.00 | 7.00 | 38 | 3.00 | 2026-0.50 |
| 0.51 | 6.12 | 7.00 | 38 | 3.00 | 2026-0.51 |
| 0.52 | 6.24 | 7.50 | 38 | 3.00 | 2026-0.52 |
| 0.53 | 6.36 | 7.50 | 38 | 3.00 | 2026-0.53 |
| 0.54 | 6.48 | 7.50 | 38 | 3.00 | 2026-0.54 |
| 0.55 | 6.60 | 7.50 | 38 | 3.00 | 2026-0.55 |
| 0.56 | 6.72 | 8.00 | 38 | 3.00 | 2026-0.56 |
| 0.57 | 6.84 | 8.00 | 38 | 3.00 | 2026-0.57 |
| 0.58 | 6.96 | 8.00 | 38 | 3.00 | 2026-0.58 |

| D1 h ₆ | L2 | L3 | L1 | D2 h ₆ | Art. N° |
|-------------------|-------|-------|----|-------------------|-----------|
| 0.59 | 7.08 | 8.00 | 38 | 3.00 | 2026-0.59 |
| 0.60 | 7.20 | 9.00 | 38 | 3.00 | 2026-0.60 |
| 0.61 | 7.32 | 9.00 | 38 | 3.00 | 2026-0.61 |
| 0.62 | 7.44 | 9.00 | 38 | 3.00 | 2026-0.62 |
| 0.63 | 7.56 | 9.00 | 38 | 3.00 | 2026-0.63 |
| 0.64 | 7.68 | 9.50 | 38 | 3.00 | 2026-0.64 |
| 0.65 | 7.80 | 9.50 | 38 | 3.00 | 2026-0.65 |
| 0.66 | 7.92 | 9.50 | 38 | 3.00 | 2026-0.66 |
| 0.67 | 8.04 | 9.50 | 38 | 3.00 | 2026-0.67 |
| 0.68 | 8.16 | 10.00 | 38 | 3.00 | 2026-0.68 |
| 0.69 | 8.28 | 10.00 | 38 | 3.00 | 2026-0.69 |
| 0.70 | 8.40 | 10.00 | 38 | 3.00 | 2026-0.70 |
| 0.71 | 8.52 | 10.00 | 38 | 3.00 | 2026-0.71 |
| 0.72 | 8.64 | 10.50 | 38 | 3.00 | 2026-0.72 |
| 0.73 | 8.76 | 10.50 | 38 | 3.00 | 2026-0.73 |
| 0.74 | 8.88 | 10.50 | 38 | 3.00 | 2026-0.74 |
| 0.75 | 9.00 | 10.50 | 38 | 3.00 | 2026-0.75 |
| 0.76 | 9.12 | 11.00 | 38 | 3.00 | 2026-0.76 |
| 0.77 | 9.24 | 11.00 | 38 | 3.00 | 2026-0.77 |
| 0.78 | 9.36 | 11.00 | 38 | 3.00 | 2026-0.78 |
| 0.79 | 9.48 | 11.00 | 38 | 3.00 | 2026-0.79 |
| 0.80 | 9.60 | 11.50 | 38 | 3.00 | 2026-0.80 |
| 0.81 | 9.72 | 11.50 | 38 | 3.00 | 2026-0.81 |
| 0.82 | 9.84 | 11.50 | 38 | 3.00 | 2026-0.82 |
| 0.83 | 9.96 | 11.50 | 38 | 3.00 | 2026-0.83 |
| 0.84 | 10.08 | 12.00 | 38 | 3.00 | 2026-0.84 |
| 0.85 | 10.20 | 12.00 | 38 | 3.00 | 2026-0.85 |
| 0.86 | 10.32 | 12.00 | 38 | 3.00 | 2026-0.86 |
| 0.87 | 10.44 | 12.00 | 38 | 3.00 | 2026-0.87 |
| 0.88 | 10.56 | 12.50 | 38 | 3.00 | 2026-0.88 |
| 0.89 | 10.68 | 12.50 | 38 | 3.00 | 2026-0.89 |
| 0.90 | 10.80 | 12.50 | 38 | 3.00 | 2026-0.90 |
| 0.91 | 10.92 | 12.50 | 38 | 3.00 | 2026-0.91 |
| 0.92 | 11.04 | 13.00 | 38 | 3.00 | 2026-0.92 |
| 0.93 | 11.16 | 13.00 | 38 | 3.00 | 2026-0.93 |
| 0.94 | 11.28 | 13.00 | 38 | 3.00 | 2026-0.94 |
| 0.95 | 11.40 | 13.00 | 38 | 3.00 | 2026-0.95 |
| 0.96 | 11.52 | 13.50 | 38 | 3.00 | 2026-0.96 |
| 0.97 | 11.64 | 13.50 | 38 | 3.00 | 2026-0.97 |
| 0.98 | 11.76 | 13.50 | 38 | 3.00 | 2026-0.98 |
| 0.99 | 11.88 | 13.50 | 38 | 3.00 | 2026-0.99 |
| 1.00 | 12.00 | 14.50 | 38 | 3.00 | 2026-1.00 |
| 1.01 | 12.12 | 14.50 | 38 | 3.00 | 2026-1.01 |
| 1.02 | 12.24 | 14.50 | 38 | 3.00 | 2026-1.02 |
| 1.03 | 12.36 | 14.50 | 38 | 3.00 | 2026-1.03 |
| 1.04 | 12.48 | 15.00 | 38 | 3.00 | 2026-1.04 |
| 1.05 | 12.60 | 15.00 | 38 | 3.00 | 2026-1.05 |
| 1.06 | 12.72 | 15.00 | 38 | 3.00 | 2026-1.06 |
| 1.07 | 12.84 | 15.00 | 38 | 3.00 | 2026-1.07 |
| 1.08 | 12.96 | 15.50 | 38 | 3.00 | 2026-1.08 |
| 1.09 | 13.08 | 15.50 | 38 | 3.00 | 2026-1.09 |

| D1 h6 | L2 | L3 | L1 | D2 h6 | Art. N° |
|-------|-------|-------|----|-------|-----------|
| 1.10 | 13.20 | 15.50 | 38 | 3.00 | 2026-1.10 |
| 1.11 | 13.32 | 15.50 | 38 | 3.00 | 2026-1.11 |
| 1.12 | 13.44 | 16.00 | 38 | 3.00 | 2026-1.12 |
| 1.13 | 13.56 | 16.00 | 38 | 3.00 | 2026-1.13 |
| 1.14 | 13.68 | 16.00 | 38 | 3.00 | 2026-1.14 |
| 1.15 | 13.80 | 16.00 | 38 | 3.00 | 2026-1.15 |
| 1.16 | 13.92 | 16.50 | 38 | 3.00 | 2026-1.16 |
| 1.17 | 14.04 | 16.50 | 38 | 3.00 | 2026-1.17 |
| 1.18 | 14.16 | 16.50 | 38 | 3.00 | 2026-1.18 |
| 1.19 | 14.28 | 16.50 | 38 | 3.00 | 2026-1.19 |
| 1.20 | 14.40 | 17.00 | 38 | 3.00 | 2026-1.20 |
| 1.21 | 14.52 | 17.00 | 38 | 3.00 | 2026-1.21 |
| 1.22 | 14.64 | 17.00 | 38 | 3.00 | 2026-1.22 |
| 1.23 | 14.76 | 17.00 | 38 | 3.00 | 2026-1.23 |
| 1.24 | 14.88 | 17.50 | 38 | 3.00 | 2026-1.24 |
| 1.25 | 15.00 | 17.50 | 38 | 3.00 | 2026-1.25 |
| 1.26 | 15.12 | 17.50 | 50 | 3.00 | 2026-1.26 |
| 1.27 | 15.24 | 17.50 | 50 | 3.00 | 2026-1.27 |
| 1.28 | 15.36 | 18.00 | 50 | 3.00 | 2026-1.28 |
| 1.29 | 15.48 | 18.00 | 50 | 3.00 | 2026-1.29 |
| 1.30 | 15.60 | 18.00 | 50 | 3.00 | 2026-1.30 |
| 1.31 | 15.72 | 18.00 | 50 | 3.00 | 2026-1.31 |
| 1.32 | 15.84 | 18.50 | 50 | 3.00 | 2026-1.32 |
| 1.33 | 15.96 | 18.50 | 50 | 3.00 | 2026-1.33 |
| 1.34 | 16.08 | 18.50 | 50 | 3.00 | 2026-1.34 |
| 1.35 | 16.20 | 18.50 | 50 | 3.00 | 2026-1.35 |
| 1.36 | 16.32 | 19.00 | 50 | 3.00 | 2026-1.36 |
| 1.37 | 16.44 | 19.00 | 50 | 3.00 | 2026-1.37 |
| 1.38 | 16.56 | 19.00 | 50 | 3.00 | 2026-1.38 |
| 1.39 | 16.68 | 19.00 | 50 | 3.00 | 2026-1.39 |
| 1.40 | 16.80 | 19.50 | 50 | 3.00 | 2026-1.40 |
| 1.41 | 16.92 | 19.50 | 50 | 3.00 | 2026-1.41 |
| 1.42 | 17.04 | 19.50 | 50 | 3.00 | 2026-1.42 |
| 1.43 | 17.16 | 19.50 | 50 | 3.00 | 2026-1.43 |
| 1.44 | 17.28 | 20.00 | 50 | 3.00 | 2026-1.44 |
| 1.45 | 17.40 | 20.00 | 50 | 3.00 | 2026-1.45 |
| 1.46 | 17.52 | 20.00 | 50 | 3.00 | 2026-1.46 |
| 1.47 | 17.64 | 20.00 | 50 | 3.00 | 2026-1.47 |
| 1.48 | 17.76 | 20.50 | 50 | 3.00 | 2026-1.48 |
| 1.49 | 17.88 | 20.50 | 50 | 3.00 | 2026-1.49 |
| 1.50 | 18.00 | 21.00 | 50 | 3.00 | 2026-1.50 |
| 1.51 | 18.12 | 21.00 | 50 | 3.00 | 2026-1.51 |
| 1.52 | 18.24 | 21.00 | 50 | 3.00 | 2026-1.52 |
| 1.53 | 18.36 | 21.00 | 50 | 3.00 | 2026-1.53 |
| 1.54 | 18.48 | 21.50 | 50 | 3.00 | 2026-1.54 |
| 1.55 | 18.60 | 21.50 | 50 | 3.00 | 2026-1.55 |
| 1.56 | 18.72 | 21.50 | 50 | 3.00 | 2026-1.56 |
| 1.57 | 18.84 | 21.50 | 50 | 3.00 | 2026-1.57 |
| 1.58 | 18.96 | 22.00 | 50 | 3.00 | 2026-1.58 |
| 1.59 | 19.08 | 22.00 | 50 | 3.00 | 2026-1.59 |
| 1.60 | 19.20 | 22.00 | 50 | 3.00 | 2026-1.60 |

| D1 h6 | L2 | L3 | L1 | D2 h6 | Art. N° |
|-------|-------|-------|----|-------|-----------|
| 1.61 | 19.32 | 22.00 | 50 | 3.00 | 2026-1.61 |
| 1.62 | 19.44 | 22.50 | 50 | 3.00 | 2026-1.62 |
| 1.63 | 19.56 | 22.50 | 50 | 3.00 | 2026-1.63 |
| 1.64 | 19.68 | 22.50 | 50 | 3.00 | 2026-1.64 |
| 1.65 | 19.80 | 22.50 | 50 | 3.00 | 2026-1.65 |
| 1.66 | 19.92 | 23.00 | 50 | 3.00 | 2026-1.66 |
| 1.67 | 20.04 | 23.00 | 50 | 3.00 | 2026-1.67 |
| 1.68 | 20.16 | 23.00 | 50 | 3.00 | 2026-1.68 |
| 1.69 | 20.28 | 23.00 | 50 | 3.00 | 2026-1.69 |
| 1.70 | 20.40 | 23.50 | 50 | 3.00 | 2026-1.70 |
| 1.71 | 20.52 | 23.50 | 50 | 3.00 | 2026-1.71 |
| 1.72 | 20.64 | 23.50 | 50 | 3.00 | 2026-1.72 |
| 1.73 | 20.76 | 23.50 | 50 | 3.00 | 2026-1.73 |
| 1.74 | 20.88 | 24.00 | 50 | 3.00 | 2026-1.74 |
| 1.75 | 21.00 | 24.00 | 50 | 3.00 | 2026-1.75 |
| 1.76 | 21.12 | 24.00 | 50 | 3.00 | 2026-1.76 |
| 1.77 | 21.24 | 24.00 | 50 | 3.00 | 2026-1.77 |
| 1.78 | 21.36 | 24.50 | 50 | 3.00 | 2026-1.78 |
| 1.79 | 21.48 | 24.50 | 50 | 3.00 | 2026-1.79 |
| 1.80 | 21.60 | 25.00 | 50 | 3.00 | 2026-1.80 |
| 1.81 | 21.72 | 25.00 | 50 | 3.00 | 2026-1.81 |
| 1.82 | 21.84 | 25.00 | 50 | 3.00 | 2026-1.82 |
| 1.83 | 21.96 | 25.00 | 50 | 3.00 | 2026-1.83 |
| 1.84 | 22.08 | 25.50 | 50 | 3.00 | 2026-1.84 |
| 1.85 | 22.20 | 25.50 | 50 | 3.00 | 2026-1.85 |
| 1.86 | 22.32 | 25.50 | 50 | 3.00 | 2026-1.86 |
| 1.87 | 22.44 | 25.50 | 50 | 3.00 | 2026-1.87 |
| 1.88 | 22.56 | 26.00 | 50 | 3.00 | 2026-1.88 |
| 1.89 | 22.68 | 26.00 | 50 | 3.00 | 2026-1.89 |
| 1.90 | 22.80 | 26.00 | 50 | 3.00 | 2026-1.90 |
| 1.91 | 22.92 | 26.00 | 50 | 3.00 | 2026-1.91 |
| 1.92 | 23.04 | 26.50 | 50 | 3.00 | 2026-1.92 |
| 1.93 | 23.16 | 26.50 | 50 | 3.00 | 2026-1.93 |
| 1.94 | 23.28 | 26.50 | 50 | 3.00 | 2026-1.94 |
| 1.95 | 23.40 | 26.50 | 50 | 3.00 | 2026-1.95 |
| 1.96 | 23.52 | 27.00 | 50 | 3.00 | 2026-1.96 |
| 1.97 | 23.64 | 27.00 | 50 | 3.00 | 2026-1.97 |
| 1.98 | 23.76 | 27.00 | 50 | 3.00 | 2026-1.98 |
| 1.99 | 23.88 | 27.00 | 50 | 3.00 | 2026-1.99 |
| 2.00 | 24.00 | 27.00 | 50 | 3.00 | 2026-2.00 |

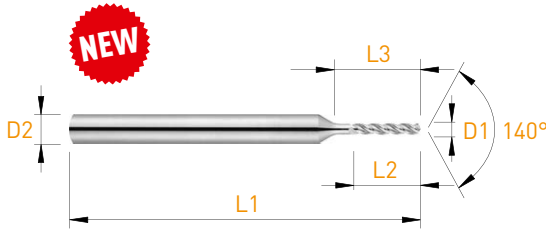
Micro-forets

Microbohrer

Micro drills

Ø 0.20 - Ø 1.09 mm

2030



λ 35° Z=3 5xD1 MD
VHM
HM

| D1 h ₆ | L2 | L3 | L1 | D2 h ₆ | Art. N° |
|-------------------|------|------|----|-------------------|-----------|
| 0.20 | 1.00 | 1.50 | 38 | 3.00 | 2030-0.20 |
| 0.21 | 1.05 | 1.50 | 38 | 3.00 | 2030-0.21 |
| 0.22 | 1.10 | 1.60 | 38 | 3.00 | 2030-0.22 |
| 0.23 | 1.15 | 1.60 | 38 | 3.00 | 2030-0.23 |
| 0.24 | 1.20 | 1.70 | 38 | 3.00 | 2030-0.24 |
| 0.25 | 1.25 | 1.70 | 38 | 3.00 | 2030-0.25 |
| 0.26 | 1.30 | 1.80 | 38 | 3.00 | 2030-0.26 |
| 0.27 | 1.35 | 1.80 | 38 | 3.00 | 2030-0.27 |
| 0.28 | 1.40 | 1.90 | 38 | 3.00 | 2030-0.28 |
| 0.29 | 1.45 | 1.90 | 38 | 3.00 | 2030-0.29 |
| 0.30 | 1.50 | 2.00 | 38 | 3.00 | 2030-0.30 |
| 0.31 | 1.55 | 2.00 | 38 | 3.00 | 2030-0.31 |
| 0.32 | 1.60 | 2.10 | 38 | 3.00 | 2030-0.32 |
| 0.33 | 1.65 | 2.10 | 38 | 3.00 | 2030-0.33 |
| 0.34 | 1.70 | 2.20 | 38 | 3.00 | 2030-0.34 |
| 0.35 | 1.75 | 2.20 | 38 | 3.00 | 2030-0.35 |
| 0.36 | 1.80 | 2.30 | 38 | 3.00 | 2030-0.36 |
| 0.37 | 1.85 | 2.30 | 38 | 3.00 | 2030-0.37 |
| 0.38 | 1.90 | 2.40 | 38 | 3.00 | 2030-0.38 |
| 0.39 | 1.95 | 2.40 | 38 | 3.00 | 2030-0.39 |
| 0.40 | 2.00 | 2.50 | 38 | 3.00 | 2030-0.40 |
| 0.41 | 2.05 | 2.50 | 38 | 3.00 | 2030-0.41 |
| 0.42 | 2.10 | 2.60 | 38 | 3.00 | 2030-0.42 |
| 0.43 | 2.15 | 2.60 | 38 | 3.00 | 2030-0.43 |
| 0.44 | 2.20 | 2.70 | 38 | 3.00 | 2030-0.44 |
| 0.45 | 2.25 | 2.70 | 38 | 3.00 | 2030-0.45 |
| 0.46 | 2.30 | 2.80 | 38 | 3.00 | 2030-0.46 |
| 0.47 | 2.35 | 2.80 | 38 | 3.00 | 2030-0.47 |
| 0.48 | 2.40 | 2.90 | 38 | 3.00 | 2030-0.48 |
| 0.49 | 2.45 | 2.90 | 38 | 3.00 | 2030-0.49 |
| 0.50 | 2.50 | 3.00 | 38 | 3.00 | 2030-0.50 |
| 0.51 | 2.55 | 3.00 | 38 | 3.00 | 2030-0.51 |
| 0.52 | 2.60 | 3.10 | 38 | 3.00 | 2030-0.52 |
| 0.53 | 2.65 | 3.10 | 38 | 3.00 | 2030-0.53 |
| 0.54 | 2.70 | 3.20 | 38 | 3.00 | 2030-0.54 |
| 0.55 | 2.75 | 3.20 | 38 | 3.00 | 2030-0.55 |
| 0.56 | 2.80 | 3.30 | 38 | 3.00 | 2030-0.56 |
| 0.57 | 2.85 | 3.30 | 38 | 3.00 | 2030-0.57 |
| 0.58 | 2.90 | 3.40 | 38 | 3.00 | 2030-0.58 |

| D1 h ₆ | L2 | L3 | L1 | D2 h ₆ | Art. N° |
|-------------------|------|------|----|-------------------|-----------|
| 0.59 | 2.95 | 3.40 | 38 | 3.00 | 2030-0.59 |
| 0.60 | 3.00 | 3.50 | 38 | 3.00 | 2030-0.60 |
| 0.61 | 3.05 | 3.50 | 38 | 3.00 | 2030-0.61 |
| 0.62 | 3.10 | 3.60 | 38 | 3.00 | 2030-0.62 |
| 0.63 | 3.15 | 3.60 | 38 | 3.00 | 2030-0.63 |
| 0.64 | 3.20 | 3.70 | 38 | 3.00 | 2030-0.64 |
| 0.65 | 3.25 | 3.70 | 38 | 3.00 | 2030-0.65 |
| 0.66 | 3.30 | 3.80 | 38 | 3.00 | 2030-0.66 |
| 0.67 | 3.35 | 3.80 | 38 | 3.00 | 2030-0.67 |
| 0.68 | 3.40 | 3.90 | 38 | 3.00 | 2030-0.68 |
| 0.69 | 3.45 | 3.90 | 38 | 3.00 | 2030-0.69 |
| 0.70 | 3.50 | 4.00 | 38 | 3.00 | 2030-0.70 |
| 0.71 | 3.55 | 4.00 | 38 | 3.00 | 2030-0.71 |
| 0.72 | 3.60 | 4.10 | 38 | 3.00 | 2030-0.72 |
| 0.73 | 3.65 | 4.10 | 38 | 3.00 | 2030-0.73 |
| 0.74 | 3.70 | 4.20 | 38 | 3.00 | 2030-0.74 |
| 0.75 | 3.75 | 4.20 | 38 | 3.00 | 2030-0.75 |
| 0.76 | 3.80 | 4.30 | 38 | 3.00 | 2030-0.76 |
| 0.77 | 3.85 | 4.30 | 38 | 3.00 | 2030-0.77 |
| 0.78 | 3.90 | 4.40 | 38 | 3.00 | 2030-0.78 |
| 0.79 | 3.95 | 4.40 | 38 | 3.00 | 2030-0.79 |
| 0.80 | 4.00 | 4.50 | 38 | 3.00 | 2030-0.80 |
| 0.81 | 4.05 | 4.50 | 38 | 3.00 | 2030-0.81 |
| 0.82 | 4.10 | 4.60 | 38 | 3.00 | 2030-0.82 |
| 0.83 | 4.15 | 4.60 | 38 | 3.00 | 2030-0.83 |
| 0.84 | 4.20 | 4.70 | 38 | 3.00 | 2030-0.84 |
| 0.85 | 4.25 | 4.70 | 38 | 3.00 | 2030-0.85 |
| 0.86 | 4.30 | 4.80 | 38 | 3.00 | 2030-0.86 |
| 0.87 | 4.35 | 4.80 | 38 | 3.00 | 2030-0.87 |
| 0.88 | 4.40 | 4.90 | 38 | 3.00 | 2030-0.88 |
| 0.89 | 4.45 | 4.90 | 38 | 3.00 | 2030-0.89 |
| 0.90 | 4.50 | 5.00 | 38 | 3.00 | 2030-0.90 |
| 0.91 | 4.55 | 5.00 | 38 | 3.00 | 2030-0.91 |
| 0.92 | 4.60 | 5.10 | 38 | 3.00 | 2030-0.92 |
| 0.93 | 4.65 | 5.10 | 38 | 3.00 | 2030-0.93 |
| 0.94 | 4.70 | 5.20 | 38 | 3.00 | 2030-0.94 |
| 0.95 | 4.75 | 5.20 | 38 | 3.00 | 2030-0.95 |
| 0.96 | 4.80 | 5.30 | 38 | 3.00 | 2030-0.96 |
| 0.97 | 4.85 | 5.30 | 38 | 3.00 | 2030-0.97 |
| 0.98 | 4.90 | 5.40 | 38 | 3.00 | 2030-0.98 |
| 0.99 | 4.95 | 5.40 | 38 | 3.00 | 2030-0.99 |
| 1.00 | 5.00 | 6.50 | 38 | 3.00 | 2030-1.00 |
| 1.01 | 5.05 | 6.50 | 38 | 3.00 | 2030-1.01 |
| 1.02 | 5.10 | 6.50 | 38 | 3.00 | 2030-1.02 |
| 1.03 | 5.15 | 6.50 | 38 | 3.00 | 2030-1.03 |
| 1.04 | 5.20 | 6.50 | 38 | 3.00 | 2030-1.04 |
| 1.05 | 5.25 | 6.50 | 38 | 3.00 | 2030-1.05 |
| 1.06 | 5.30 | 6.50 | 38 | 3.00 | 2030-1.06 |
| 1.07 | 5.35 | 7.50 | 38 | 3.00 | 2030-1.07 |
| 1.08 | 5.40 | 7.50 | 38 | 3.00 | 2030-1.08 |
| 1.09 | 5.45 | 7.50 | 38 | 3.00 | 2030-1.09 |

| D1 h6 | L2 | L3 | L1 | D2 h6 | Art. N° |
|-------|------|-------|----|-------|-----------|
| 1.10 | 5.50 | 7.50 | 38 | 3.00 | 2030-1.10 |
| 1.11 | 5.55 | 7.50 | 38 | 3.00 | 2030-1.11 |
| 1.12 | 5.60 | 7.50 | 38 | 3.00 | 2030-1.12 |
| 1.13 | 5.65 | 7.50 | 38 | 3.00 | 2030-1.13 |
| 1.14 | 5.70 | 7.50 | 38 | 3.00 | 2030-1.14 |
| 1.15 | 5.75 | 7.50 | 38 | 3.00 | 2030-1.15 |
| 1.16 | 5.80 | 7.50 | 38 | 3.00 | 2030-1.16 |
| 1.17 | 5.85 | 7.50 | 38 | 3.00 | 2030-1.17 |
| 1.18 | 5.90 | 8.50 | 38 | 3.00 | 2030-1.18 |
| 1.19 | 5.95 | 8.50 | 38 | 3.00 | 2030-1.19 |
| 1.20 | 6.00 | 8.50 | 38 | 3.00 | 2030-1.20 |
| 1.21 | 6.05 | 8.50 | 38 | 3.00 | 2030-1.21 |
| 1.22 | 6.10 | 8.50 | 38 | 3.00 | 2030-1.22 |
| 1.23 | 6.15 | 8.50 | 38 | 3.00 | 2030-1.23 |
| 1.24 | 6.20 | 8.50 | 38 | 3.00 | 2030-1.24 |
| 1.25 | 6.25 | 8.50 | 38 | 3.00 | 2030-1.25 |
| 1.26 | 6.30 | 8.50 | 38 | 3.00 | 2030-1.26 |
| 1.27 | 6.35 | 8.50 | 38 | 3.00 | 2030-1.27 |
| 1.28 | 6.40 | 8.50 | 38 | 3.00 | 2030-1.28 |
| 1.29 | 6.45 | 8.50 | 38 | 3.00 | 2030-1.29 |
| 1.30 | 6.50 | 8.50 | 38 | 3.00 | 2030-1.30 |
| 1.31 | 6.55 | 8.50 | 38 | 3.00 | 2030-1.31 |
| 1.32 | 6.60 | 8.50 | 38 | 3.00 | 2030-1.32 |
| 1.33 | 6.65 | 9.50 | 38 | 3.00 | 2030-1.33 |
| 1.34 | 6.70 | 9.50 | 38 | 3.00 | 2030-1.34 |
| 1.35 | 6.75 | 9.50 | 38 | 3.00 | 2030-1.35 |
| 1.36 | 6.80 | 9.50 | 38 | 3.00 | 2030-1.36 |
| 1.37 | 6.85 | 9.50 | 38 | 3.00 | 2030-1.37 |
| 1.38 | 6.90 | 9.50 | 38 | 3.00 | 2030-1.38 |
| 1.39 | 6.95 | 9.50 | 38 | 3.00 | 2030-1.39 |
| 1.40 | 7.00 | 9.50 | 38 | 3.00 | 2030-1.40 |
| 1.41 | 7.05 | 9.50 | 38 | 3.00 | 2030-1.41 |
| 1.42 | 7.10 | 9.50 | 38 | 3.00 | 2030-1.42 |
| 1.43 | 7.15 | 9.50 | 38 | 3.00 | 2030-1.43 |
| 1.44 | 7.20 | 9.50 | 38 | 3.00 | 2030-1.44 |
| 1.45 | 7.25 | 9.50 | 38 | 3.00 | 2030-1.45 |
| 1.46 | 7.30 | 9.50 | 38 | 3.00 | 2030-1.46 |
| 1.47 | 7.35 | 9.50 | 38 | 3.00 | 2030-1.47 |
| 1.48 | 7.40 | 9.50 | 38 | 3.00 | 2030-1.48 |
| 1.49 | 7.45 | 9.50 | 38 | 3.00 | 2030-1.49 |
| 1.50 | 7.50 | 9.50 | 38 | 3.00 | 2030-1.50 |
| 1.51 | 7.55 | 10.50 | 38 | 3.00 | 2030-1.51 |
| 1.52 | 7.60 | 10.50 | 38 | 3.00 | 2030-1.52 |
| 1.53 | 7.65 | 10.50 | 38 | 3.00 | 2030-1.53 |
| 1.54 | 7.70 | 10.50 | 38 | 3.00 | 2030-1.54 |
| 1.55 | 7.75 | 10.50 | 38 | 3.00 | 2030-1.55 |
| 1.56 | 7.80 | 10.50 | 38 | 3.00 | 2030-1.56 |
| 1.57 | 7.85 | 10.50 | 38 | 3.00 | 2030-1.57 |
| 1.58 | 7.90 | 10.50 | 38 | 3.00 | 2030-1.58 |
| 1.59 | 7.95 | 10.50 | 38 | 3.00 | 2030-1.59 |
| 1.60 | 8.00 | 10.50 | 38 | 3.00 | 2030-1.60 |

| D1 h6 | L2 | L3 | L1 | D2 h6 | Art. N° |
|-------|-------|-------|----|-------|-----------|
| 1.61 | 8.05 | 10.50 | 38 | 3.00 | 2030-1.61 |
| 1.62 | 8.10 | 10.50 | 38 | 3.00 | 2030-1.62 |
| 1.63 | 8.15 | 10.50 | 38 | 3.00 | 2030-1.63 |
| 1.64 | 8.20 | 10.50 | 38 | 3.00 | 2030-1.64 |
| 1.65 | 8.25 | 10.50 | 38 | 3.00 | 2030-1.65 |
| 1.66 | 8.30 | 10.50 | 38 | 3.00 | 2030-1.66 |
| 1.67 | 8.35 | 10.50 | 38 | 3.00 | 2030-1.67 |
| 1.68 | 8.40 | 10.50 | 38 | 3.00 | 2030-1.68 |
| 1.69 | 8.45 | 10.50 | 38 | 3.00 | 2030-1.69 |
| 1.70 | 8.50 | 10.50 | 38 | 3.00 | 2030-1.70 |
| 1.71 | 8.55 | 11.50 | 38 | 3.00 | 2030-1.71 |
| 1.72 | 8.60 | 11.50 | 38 | 3.00 | 2030-1.72 |
| 1.73 | 8.65 | 11.50 | 38 | 3.00 | 2030-1.73 |
| 1.74 | 8.70 | 11.50 | 38 | 3.00 | 2030-1.74 |
| 1.75 | 8.75 | 11.50 | 38 | 3.00 | 2030-1.75 |
| 1.76 | 8.80 | 11.50 | 38 | 3.00 | 2030-1.76 |
| 1.77 | 8.85 | 11.50 | 38 | 3.00 | 2030-1.77 |
| 1.78 | 8.90 | 11.50 | 38 | 3.00 | 2030-1.78 |
| 1.79 | 8.95 | 11.50 | 38 | 3.00 | 2030-1.79 |
| 1.80 | 9.00 | 11.50 | 38 | 3.00 | 2030-1.80 |
| 1.81 | 9.05 | 11.50 | 38 | 3.00 | 2030-1.81 |
| 1.82 | 9.10 | 11.50 | 38 | 3.00 | 2030-1.82 |
| 1.83 | 9.15 | 11.50 | 38 | 3.00 | 2030-1.83 |
| 1.84 | 9.20 | 11.50 | 38 | 3.00 | 2030-1.84 |
| 1.85 | 9.25 | 11.50 | 38 | 3.00 | 2030-1.85 |
| 1.86 | 9.30 | 11.50 | 38 | 3.00 | 2030-1.86 |
| 1.87 | 9.35 | 11.50 | 38 | 3.00 | 2030-1.87 |
| 1.88 | 9.40 | 11.50 | 38 | 3.00 | 2030-1.88 |
| 1.89 | 9.45 | 11.50 | 38 | 3.00 | 2030-1.89 |
| 1.90 | 9.50 | 11.50 | 38 | 3.00 | 2030-1.90 |
| 1.91 | 9.55 | 12.50 | 38 | 3.00 | 2030-1.91 |
| 1.92 | 9.60 | 12.50 | 38 | 3.00 | 2030-1.92 |
| 1.93 | 9.65 | 12.50 | 38 | 3.00 | 2030-1.93 |
| 1.94 | 9.70 | 12.50 | 38 | 3.00 | 2030-1.94 |
| 1.95 | 9.75 | 12.50 | 38 | 3.00 | 2030-1.95 |
| 1.96 | 9.80 | 12.50 | 38 | 3.00 | 2030-1.96 |
| 1.97 | 9.85 | 12.50 | 38 | 3.00 | 2030-1.97 |
| 1.98 | 9.90 | 12.50 | 38 | 3.00 | 2030-1.98 |
| 1.99 | 9.95 | 12.50 | 38 | 3.00 | 2030-1.99 |
| 2.00 | 10.00 | 12.50 | 38 | 3.00 | 2030-2.00 |
| 2.01 | 10.05 | 12.50 | 38 | 3.00 | 2030-2.01 |
| 2.02 | 10.10 | 12.50 | 38 | 3.00 | 2030-2.02 |
| 2.03 | 10.15 | 12.50 | 38 | 3.00 | 2030-2.03 |
| 2.04 | 10.20 | 12.50 | 38 | 3.00 | 2030-2.04 |
| 2.05 | 10.25 | 12.50 | 38 | 3.00 | 2030-2.05 |
| 2.06 | 10.30 | 12.50 | 38 | 3.00 | 2030-2.06 |
| 2.07 | 10.35 | 12.50 | 38 | 3.00 | 2030-2.07 |
| 2.08 | 10.40 | 12.50 | 38 | 3.00 | 2030-2.08 |
| 2.09 | 10.45 | 12.50 | 38 | 3.00 | 2030-2.09 |
| 2.10 | 10.50 | 12.50 | 38 | 3.00 | 2030-2.10 |
| 2.11 | 10.55 | 12.50 | 38 | 3.00 | 2030-2.11 |

Micro-forets

Microbohrer

Micro drills

Ø 2.12 - Ø 2.99 mm

2030

| D1 h6 | L2 | L3 | L1 | D2 h6 | Art. N° |
|-------|-------|-------|----|-------|------------------|
| 2.12 | 10.60 | 12.50 | 38 | 3.00 | 2030-2.12 |
| 2.13 | 10.65 | 13.50 | 38 | 3.00 | 2030-2.13 |
| 2.14 | 10.70 | 13.50 | 38 | 3.00 | 2030-2.14 |
| 2.15 | 10.75 | 13.50 | 38 | 3.00 | 2030-2.15 |
| 2.16 | 10.80 | 13.50 | 38 | 3.00 | 2030-2.16 |
| 2.17 | 10.85 | 13.50 | 38 | 3.00 | 2030-2.17 |
| 2.18 | 10.90 | 13.50 | 38 | 3.00 | 2030-2.18 |
| 2.19 | 10.95 | 13.50 | 38 | 3.00 | 2030-2.19 |
| 2.20 | 11.00 | 13.50 | 38 | 3.00 | 2030-2.20 |
| 2.21 | 11.05 | 13.50 | 38 | 3.00 | 2030-2.21 |
| 2.22 | 11.10 | 13.50 | 38 | 3.00 | 2030-2.22 |
| 2.23 | 11.15 | 13.50 | 38 | 3.00 | 2030-2.23 |
| 2.24 | 11.20 | 13.50 | 38 | 3.00 | 2030-2.24 |
| 2.25 | 11.25 | 13.50 | 38 | 3.00 | 2030-2.25 |
| 2.26 | 11.30 | 13.50 | 38 | 3.00 | 2030-2.26 |
| 2.27 | 11.35 | 13.50 | 38 | 3.00 | 2030-2.27 |
| 2.28 | 11.40 | 13.50 | 38 | 3.00 | 2030-2.28 |
| 2.29 | 11.45 | 13.50 | 38 | 3.00 | 2030-2.29 |
| 2.30 | 11.50 | 13.50 | 38 | 3.00 | 2030-2.30 |
| 2.31 | 11.55 | 13.50 | 38 | 3.00 | 2030-2.31 |
| 2.32 | 11.60 | 13.50 | 38 | 3.00 | 2030-2.32 |
| 2.33 | 11.65 | 13.50 | 38 | 3.00 | 2030-2.33 |
| 2.34 | 11.70 | 13.50 | 38 | 3.00 | 2030-2.34 |
| 2.35 | 11.75 | 13.50 | 38 | 3.00 | 2030-2.35 |
| 2.36 | 11.80 | 13.50 | 38 | 3.00 | 2030-2.36 |
| 2.37 | 11.85 | 14.50 | 38 | 3.00 | 2030-2.37 |
| 2.38 | 11.90 | 14.50 | 38 | 3.00 | 2030-2.38 |
| 2.39 | 11.95 | 14.50 | 38 | 3.00 | 2030-2.39 |
| 2.40 | 12.00 | 14.50 | 38 | 3.00 | 2030-2.40 |
| 2.41 | 12.05 | 14.50 | 38 | 3.00 | 2030-2.41 |
| 2.42 | 12.10 | 14.50 | 38 | 3.00 | 2030-2.42 |
| 2.43 | 12.15 | 14.50 | 38 | 3.00 | 2030-2.43 |
| 2.44 | 12.20 | 14.50 | 38 | 3.00 | 2030-2.44 |
| 2.45 | 12.25 | 14.50 | 38 | 3.00 | 2030-2.45 |
| 2.46 | 12.30 | 14.50 | 38 | 3.00 | 2030-2.46 |
| 2.47 | 12.35 | 14.50 | 38 | 3.00 | 2030-2.47 |
| 2.48 | 12.40 | 14.50 | 38 | 3.00 | 2030-2.48 |
| 2.49 | 12.45 | 14.50 | 38 | 3.00 | 2030-2.49 |
| 2.50 | 12.50 | 14.50 | 38 | 3.00 | 2030-2.50 |
| 2.51 | 12.55 | 14.50 | 38 | 3.00 | 2030-2.51 |
| 2.52 | 12.60 | 14.50 | 38 | 3.00 | 2030-2.52 |
| 2.53 | 12.65 | 14.50 | 38 | 3.00 | 2030-2.53 |
| 2.54 | 12.70 | 14.50 | 38 | 3.00 | 2030-2.54 |
| 2.55 | 12.75 | 14.50 | 38 | 3.00 | 2030-2.55 |
| 2.56 | 12.80 | 14.50 | 38 | 3.00 | 2030-2.56 |
| 2.57 | 12.85 | 14.50 | 38 | 3.00 | 2030-2.57 |
| 2.58 | 12.90 | 14.50 | 38 | 3.00 | 2030-2.58 |
| 2.59 | 12.95 | 14.50 | 38 | 3.00 | 2030-2.59 |
| 2.60 | 13.00 | 14.50 | 38 | 3.00 | 2030-2.60 |
| 2.61 | 13.05 | 14.50 | 38 | 3.00 | 2030-2.61 |
| 2.62 | 13.10 | 14.50 | 38 | 3.00 | 2030-2.62 |

| D1 h6 | L2 | L3 | L1 | D2 h6 | Art. N° |
|-------|-------|-------|----|-------|------------------|
| 2.63 | 13.15 | 14.50 | 38 | 3.00 | 2030-2.63 |
| 2.64 | 13.20 | 14.50 | 38 | 3.00 | 2030-2.64 |
| 2.65 | 13.25 | 14.50 | 38 | 3.00 | 2030-2.65 |
| 2.66 | 13.30 | 16.50 | 38 | 3.00 | 2030-2.66 |
| 2.67 | 13.35 | 16.50 | 38 | 3.00 | 2030-2.67 |
| 2.68 | 13.40 | 16.50 | 38 | 3.00 | 2030-2.68 |
| 2.69 | 13.45 | 16.50 | 38 | 3.00 | 2030-2.69 |
| 2.70 | 13.50 | 16.50 | 38 | 3.00 | 2030-2.70 |
| 2.71 | 13.55 | 16.55 | 38 | 3.00 | 2030-2.71 |
| 2.72 | 13.60 | 16.50 | 38 | 3.00 | 2030-2.72 |
| 2.73 | 13.65 | 16.50 | 38 | 3.00 | 2030-2.73 |
| 2.74 | 13.70 | 16.50 | 38 | 3.00 | 2030-2.74 |
| 2.75 | 13.75 | 16.50 | 38 | 3.00 | 2030-2.75 |
| 2.76 | 13.80 | 16.50 | 38 | 3.00 | 2030-2.76 |
| 2.77 | 13.85 | 16.50 | 38 | 3.00 | 2030-2.77 |
| 2.78 | 13.90 | 16.50 | 38 | 3.00 | 2030-2.78 |
| 2.79 | 13.95 | 16.50 | 38 | 3.00 | 2030-2.79 |
| 2.80 | 14.00 | 16.50 | 38 | 3.00 | 2030-2.80 |
| 2.81 | 14.05 | 16.50 | 38 | 3.00 | 2030-2.81 |
| 2.82 | 14.10 | 16.50 | 38 | 3.00 | 2030-2.82 |
| 2.83 | 14.15 | 16.50 | 38 | 3.00 | 2030-2.83 |
| 2.84 | 14.20 | 16.50 | 38 | 3.00 | 2030-2.84 |
| 2.85 | 14.25 | 16.50 | 38 | 3.00 | 2030-2.85 |
| 2.86 | 14.30 | 16.50 | 38 | 3.00 | 2030-2.86 |
| 2.87 | 14.35 | 16.50 | 38 | 3.00 | 2030-2.87 |
| 2.88 | 14.40 | 16.50 | 38 | 3.00 | 2030-2.88 |
| 2.89 | 14.45 | 16.50 | 38 | 3.00 | 2030-2.89 |
| 2.90 | 14.50 | 16.50 | 38 | 3.00 | 2030-2.90 |
| 2.91 | 14.55 | 16.50 | 38 | 3.00 | 2030-2.91 |
| 2.92 | 14.60 | 16.50 | 38 | 3.00 | 2030-2.92 |
| 2.93 | 14.65 | 16.50 | 38 | 3.00 | 2030-2.93 |
| 2.94 | 14.70 | 16.50 | 38 | 3.00 | 2030-2.94 |
| 2.95 | 14.75 | 16.50 | 38 | 3.00 | 2030-2.95 |
| 2.96 | 14.80 | 16.50 | 38 | 3.00 | 2030-2.96 |
| 2.97 | 14.85 | 16.50 | 38 | 3.00 | 2030-2.97 |
| 2.98 | 14.90 | 16.50 | 38 | 3.00 | 2030-2.98 |
| 2.99 | 14.95 | 16.50 | 38 | 3.00 | 2030-2.99 |

MICRO-Line

Fraises à graver

Gravierfräser

Engraving mills

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

| Matière Werkstoff Material | VC [m/min] | |
|--|------------|---|
| Acier Stahl Steel < 700 N/mm ² | 80 - 180 | recommended feed rate for rotation speed between 20'000 and 30'000 RPM |
| Acier Stahl Steel > 700 N/mm ² | 70 - 150 | |
| Acier inoxydable Rostfreistahl Stainless steel | 70 - 150 | |
| Titane Titan Titanium | 70 - 130 | |
| Aluminium | 80 - 250 | |
| Cuivre Kupfer Copper | 70 - 150 | |
| Laiton Messing Brass | 80 - 200 | |
| Or Gold Gold | 80 - 200 | |

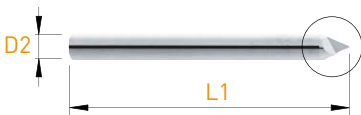
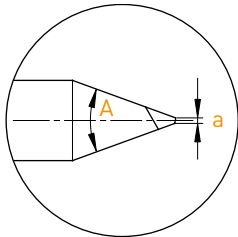
Fraises à graver

Gravierfräser

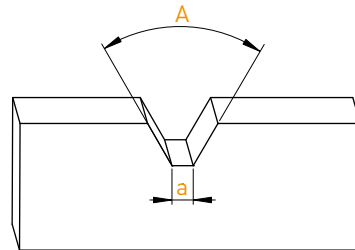
Engraving mills

E300-P

NEW



MD
VHM
HM



| A | a *in steps of 0.01 mm | D2 h6 | L1 | Art. N° |
|-----|---------------------------|-------|----|-------------|
| 30° | 0.02-0.10* / 0.12 / 0.15 | 3.00 | 33 | E330-P-_(a) |
| 40° | 0.02-0.10* / 0.12 / 0.15 | 3.00 | 33 | E340-P-_(a) |
| 50° | 0.02-0.10* / 0.12 / 0.15 | 3.00 | 33 | E350-P-_(a) |
| 60° | 0.02-0.10* / 0.12 / 0.15 | 3.00 | 33 | E360-P-_(a) |
| 90° | 0.02-0.10* / 0.12 / 0.15 | 3.00 | 33 | E390-P-_(a) |

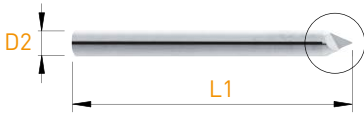
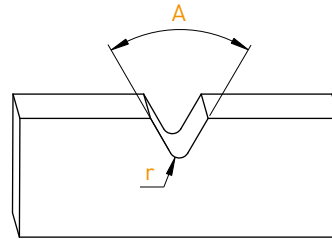
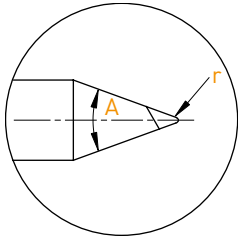
Fraises à graver

Gravierfräser

Engraving mills

E300-R

NEW



MD
VHM
HM

| A | r *in steps of 0.01 mm | D2 h6 | L1 | Art. N° |
|-----|---------------------------|-------|----|-------------|
| 30° | 0.04-0.10* | 3.00 | 33 | E330-R-_(r) |
| 40° | 0.04-0.10* | 3.00 | 33 | E340-R-_(r) |
| 50° | 0.04-0.10* | 3.00 | 33 | E350-R-_(r) |
| 60° | 0.04-0.10* | 3.00 | 33 | E360-R-_(r) |
| 90° | 0.04-0.10* | 3.00 | 33 | E390-R-_(r) |

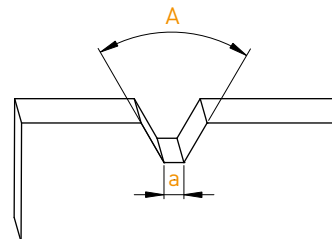
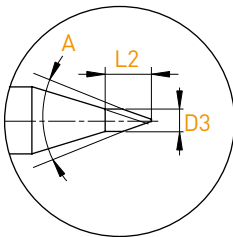
Fraises à graver

Gravierfräser

Engraving mills

E900-P

NEW



MD
VHM
HM

| A | a *in steps of 0.01 mm | D3 | L2 | D2 h6 | L1 | Art. N° |
|-----|---------------------------|------|-----|-------|----|-------------|
| 30° | 0.04-0.10* | 0.60 | 1.8 | 3.00 | 33 | E930-P-_(a) |
| 40° | 0.04-0.10* | 0.60 | 1.8 | 3.00 | 33 | E940-P-_(a) |
| 50° | 0.04-0.10* | 1.00 | 2.0 | 3.00 | 33 | E950-P-_(a) |
| 60° | 0.04-0.10* | 1.00 | 2.0 | 3.00 | 33 | E960-P-_(a) |

MICRO-Line

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

Paramètres de coupe indicatifs

Empfohlene Schnittwerte

Standard machining data

| | | Shank | Z | Spiral | Type | page | |
|---------|------|---------|--------|--------|-----------|------|------|
| | | ∅ 6 mm | Z = 3 | 30° | 3336-HA | 8.29 | |
| | | | | 30° | 3337-HA | 8.29 | |
| | | | | 30° | 3330-S | 8.30 | |
| | | D1 = D2 | | Z = 3 | 30° | 3330 | 8.30 |
| | | | | | 30° | 3231 | 8.31 |
| | | D1 = D2 | | Z = 3 | 30° | 3331 | 8.31 |
| | | | | | 45° | 3341 | 8.32 |
| | | | | | 60° | 3361 | 8.32 |
| | | | | | 30° | 3431 | 8.33 |
| | | D1 = D2 | | Z = 4 | 45° | 3441 | 8.33 |
| 30° | 3238 | | | | 8.34 | | |
| D1 = D2 | | Z = 3 | 30° | 3338 | 8.34 | | |
| | | | 30° | 3383 | 8.35 | | |
| D1 = D2 | | ∅ 6 mm | Z = 3 | 30° | 3830 | 8.35 | |
| | | | Z = 10 | 30° | 3830 | 8.35 | |
| D1 = D2 | | ∅ 3 mm | Z = 3 | 0° | 3911 | 8.36 | |
| | | | Z = 4 | 0° | 1901/3901 | 8.36 | |

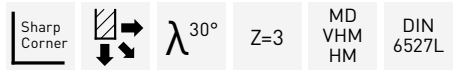
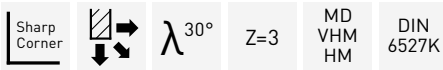
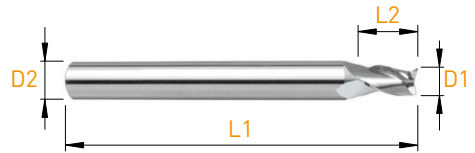
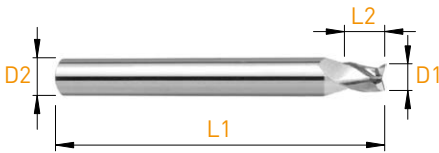
| Matière Werkstoff Material | VC (m/min) | fz [mm/z] | |
|--|------------|---------------|---------------|
| | | ∅ 2 - 4 | ∅ 4 - 6 |
| Acier Stahl Steel < 700 N/mm ² | 60 - 100 | 0.010 - 0.030 | 0.015 - 0.040 |
| Acier Stahl Steel > 700 N/mm ² | 40 - 70 | 0.008 - 0.020 | 0.010 - 0.030 |
| Acier inoxydable Rostfreistahl Stainless steel | 40 - 80 | 0.010 - 0.030 | 0.015 - 0.040 |
| Titane Titan Titanium | 25 - 50 | 0.010 - 0.030 | 0.015 - 0.040 |
| Aluminium | 100 - 250 | 0.015 - 0.050 | 0.020 - 0.060 |
| Cuivre Kupfer Copper | 80 - 160 | 0.010 - 0.040 | 0.020 - 0.060 |
| Laiton Messing Brass | 100 - 200 | 0.015 - 0.040 | 0.030 - 0.070 |

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

3336-HA / 3337-HA



| D1 h10 | L2 | D2 h6 | L1 | Art. N° |
|--------|-----|-------|----|--------------------|
| 1.50 | 3.0 | 6.00 | 50 | 3336-HA-1.5 |
| 1.80 | 3.0 | 6.00 | 50 | 3336-HA-1.8 |
| 2.00 | 3.0 | 6.00 | 50 | 3336-HA-2.0 |
| 2.50 | 3.0 | 6.00 | 50 | 3336-HA-2.5 |
| 2.80 | 4.0 | 6.00 | 50 | 3336-HA-2.8 |
| 3.00 | 4.0 | 6.00 | 50 | 3336-HA-3.0 |
| 3.50 | 4.0 | 6.00 | 50 | 3336-HA-3.5 |
| 3.80 | 5.0 | 6.00 | 54 | 3336-HA-3.8 |
| 4.00 | 5.0 | 6.00 | 54 | 3336-HA-4.0 |
| 4.50 | 5.0 | 6.00 | 54 | 3336-HA-4.5 |
| 4.80 | 6.0 | 6.00 | 54 | 3336-HA-4.8 |
| 5.00 | 6.0 | 6.00 | 54 | 3336-HA-5.0 |
| 5.50 | 7.0 | 6.00 | 54 | 3336-HA-5.5 |
| 5.80 | 7.0 | 6.00 | 54 | 3336-HA-5.8 |
| 6.00 | 7.0 | 6.00 | 54 | 3336-HA-6.0 |

| D1 h10 | L2 | D2 h6 | L1 | Art. N° |
|--------|------|-------|----|--------------------|
| 1.50 | 6.0 | 6.00 | 57 | 3337-HA-1.5 |
| 1.80 | 6.0 | 6.00 | 57 | 3337-HA-1.8 |
| 2.00 | 6.0 | 6.00 | 57 | 3337-HA-2.0 |
| 2.50 | 6.0 | 6.00 | 57 | 3337-HA-2.5 |
| 2.80 | 7.0 | 6.00 | 57 | 3337-HA-2.8 |
| 3.00 | 7.0 | 6.00 | 57 | 3337-HA-3.0 |
| 3.50 | 7.0 | 6.00 | 57 | 3337-HA-3.5 |
| 3.80 | 8.0 | 6.00 | 57 | 3337-HA-3.8 |
| 4.00 | 8.0 | 6.00 | 57 | 3337-HA-4.0 |
| 4.50 | 8.0 | 6.00 | 57 | 3337-HA-4.5 |
| 4.80 | 10.0 | 6.00 | 57 | 3337-HA-4.8 |
| 5.00 | 10.0 | 6.00 | 57 | 3337-HA-5.0 |
| 5.50 | 10.0 | 6.00 | 57 | 3337-HA-5.5 |
| 5.80 | 10.0 | 6.00 | 57 | 3337-HA-5.8 |
| 6.00 | 10.0 | 6.00 | 57 | 3337-HA-6.0 |

MICRO-Line

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

3330-S / 3330



| D1 h10 | L2 | D2 h6 | L1 | Art. N° |
|--------|-----|-------|----|-------------------|
| 1.00 | 3.0 | 6.00 | 40 | 3330-S-1.0 |
| 1.50 | 3.0 | 6.00 | 40 | 3330-S-1.5 |
| 2.00 | 3.0 | 6.00 | 40 | 3330-S-2.0 |
| 2.50 | 3.0 | 6.00 | 40 | 3330-S-2.5 |
| 3.00 | 4.0 | 6.00 | 40 | 3330-S-3.0 |
| 3.50 | 4.0 | 6.00 | 40 | 3330-S-3.5 |
| 4.00 | 5.0 | 6.00 | 40 | 3330-S-4.0 |
| 4.50 | 5.0 | 6.00 | 40 | 3330-S-4.5 |
| 5.00 | 6.0 | 6.00 | 40 | 3330-S-5.0 |
| 6.00 | 7.0 | 6.00 | 40 | 3330-S-6.0 |



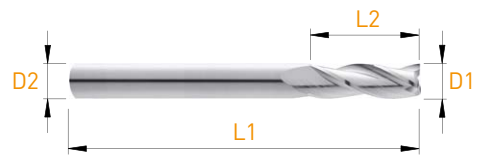
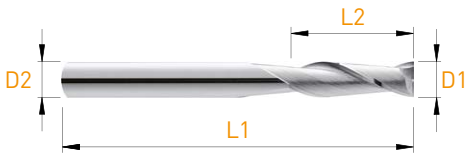
| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|------------------|
| 3.00 | 3.0 | 3.00 | 39 | 3330-3.0 |
| 4.00 | 4.0 | 4.00 | 50 | 3330-4.0 |
| 5.00 | 5.0 | 5.00 | 50 | 3330-5.0 |
| 6.00 | 6.0 | 6.00 | 50 | 3330-6.0 |
| 8.00 | 8.0 | 8.00 | 58 | 3330-8.0 |
| 10.00 | 10.0 | 10.00 | 66 | 3330-10.0 |
| 12.00 | 12.0 | 12.00 | 73 | 3330-12.0 |
| 16.00 | 16.0 | 16.00 | 82 | 3330-16.0 |
| 20.00 | 20.0 | 20.00 | 92 | 3330-20.0 |

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

3231 / 3331



| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3231-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3231-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3231-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3231-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3231-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3231-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3231-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3231-6.0 |

| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3331-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3331-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3331-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3331-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3331-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3331-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3331-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3331-6.0 |

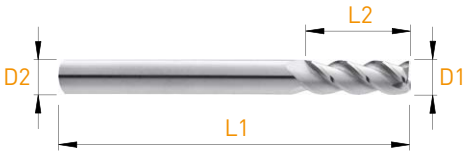
MICRO-Line

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

3341 / 3361



| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3341-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3341-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3341-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3341-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3341-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3341-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3341-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3341-6.0 |



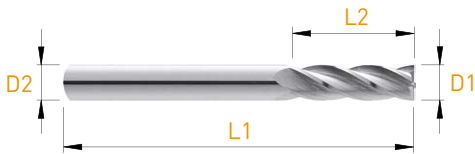
| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3361-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3361-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3361-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3361-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3361-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3361-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3361-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3361-6.0 |

Fraises en bout de finition

Schlicht Schafffräser

Finishing end mills

3431 / 3441



| D1 e ₉ | L2 | D2 h ₆ | L1 | Art. N° |
|-------------------|------|-------------------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3431-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3431-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3431-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3431-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3431-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3431-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3431-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3431-6.0 |

| D1 e ₉ | L2 | D2 h ₆ | L1 | Art. N° |
|-------------------|------|-------------------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3441-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3441-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3441-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3441-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3441-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3441-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3441-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3441-6.0 |

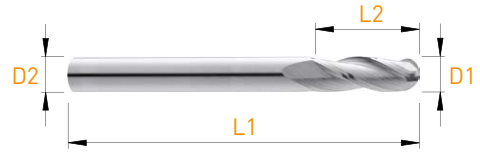
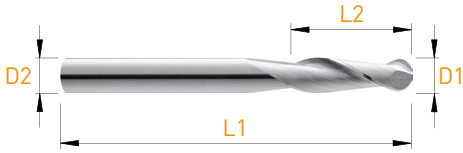
MICRO-Line

Fraises en bout hémisphérique

Kugelschaftfräser

Ball nose end mills

3238 / 3338



| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3238-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3238-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3238-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3238-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3238-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3238-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3238-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3238-6.0 |

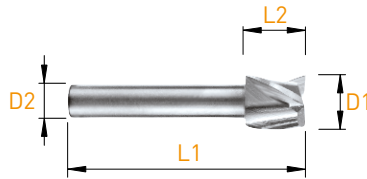
| D1 e9 | L2 | D2 h6 | L1 | Art. N° |
|-------|------|-------|----|-----------------|
| 2.00 | 8.0 | 2.00 | 32 | 3338-2.0 |
| 2.50 | 8.0 | 2.50 | 32 | 3338-2.5 |
| 3.00 | 12.0 | 3.00 | 32 | 3338-3.0 |
| 3.50 | 12.0 | 3.50 | 32 | 3338-3.5 |
| 4.00 | 12.0 | 4.00 | 40 | 3338-4.0 |
| 4.50 | 14.0 | 4.50 | 50 | 3338-4.5 |
| 5.00 | 14.0 | 5.00 | 50 | 3338-5.0 |
| 6.00 | 16.0 | 6.00 | 50 | 3338-6.0 |

Fraises en bout pour usinage en bout plat

Schaftfräser für flache Frontbearbeitung

End mills for flat front machining

3383



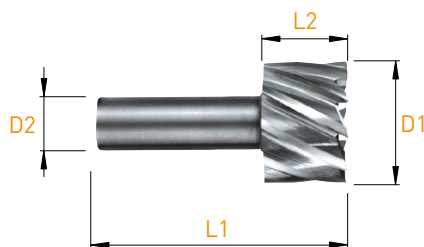
| D1 h10 | L2 | D2 h6 | L1 | Art. N° |
|--------|------|-------|----|-----------|
| 8.00 | 8.0 | 6.00 | 40 | 3383-8.0 |
| 10.00 | 10.0 | 6.00 | 40 | 3383-10.0 |
| 12.00 | 12.0 | 6.00 | 40 | 3383-12.0 |

Fraises en bout avec queue réduite

Schaftfräser mit reduziertem Schaft

End mills with reduced shank

3830



| D1 h10 | L2 | D2 h6 | L1 | Art. N° |
|--------|------|-------|----|---------|
| 16.3 | 15.0 | 10.00 | 45 | 3831 |
| 20.3 | 15.0 | 10.00 | 45 | 3833 |

MICRO-Line

Fraises à angler
Kegelsenker
Chamfering tools

3911



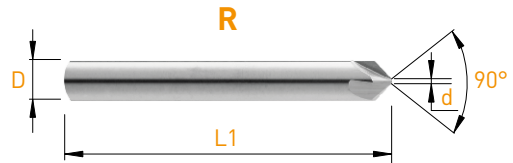
Z=3

MD
VHM
HM

| D1 | L2 | D2 h ₆ | L1 | d | Art. N° |
|------|-----|-------------------|----|-----|----------|
| 0.50 | 3.0 | 3.00 | 39 | 0.1 | 3911-0.5 |
| 1.00 | 3.0 | 3.00 | 39 | 0.1 | 3911-1.0 |
| 1.50 | 4.5 | 3.00 | 39 | 0.1 | 3911-1.5 |
| 2.00 | 6.0 | 3.00 | 39 | 0.1 | 3911-2.0 |
| 2.50 | 7.5 | 3.00 | 39 | 0.1 | 3911-2.5 |
| 3.00 | - | 3.00 | 39 | 0.1 | 3911-3.0 |

Fraises à angler
Kegelsenker
Chamfering tools

1901 / 3901



Z=4

MD
VHM
HM

L

R

| D h ₆ | d | L1 | Art. N° | Art. N° |
|------------------|-----|----|----------|----------|
| 3.00 | 0.3 | 39 | 1901-3.0 | 3901-3.0 |
| 6.00 | 0.7 | 50 | 1901-6.0 | 3901-6.0 |
| 8.00 | 1.2 | 58 | 1901-8.0 | 3901-8.0 |