

2022

КАТАЛОГ ФРЕЗ КОНЦЕВЫХ
ТВЕРДОСПЛАВНЫХ

AXIS

Tools for **m**ICRO **m**ACHINING

для фрезерования
сталей, чугуна,
нержавеющих сталей



ООО "Современные Технологии НС"

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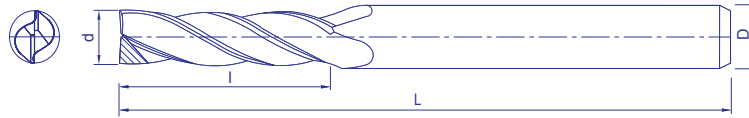
Алмазное
покрытие

Мы предлагаем полный ассортимент фрез с алмазным покрытием CVD, сверл и специальных инструментов.

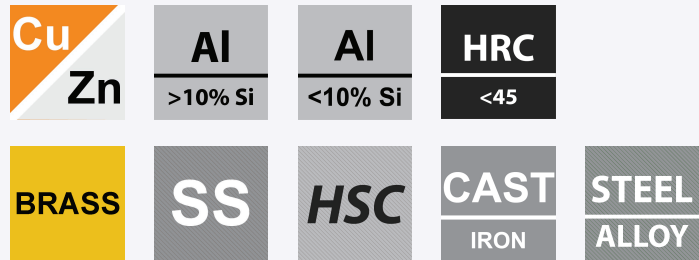
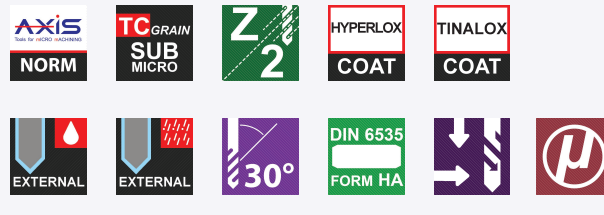
- *Высокая скорость подачи, обеспечивающая более высокую производительность*
- *Чрезвычайная износостойкость, обеспечивающая более длительный срок службы инструмента ~ 5-20x*
- *Частая смена инструментов и время простоя машины, которых удалось избежать*

QUALITY • PRECISION • CONSISTENCY





AXIS E8311



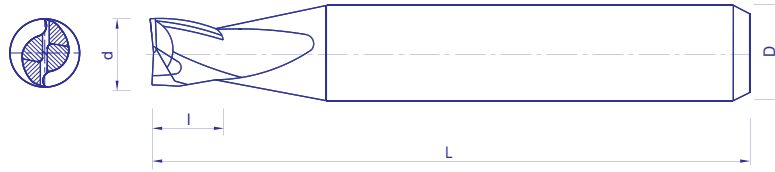
| Dia | EFL | Total Length | Shank Dia | | Dia | EFL | Total Length | Shank Dia |
|------|------|--------------|-----------|--|-------|------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 | | 5.00 | 15.0 | 50 | 6.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 | | 5.00 | 25.0 | 60 | 6.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 | | 6.00 | 18.0 | 50 | 6.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 | | 6.00 | 30.0 | 65 | 6.0 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 | | 8.00 | 24.0 | 75 | 8.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 | | 8.00 | 40.0 | 80 | 8.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 | | 10.00 | 30.0 | 75 | 10.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 | | 10.00 | 50.0 | 95 | 10.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 | | 12.00 | 36.0 | 75 | 12.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 | | 12.00 | 60.0 | 100 | 12.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 | | | | | |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.50 | 7.5 | 38 | 6.0 | | | | | |
| 2.50 | 12.0 | 38 | 6.0 | | | | | |
| 3.00 | 9.0 | 38 | 6.0 | | | | | |
| 3.00 | 15.0 | 50 | 6.0 | | | | | |
| 4.00 | 12.0 | 50 | 6.0 | | | | | |
| 4.00 | 20.0 | 60 | 6.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

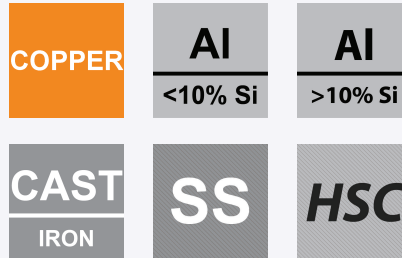
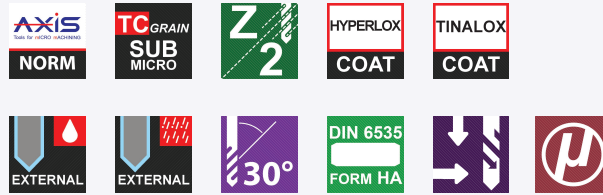
PACKING :
Up to Dia 3.00mm : 10 tools / pack,
Dia > 3.00mm : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9661



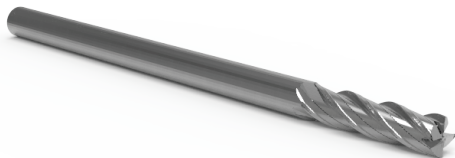
| Dia | EFL | Total Length | Shank Dia | | Dia | Flute Length | Total Length | Shank Dia |
|------|-----|--------------|-----------|--|------|--------------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 0.10 | 0.2 | 38 | 3.0 | | 1.20 | 2.4 | 38 | 3.0 |
| 0.10 | 0.3 | 38 | 3.0 | | 1.20 | 3.6 | 38 | 3.0 |
| 0.20 | 0.4 | 38 | 3.0 | | 1.40 | 2.8 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 | | 1.40 | 4.2 | 38 | 3.0 |
| 0.30 | 0.6 | 38 | 3.0 | | 1.50 | 3.0 | 38 | 3.0 |
| 0.30 | 0.9 | 38 | 3.0 | | 1.50 | 4.5 | 38 | 3.0 |
| 0.40 | 0.8 | 38 | 3.0 | | 1.60 | 3.2 | 38 | 3.0 |
| 0.40 | 1.2 | 38 | 3.0 | | 1.60 | 4.8 | 38 | 3.0 |
| 0.50 | 1.0 | 38 | 3.0 | | 1.80 | 3.6 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 | | 1.80 | 5.4 | 38 | 3.0 |
| 0.60 | 1.2 | 38 | 3.0 | | 2.00 | 4.0 | 38 | 3.0 |
| 0.60 | 1.8 | 38 | 3.0 | | 2.00 | 6.0 | 38 | 3.0 |
| 0.70 | 1.4 | 38 | 3.0 | | 2.50 | 5.0 | 38 | 3.0 |
| 0.70 | 2.1 | 38 | 3.0 | | 2.50 | 7.5 | 38 | 3.0 |
| 0.80 | 1.6 | 38 | 3.0 | | 3.00 | 6.0 | 38 | 3.0 |
| 0.80 | 2.4 | 38 | 3.0 | | 3.00 | 9.0 | 38 | 3.0 |
| 0.90 | 1.8 | 38 | 3.0 | | | | | |
| 0.90 | 2.7 | 38 | 3.0 | | | | | |
| 1.00 | 2.0 | 38 | 3.0 | | | | | |
| 1.00 | 3.0 | 38 | 3.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
10 tools / pack

All Dimensions in mm otherwise specified





AXIS E9671

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Dia | EFL | Total Length | Shank Dia |
|------|-----|--------------|-----------|
| d | l | L | D h6 |
| 0.20 | 0.4 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 |
| 0.30 | 0.6 | 38 | 3.0 |
| 0.30 | 0.9 | 38 | 3.0 |
| 0.40 | 0.8 | 38 | 3.0 |
| 0.40 | 1.2 | 38 | 3.0 |
| 0.50 | 1.0 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 |
| 0.60 | 1.2 | 38 | 3.0 |
| 0.60 | 1.8 | 38 | 3.0 |
| 0.70 | 1.4 | 38 | 3.0 |
| 0.70 | 2.1 | 38 | 3.0 |
| 0.80 | 1.6 | 38 | 3.0 |
| 0.80 | 2.4 | 38 | 3.0 |
| 0.90 | 1.8 | 38 | 3.0 |
| 0.90 | 2.7 | 38 | 3.0 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified



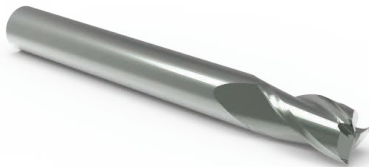
| Dia | EFL | Total Length | Shank Dia |
|-------|------|--------------|-----------|
| d | l | L | D h6 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 |
| 2.50 | 7.5 | 38 | 6.0 |
| 2.50 | 10.0 | 38 | 6.0 |
| 3.00 | 9.0 | 38 | 6.0 |
| 3.00 | 12.0 | 38 | 6.0 |
| 4.00 | 12.0 | 45 | 6.0 |
| 4.00 | 16.0 | 45 | 6.0 |
| 5.00 | 10.0 | 50 | 6.0 |
| 5.00 | 15.0 | 50 | 6.0 |
| 6.00 | 12.0 | 50 | 6.0 |
| 6.00 | 18.0 | 50 | 6.0 |
| 8.00 | 16.0 | 50 | 8.0 |
| 8.00 | 24.0 | 63 | 8.0 |
| 10.00 | 20.0 | 63 | 10.0 |
| 10.00 | 30.0 | 75 | 10.0 |
| 12.00 | 24.0 | 75 | 12.0 |
| 12.00 | 36.0 | 80 | 12.0 |

ON REQUEST :
Inch Sizes / Special sizes

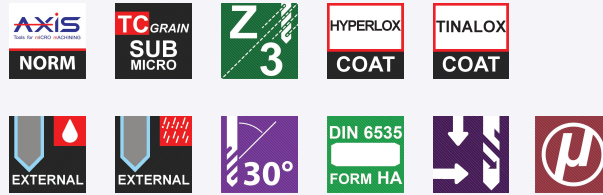
PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9681



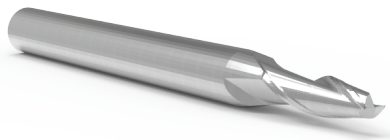
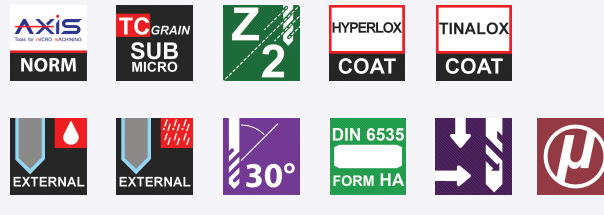
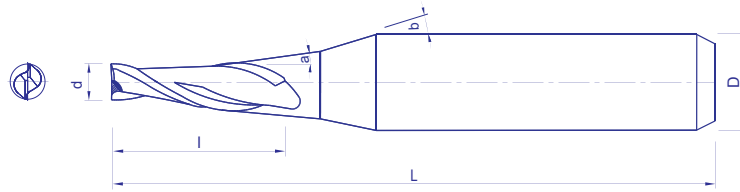
| Dia | EFL | Total Length | Shank Dia | | Dia | Flute | Total Length | Shank Dia |
|------|------|--------------|-----------|--|-------|-------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 | | 5.00 | 10.0 | 50 | 6.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 | | 5.00 | 15.0 | 50 | 6.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 | | 6.00 | 12.0 | 50 | 6.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 | | 6.00 | 18.0 | 50 | 6.0 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 | | 8.00 | 16.0 | 50 | 8.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 | | 8.00 | 24.0 | 63 | 8.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 | | 10.00 | 20.0 | 63 | 10.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 | | 10.00 | 30.0 | 75 | 10.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 | | 12.00 | 24.0 | 75 | 12.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 | | 12.00 | 36.0 | 80 | 12.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 | | | | | |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.50 | 7.5 | 38 | 6.0 | | | | | |
| 2.50 | 10.0 | 38 | 6.0 | | | | | |
| 3.00 | 9.0 | 38 | 6.0 | | | | | |
| 3.00 | 12.0 | 38 | 6.0 | | | | | |
| 4.00 | 12.0 | 45 | 6.0 | | | | | |
| 4.00 | 16.0 | 45 | 6.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

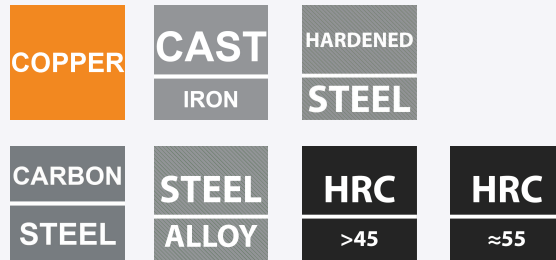
PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9501



Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
Dia d 0.201 - 0.400 : -0.010 / -0.030
Dia d 0.401 - 12.00 : -0.010 / -0.050

ON REQUEST :

Inch Sizes / Special sizes

PACKING :

Single tool / pack

All Dimensions in mm otherwise specified

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|------|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | b | L | D h6 |
| 0.20 | 30' | 0.80 | 0.21 | 9° | 45 | 4.0 |
| 0.20 | 1° | 0.80 | 0.23 | 9° | 45 | 4.0 |
| 0.20 | 1°30' | 0.80 | 0.24 | 9° | 45 | 4.0 |
| 0.20 | 2° | 0.80 | 0.26 | 9° | 45 | 4.0 |
| 0.20 | 3° | 0.80 | 0.28 | 9° | 45 | 4.0 |
| 0.20 | 5° | 0.80 | 0.34 | 9° | 45 | 4.0 |
| 0.20 | 10° | 0.80 | 0.48 | - | 45 | 4.0 |
| 0.30 | 30' | 1.20 | 0.32 | 9° | 45 | 4.0 |
| 0.30 | 1° | 1.20 | 0.34 | 9° | 45 | 4.0 |
| 0.30 | 1°30' | 1.20 | 0.36 | 9° | 45 | 4.0 |
| 0.30 | 2° | 1.20 | 0.38 | 9° | 45 | 4.0 |
| 0.30 | 3° | 1.20 | 0.43 | 9° | 45 | 4.0 |
| 0.30 | 5° | 1.20 | 0.51 | 9° | 45 | 4.0 |
| 0.30 | 10° | 1.20 | 0.72 | - | 45 | 4.0 |
| 0.40 | 30' | 1.60 | 0.43 | 9° | 45 | 4.0 |
| 0.40 | 1° | 1.60 | 0.46 | 9° | 45 | 4.0 |
| 0.40 | 1°30' | 1.60 | 0.48 | 9° | 45 | 4.0 |
| 0.40 | 2° | 1.60 | 0.51 | 9° | 45 | 4.0 |
| 0.40 | 3° | 1.60 | 0.57 | 9° | 45 | 4.0 |
| 0.40 | 5° | 1.60 | 0.68 | 9° | 45 | 4.0 |

Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
 Dia d 0.201 - 0.400 : -0.010 / -0.030
 Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|-----|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 0.40 | 10° | 1.6 | 0.96 | - | 45 | 4.0 |
| 0.50 | 30' | 2.0 | 0.53 | 9° | 45 | 4.0 |
| 0.50 | 1° | 2.0 | 0.57 | 9° | 45 | 4.0 |
| 0.50 | 1°30' | 2.0 | 0.60 | 9° | 45 | 4.0 |
| 0.50 | 2° | 2.0 | 0.64 | 9° | 45 | 4.0 |
| 0.50 | 3° | 2.0 | 0.71 | 9° | 45 | 4.0 |
| 0.50 | 4° | 2.0 | 0.78 | 9° | 45 | 4.0 |
| 0.50 | 5° | 2.0 | 0.85 | 9° | 45 | 4.0 |
| 0.50 | 6° | 2.0 | 0.92 | 9° | 45 | 4.0 |
| 0.50 | 7° | 2.0 | 0.99 | 9° | 45 | 4.0 |
| 0.50 | 10° | 2.0 | 1.21 | - | 45 | 4.0 |
| 0.50 | 15° | 2.0 | 1.57 | 15° | 45 | 4.0 |
| 0.50 | 20° | 2.0 | 1.96 | 15° | 45 | 4.0 |
| 0.60 | 30' | 2.0 | 0.63 | 9° | 45 | 4.0 |
| 0.60 | 1° | 2.0 | 0.67 | 9° | 45 | 4.0 |
| 0.60 | 1°30' | 2.0 | 0.70 | 9° | 45 | 4.0 |
| 0.60 | 2° | 2.0 | 0.74 | 9° | 45 | 4.0 |
| 0.60 | 3° | 2.0 | 0.81 | 9° | 45 | 4.0 |
| 0.60 | 4° | 2.0 | 0.88 | 9° | 45 | 4.0 |
| 0.60 | 5° | 2.0 | 0.95 | 9° | 45 | 4.0 |
| 0.60 | 6° | 2.0 | 1.02 | 9° | 45 | 4.0 |
| 0.60 | 7° | 2.0 | 1.09 | 9° | 45 | 4.0 |
| 0.60 | 10° | 2.0 | 1.31 | - | 45 | 4.0 |
| 0.60 | 15° | 2.0 | 1.67 | 15° | 45 | 4.0 |
| 0.60 | 20° | 2.0 | 2.06 | 15° | 45 | 4.0 |
| 0.70 | 30' | 2.0 | 0.73 | 9° | 45 | 4.0 |
| 0.70 | 1° | 2.0 | 0.77 | 9° | 45 | 4.0 |
| 0.70 | 1°30' | 2.0 | 0.80 | 9° | 45 | 4.0 |
| 0.70 | 2° | 2.0 | 0.84 | 9° | 45 | 4.0 |
| 0.70 | 2° | 2.0 | 0.91 | 9° | 45 | 4.0 |
| 0.70 | 4° | 2.0 | 0.98 | 9° | 45 | 4.0 |
| 0.70 | 5° | 2.0 | 1.05 | 9° | 45 | 4.0 |
| 0.70 | 6° | 2.0 | 1.12 | 9° | 45 | 4.0 |
| 0.70 | 7° | 2.0 | 1.19 | 9° | 45 | 4.0 |
| 0.70 | 10° | 2.0 | 1.41 | - | 45 | 4.0 |
| 0.70 | 15° | 2.0 | 1.77 | 15° | 45 | 4.0 |
| 0.70 | 20° | 2.0 | 2.16 | 15° | 45 | 4.0 |
| 0.80 | 30' | 3.0 | 0.85 | 9° | 45 | 4.0 |
| 0.80 | 1° | 3.0 | 0.90 | 9° | 45 | 4.0 |
| 0.80 | 1°30' | 3.0 | 0.96 | 9° | 45 | 4.0 |
| 0.80 | 2° | 3.0 | 1.01 | 9° | 45 | 4.0 |
| 0.80 | 3° | 3.0 | 1.11 | 9° | 45 | 4.0 |
| 0.80 | 4° | 3.0 | 1.21 | 9° | 45 | 4.0 |
| 0.80 | 5° | 3.0 | 1.32 | 9° | 45 | 4.0 |
| 0.80 | 6° | 3.0 | 1.43 | 9° | 45 | 4.0 |
| 0.80 | 7° | 3.0 | 1.54 | 9° | 45 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Tolerance:
Dia d ≤ 0.200 : -0.010 / -0.025
Dia d 0.201 - 0.400 : -0.010 / -0.030
Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|-----|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 0.80 | 10° | 3.0 | 1.86 | - | 45 | 4.0 |
| 0.80 | 15° | 3.0 | 2.41 | 15° | 45 | 4.0 |
| 0.80 | 20° | 3.0 | 2.98 | - | 45 | 4.0 |
| 0.90 | 30' | 3.0 | 0.95 | 9° | 45 | 4.0 |
| 0.90 | 1° | 3.0 | 1.00 | 9° | 45 | 4.0 |
| 0.90 | 1°30' | 3.0 | 1.06 | 9° | 45 | 4.0 |
| 0.90 | 2° | 3.0 | 1.11 | 9° | 45 | 4.0 |
| 0.90 | 3° | 3.0 | 1.21 | 9° | 45 | 4.0 |
| 0.90 | 4° | 3.0 | 1.32 | 9° | 45 | 4.0 |
| 0.90 | 5° | 3.0 | 1.42 | 9° | 45 | 4.0 |
| 0.90 | 6° | 3.0 | 1.53 | 9° | 45 | 4.0 |
| 0.90 | 7° | 3.0 | 1.64 | 9° | 45 | 4.0 |
| 0.90 | 10° | 3.0 | 1.96 | - | 45 | 4.0 |
| 0.90 | 15° | 3.0 | 2.51 | 15° | 45 | 4.0 |
| 0.90 | 20° | 3.0 | 3.08 | 9° | 45 | 4.0 |
| 1.00 | 30' | 4.0 | 1.07 | 9° | 45 | 4.0 |
| 1.00 | 1° | 4.0 | 1.14 | 9° | 45 | 4.0 |
| 1.00 | 1°30' | 4.0 | 1.21 | 9° | 45 | 4.0 |
| 1.00 | 2° | 4.0 | 1.28 | 9° | 45 | 4.0 |
| 1.00 | 3° | 4.0 | 1.42 | 9° | 45 | 4.0 |
| 1.00 | 4° | 4.0 | 1.56 | 9° | 45 | 4.0 |
| 1.00 | 5° | 4.0 | 1.70 | 9° | 45 | 4.0 |
| 1.00 | 6° | 4.0 | 1.84 | 9° | 45 | 4.0 |
| 1.00 | 7° | 4.0 | 1.98 | 9° | 45 | 4.0 |
| 1.00 | 10° | 4.0 | 2.41 | - | 45 | 4.0 |
| 1.00 | 15° | 4.0 | 3.14 | 15° | 50 | 6.0 |
| 1.00 | 20° | 4.0 | 3.91 | 15° | 50 | 6.0 |
| 1.50 | 30' | 5.0 | 1.59 | 9° | 45 | 4.0 |
| 1.50 | 1° | 5.0 | 1.67 | 9° | 45 | 4.0 |
| 1.50 | 1°30' | 5.0 | 1.76 | 9° | 45 | 4.0 |
| 1.50 | 2° | 5.0 | 1.85 | 9° | 45 | 4.0 |
| 1.50 | 3° | 5.0 | 2.02 | 9° | 45 | 4.0 |
| 1.50 | 4° | 5.0 | 2.20 | 9° | 45 | 4.0 |
| 1.50 | 5° | 5.0 | 2.37 | 9° | 45 | 4.0 |
| 1.50 | 6° | 5.0 | 2.55 | 9° | 45 | 4.0 |
| 1.50 | 7° | 5.0 | 2.73 | 9° | 45 | 4.0 |
| 1.50 | 10° | 5.0 | 3.26 | - | 45 | 4.0 |
| 1.50 | 15° | 5.0 | 4.18 | 15° | 50 | 6.0 |
| 1.50 | 20° | 5.0 | 5.14 | - | 50 | 6.0 |
| 2.00 | 30' | 6.0 | 2.10 | 9° | 45 | 4.0 |
| 2.00 | 1° | 6.0 | 2.21 | 9° | 45 | 4.0 |
| 2.00 | 1°30' | 6.0 | 2.31 | 9° | 45 | 4.0 |
| 2.00 | 2° | 6.0 | 2.41 | 9° | 45 | 4.0 |
| 2.00 | 3° | 6.0 | 2.62 | 9° | 45 | 4.0 |
| 2.00 | 4° | 6.0 | 2.84 | 9° | 45 | 4.0 |
| 2.00 | 5° | 6.0 | 3.05 | 9° | 45 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
 Dia d 0.201 - 0.400 : -0.010 / -0.030
 Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|------|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 2.00 | 6° | 6.0 | 3.26 | 9° | 45 | 4.0 |
| 2.00 | 7° | 6.0 | 3.47 | - | 45 | 4.0 |
| 2.00 | 10° | 6.0 | 4.11 | - | 50 | 6.0 |
| 2.00 | 15° | 6.0 | 5.22 | - | 50 | 6.0 |
| 2.00 | 20° | 6.0 | 6.37 | - | 50 | 6.0 |
| 2.50 | 30' | 8.0 | 2.64 | 9° | 45 | 4.0 |
| 2.50 | 1° | 8.0 | 2.78 | 9° | 45 | 4.0 |
| 2.50 | 1°30' | 8.0 | 2.91 | 9° | 45 | 4.0 |
| 2.50 | 2° | 8.0 | 3.05 | 9° | 45 | 4.0 |
| 2.50 | 3° | 8.0 | 3.33 | 9° | 45 | 4.0 |
| 2.50 | 4° | 8.0 | 3.62 | - | 45 | 4.0 |
| 2.50 | 5° | 8.0 | 3.90 | - | 45 | 4.0 |
| 2.50 | 6° | 8.0 | 4.18 | - | 50 | 4.0 |
| 2.50 | 7° | 8.0 | 4.46 | - | 50 | 4.0 |
| 2.50 | 10° | 8.0 | 5.32 | - | 50 | 6.0 |
| 2.50 | 15° | 8.0 | 6.79 | - | 50 | 6.0 |
| 2.50 | 20° | 8.0 | 8.32 | - | 60 | 8.0 |
| 3.00 | 30' | 10.0 | 3.17 | 9° | 50 | 6.0 |
| 3.00 | 1° | 10.0 | 3.35 | 9° | 50 | 6.0 |
| 3.00 | 1°30' | 10.0 | 3.52 | 9° | 50 | 6.0 |
| 3.00 | 2° | 10.0 | 3.69 | 9° | 50 | 6.0 |
| 3.00 | 3° | 10.0 | 4.05 | 9° | 50 | 6.0 |
| 3.00 | 4° | 10.0 | 4.40 | 9° | 50 | 6.0 |
| 3.00 | 5° | 10.0 | 4.75 | 9° | 50 | 6.0 |
| 3.00 | 6° | 10.0 | 5.10 | - | 50 | 6.0 |
| 3.00 | 7° | 10.0 | 5.46 | - | 50 | 6.0 |
| 3.00 | 10° | 10.0 | 6.53 | - | 50 | 6.0 |
| 3.00 | 15° | 10.0 | 8.36 | - | 60 | 8.0 |
| 3.00 | 20° | 10.0 | 10.30 | - | 70 | 10.0 |
| 4.00 | 30' | 15.0 | 4.26 | 9° | 50 | 6.0 |
| 4.00 | 1° | 15.0 | 4.52 | 9° | 50 | 6.0 |
| 4.00 | 1°30' | 15.0 | 4.79 | 9° | 50 | 6.0 |
| 4.00 | 2° | 15.0 | 5.04 | 9° | 50 | 6.0 |
| 4.00 | 3° | 15.0 | 5.57 | 9° | 50 | 6.0 |
| 4.00 | 4° | 15.0 | 6.10 | - | 55 | 6.0 |
| 4.00 | 5° | 15.0 | 6.62 | - | 55 | 6.0 |
| 4.00 | 6° | 15.0 | 7.15 | - | 55 | 6.0 |
| 4.00 | 7° | 15.0 | 7.68 | - | 55 | 6.0 |
| 4.00 | 10° | 15.0 | 9.29 | - | 60 | 8.0 |
| 4.00 | 15° | 15.0 | 12.04 | - | 80 | 12.0 |
| 4.00 | 20° | 15.0 | 14.92 | - | 80 | 12.0 |
| 5.00 | 30' | 20.0 | 5.34 | 9° | 55 | 6.0 |
| 5.00 | 1° | 20.0 | 5.70 | 9° | 55 | 6.0 |
| 5.00 | 1°30' | 20.0 | 6.04 | - | 55 | 6.0 |
| 5.00 | 2° | 20.0 | 6.39 | - | 55 | 6.0 |
| 5.00 | 3° | 20.0 | 7.10 | - | 55 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
 Dia d 0.201 - 0.400 : -0.010 / -0.030
 Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|-------|-------------|------|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 5.00 | 4° | 20.0 | 7.80 | - | 60 | 6.0 |
| 5.00 | 5° | 20.0 | 8.50 | - | 60 | 8.0 |
| 5.00 | 6° | 20.0 | 9.20 | - | 60 | 8.0 |
| 5.00 | 7° | 20.0 | 9.91 | - | 70 | 10.0 |
| 5.00 | 10° | 20.0 | 12.05 | - | 80 | 12.0 |
| 6.00 | 30' | 20.0 | 6.35 | - | 55 | 6.0 |
| 6.00 | 1° | 20.0 | 6.70 | - | 55 | 6.0 |
| 6.00 | 1°30' | 20.0 | 7.05 | - | 55 | 6.0 |
| 6.00 | 2° | 20.0 | 7.40 | - | 55 | 6.0 |
| 6.00 | 3° | 20.0 | 8.10 | - | 60 | 8.0 |
| 6.00 | 4° | 20.0 | 8.80 | - | 65 | 8.0 |
| 6.00 | 5° | 20.0 | 9.50 | - | 65 | 8.0 |
| 6.00 | 6° | 20.0 | 10.20 | - | 70 | 10.0 |
| 6.00 | 7° | 20.0 | 10.91 | - | 70 | 10.0 |
| 6.00 | 10° | 20.0 | 13.05 | - | 80 | 12.0 |
| 8.00 | 30' | 25.0 | 8.44 | - | 65 | 8.0 |
| 8.00 | 1° | 25.0 | 8.87 | - | 65 | 8.0 |
| 8.00 | 1°30' | 25.0 | 9.31 | - | 65 | 8.0 |
| 8.00 | 2° | 25.0 | 9.74 | - | 65 | 8.0 |
| 8.00 | 30' | 25.0 | 8.44 | - | 65 | 8.0 |
| 8.00 | 1° | 25.0 | 8.87 | - | 65 | 8.0 |
| 8.00 | 1°30' | 25.0 | 9.31 | - | 65 | 8.0 |
| 8.00 | 2° | 25.0 | 9.74 | - | 65 | 8.0 |
| 8.00 | 3° | 25.0 | 10.62 | - | 70 | 10.0 |
| 8.00 | 5° | 25.0 | 12.37 | - | 90 | 12.0 |
| 10.00 | 30' | 35.0 | 10.61 | - | 85 | 10.0 |
| 10.00 | 1° | 35.0 | 11.22 | - | 85 | 10.0 |
| 10.00 | 1°30' | 35.0 | 11.83 | - | 85 | 10.0 |
| 10.00 | 2° | 35.0 | 12.44 | - | 90 | 12.0 |
| 10.00 | 3° | 35.0 | 13.67 | - | 90 | 12.0 |
| 12.00 | 30' | 35.0 | 12.61 | - | 85 | 12.0 |
| 12.00 | 1° | 35.0 | 13.22 | - | 90 | 12.0 |
| 12.00 | 2° | 35.0 | 14.44 | - | 90 | 12.0 |

ON REQUEST :

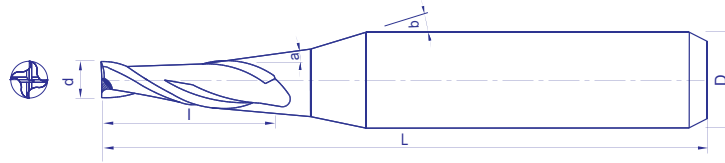
Inch Sizes / Special sizes

PACKING :

Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9511

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Dia | Taper Angle | EFL | | | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|-----|------|------|----------------|--------------|-----------|
| d | a | l | | | b | L | D h6 |
| 0.20 | 30' | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.20 | 1° | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.20 | 1'30' | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.20 | 2° | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 30' | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 1° | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 1'30' | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 2° | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 1° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 1'30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 2° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 1° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 1'30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 2° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.60 | 30' | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |
| 0.60 | 1° | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |
| 0.60 | 1'30' | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |
| 0.60 | 2° | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



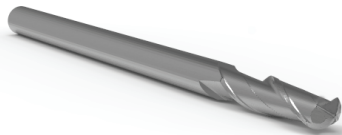
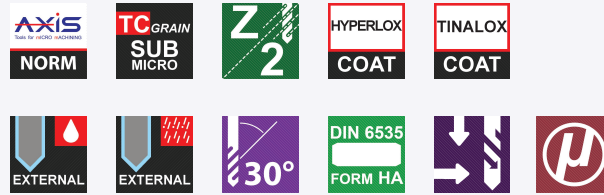
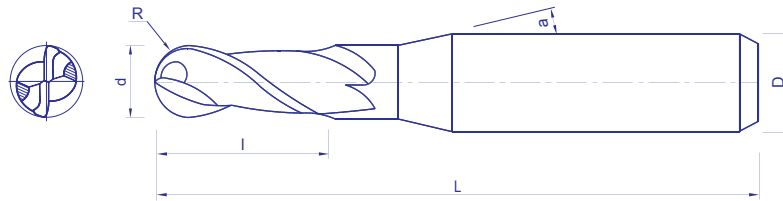
| Dia | Taper Angle | EFL | | | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|------|------|-------|----------------|--------------|-----------|
| d | a | l | | | q | L | D h6 |
| 0.70 | 30' | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.70 | 1° | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.70 | 1'30' | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.70 | 2° | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.80 | 30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 0.80 | 1° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 0.80 | 1'30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 0.80 | 2° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 1° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 1'30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 2° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.20 | 30' | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.20 | 1° | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.20 | 1'30' | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.20 | 2° | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.50 | 30' | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 1.50 | 1° | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 1.50 | 1'30' | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 1.50 | 2° | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 2.00 | 30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 1° | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 1'30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 2° | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 3° | 10.0 | 16.0 | 25.0 | 15° | 60 | 6.0 |
| 2.50 | 30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.50 | 1° | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.50 | 1'30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.50 | 2° | 10.0 | 16.0 | 25.0 | 15° | 60 | 6.0 |
| 3.00 | 30' | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |
| 3.00 | 1° | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |
| 3.00 | 1'30' | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |
| 3.00 | 2° | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

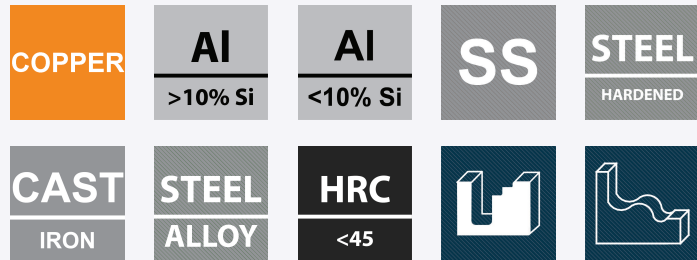
PACKING :
Single tool / pack

All Dimensions in mm otherwise specified





AXIS B9701



BALL RADIUS TOL:
± 0.005 (R 0.10 - R 1.50)
± 0.010 (R 2.00 - R 6.00)

For dia range:
0.20 - 1.499mm a = 11°
1.50 - 12.00mm a = 15°

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 1.80mm : 10 tools / pack,
Dia > 1.80mm : Single tool / pack

All Dimensions in mm otherwise specified

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|------|-----|--------------|-----------|
| R | d | l | L | D h6 |
| 0.10 | 0.20 | 0.2 | 38 | 3.0 / 4.0 |
| 0.10 | 0.20 | 0.4 | 38 | 3.0 / 4.0 |
| 0.15 | 0.30 | 0.3 | 38 | 3.0 / 4.0 |
| 0.15 | 0.30 | 0.6 | 38 | 3.0 / 4.0 |
| 0.20 | 0.40 | 0.4 | 38 | 3.0 / 4.0 |
| 0.20 | 0.40 | 0.8 | 38 | 3.0 / 4.0 |
| 0.25 | 0.50 | 0.5 | 38 | 3.0 / 4.0 |
| 0.25 | 0.50 | 1.0 | 38 | 3.0 / 4.0 |
| 0.30 | 0.60 | 0.6 | 38 | 3.0 / 4.0 |
| 0.30 | 0.60 | 1.2 | 38 | 3.0 / 4.0 |
| 0.35 | 0.70 | 0.7 | 38 | 3.0 / 4.0 |
| 0.35 | 0.70 | 1.4 | 38 | 3.0 / 4.0 |
| 0.40 | 0.80 | 0.8 | 38 | 3.0 / 4.0 |
| 0.40 | 0.80 | 1.6 | 38 | 3.0 / 4.0 |
| 0.45 | 0.90 | 0.9 | 38 | 3.0 / 4.0 |
| 0.45 | 0.90 | 1.8 | 38 | 3.0 / 4.0 |
| 0.50 | 1.00 | 1.0 | 38 | 3.0 / 4.0 |
| 0.50 | 1.00 | 2.0 | 38 | 3.0 / 4.0 |
| 0.60 | 1.20 | 2.4 | 38 | 3.0 / 4.0 |
| 0.60 | 1.20 | 3.6 | 38 | 3.0 / 4.0 |

BALL RADIUS TOL:
± 0.005 (R 0.10 - R 1.50)
± 0.010 (R 2.00 - R 6.00)

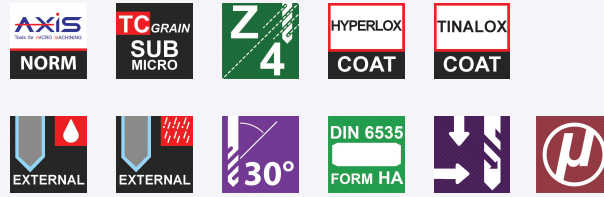
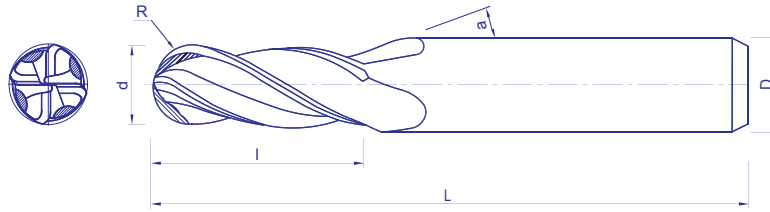
For dia range:
0.20 - 1.499mm a = 11°
1.50 - 12.00mm a = 15°

ON REQUEST :
Inch Sizes / Special sizes

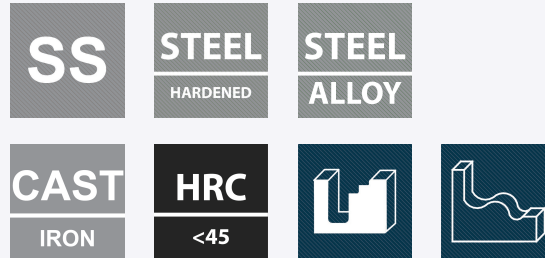
PACKING :
Up to Dia 1.80mm : 10 tools / pack,
Dia > 1.80mm : Single tool / pack

All Dimensions in mm otherwise specified

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|-------|------|--------------|-----------|
| R | d | l | L | D h6 |
| 0.70 | 1.40 | 2.8 | 38 | 3.0 / 4.0 |
| 0.70 | 1.40 | 4.2 | 38 | 3.0 / 4.0 |
| 0.75 | 1.50 | 3.0 | 38 | 3.0 / 4.0 |
| 0.75 | 1.50 | 4.5 | 38 | 3.0 / 4.0 |
| 0.80 | 1.60 | 3.2 | 38 | 3.0 / 4.0 |
| 0.80 | 1.60 | 4.8 | 38 | 3.0 / 4.0 |
| 0.90 | 1.80 | 3.6 | 38 | 3.0 / 4.0 |
| 0.90 | 1.80 | 5.4 | 38 | 3.0 / 4.0 |
| 1.00 | 2.00 | 4.0 | 38 | 6.0 |
| 1.00 | 2.00 | 6.0 | 38 | 6.0 |
| 1.25 | 2.50 | 5.0 | 38 | 6.0 |
| 1.25 | 2.50 | 7.5 | 38 | 6.0 |
| 1.50 | 3.00 | 6.0 | 38 | 6.0 |
| 1.50 | 3.00 | 8.0 | 38 | 6.0 |
| 2.00 | 4.00 | 8.0 | 45 | 6.0 |
| 2.00 | 4.00 | 12.0 | 45 | 6.0 |
| 2.50 | 5.00 | 8.0 | 50 | 6.0 |
| 2.50 | 5.00 | 12.0 | 50 | 6.0 |
| 3.00 | 6.00 | 10.0 | 50 | 6.0 |
| 3.00 | 6.00 | 12.0 | 50 | 6.0 |
| 4.00 | 8.00 | 12.0 | 50 | 8.0 |
| 4.00 | 8.00 | 16.0 | 63 | 8.0 |
| 5.00 | 10.00 | 15.0 | 63 | 10.0 |
| 5.00 | 10.00 | 20.0 | 75 | 10.0 |
| 6.00 | 12.00 | 18.0 | 75 | 12.0 |
| 6.00 | 12.00 | 24.0 | 75 | 12.0 |



AXIS B9721



For dia range:
0.20 - 1.499mm a = 11°
1.50 - 12.00mm a = 15°

ON REQUEST :
* Standard non Stock / Inch Sizes /
Special sizes

PACKING :
Up to Dia 1.80mm : 10 tools / pack
with Shank 3.00mm
Single / pack with Shank 4.00mm,
Dia 2.00 - 6.00mm : 5 tools / pack,
Dia > 6.00mm : Single tool / pack

All Dimensions in mm otherwise
specified

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|------|-----|--------------|------------|
| R | d | l | L | D h6 |
| 0.10 | 0.20 | 0.2 | 38 | 3.0 / 4.0* |
| 0.10 | 0.20 | 0.6 | 38 | 3.0 / 4.0* |
| 0.15 | 0.30 | 0.3 | 38 | 3.0 / 4.0* |
| 0.15 | 0.30 | 0.9 | 38 | 3.0 / 4.0* |
| 0.20 | 0.40 | 0.8 | 38 | 3.0 / 4.0* |
| 0.20 | 0.40 | 1.2 | 38 | 3.0 / 4.0* |
| 0.25 | 0.50 | 1.0 | 38 | 3.0 / 4.0* |
| 0.25 | 0.50 | 1.5 | 38 | 3.0 / 4.0* |
| 0.30 | 0.60 | 1.2 | 38 | 3.0 / 4.0* |
| 0.30 | 0.60 | 1.8 | 38 | 3.0 / 4.0* |
| 0.35 | 0.70 | 1.4 | 38 | 3.0 / 4.0* |
| 0.35 | 0.70 | 2.1 | 38 | 3.0 / 4.0* |
| 0.40 | 0.80 | 1.6 | 38 | 3.0 / 4.0* |
| 0.40 | 0.80 | 2.4 | 38 | 3.0 / 4.0* |
| 0.45 | 0.90 | 1.8 | 38 | 3.0 / 4.0* |
| 0.45 | 0.90 | 2.7 | 38 | 3.0 / 4.0* |
| 0.50 | 1.00 | 3.0 | 38 | 3.0 / 4.0* |
| 0.50 | 1.00 | 5.0 | 38 | 3.0 / 4.0* |
| 0.60 | 1.20 | 3.6 | 38 | 3.0 / 4.0* |
| 0.60 | 1.20 | 6.0 | 38 | 3.0 / 4.0* |

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|-------|------|--------------|------------|
| R | d | l | L | D h6 |
| 0.70 | 1.40 | 4.2 | 38 | 3.0 / 4.0* |
| 0.70 | 1.40 | 7.0 | 38 | 3.0 / 4.0* |
| 0.75 | 1.50 | 4.5 | 38 | 3.0 / 4.0* |
| 0.75 | 1.50 | 7.5 | 38 | 3.0 / 4.0* |
| 0.80 | 1.60 | 4.8 | 38 | 3.0 / 4.0* |
| 0.80 | 1.60 | 8.0 | 38 | 3.0 / 4.0* |
| 0.90 | 1.80 | 5.4 | 38 | 3.0 / 4.0* |
| 0.90 | 1.80 | 9.0 | 38 | 3.0 / 4.0* |
| 1.00 | 2.00 | 6.0 | 38 | 6.0 |
| 1.00 | 2.00 | 10.0 | 38 | 6.0 |
| 1.25 | 2.50 | 7.5 | 38 | 6.0 |
| 1.25 | 2.50 | 10.0 | 38 | 6.0 |
| 1.50 | 3.00 | 9.0 | 38 | 6.0 |
| 1.50 | 3.00 | 12.0 | 38 | 6.0 |
| 2.00 | 4.00 | 12.0 | 45 | 6.0 |
| 2.00 | 4.00 | 16.0 | 45 | 6.0 |
| 2.50 | 5.00 | 10.0 | 50 | 6.0 |
| 2.50 | 5.00 | 15.0 | 50 | 6.0 |
| 3.00 | 6.00 | 12.0 | 50 | 6.0 |
| 3.00 | 6.00 | 18.0 | 50 | 6.0 |
| 4.00 | 8.00 | 16.0 | 50 | 8.0 |
| 4.00 | 8.00 | 20.0 | 63 | 8.0 |
| 5.00 | 10.00 | 22.0 | 75 | 10.0 |
| 6.00 | 12.00 | 25.0 | 75 | 12.0 |

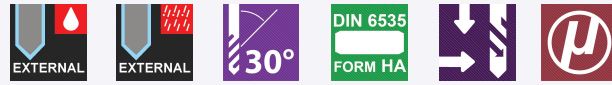
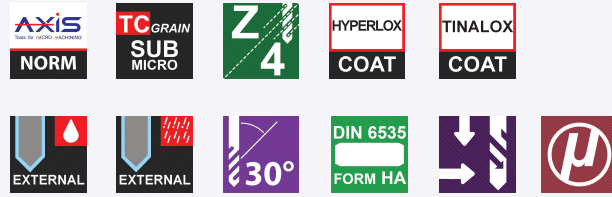
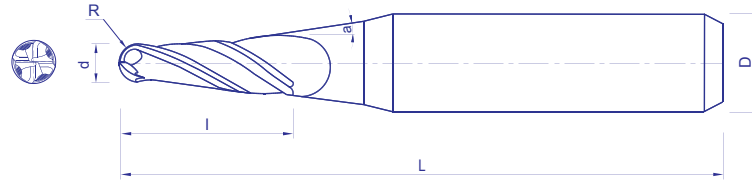
For dia range:
 0.20 - 1.499mm a = 11°
 1.50 - 12.00mm a = 15°

ON REQUEST :
 * Standard non Stock / Inch Sizes /
 Special sizes

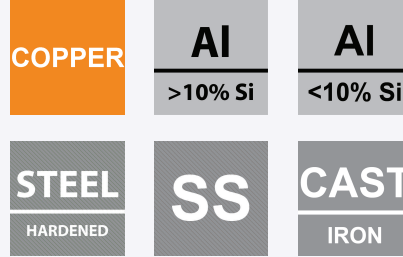
PACKING :
 Up to Dia 1.80mm : 10 tools / pack
 with Shank 3.00mm
 Single / pack with Shank 4.00mm,
 Dia 2.00 - 6.00mm : 5 tools / pack,
 Dia > 6.00mm : Single tool / pack

All Dimensions in mm otherwise
 specified





AXIS B9521



| Radius | Dia | Taper Angle | EFL | | | Total Length | Shank Dia |
|--------|------|-------------|-----|------|-------|--------------|-----------|
| R | d | a | l | | | L | D h6 |
| 0.30 | 0.60 | 30' | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.30 | 0.60 | 1° | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.30 | 0.60 | 1'30' | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.30 | 0.60 | 2° | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.40 | 0.80 | 1° | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.40 | 0.80 | 1'30' | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.40 | 0.80 | 2° | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.50 | 1.00 | 1° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.50 | 1.00 | 1'30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.50 | 1.00 | 2° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 1° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 1'30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 2° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 1° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 1'30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 2° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



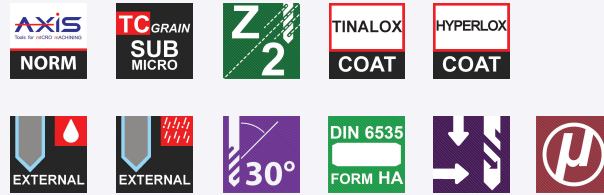
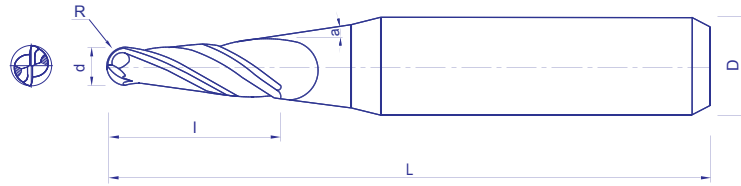
| Radius | Dia | Taper Angle | EFL | | | Total Length | Shank Dia |
|--------|------|-------------|------|------|------|--------------|-----------|
| R | d | a | l | | | L | D h6 |
| 0.80 | 1.60 | 30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.80 | 1.60 | 1° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.80 | 1.60 | 1'30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.80 | 1.60 | 2° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 1° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 1'30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 2° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 30' | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 1° | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 1'30' | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 2° | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.25 | 2.50 | 30' | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |
| 1.25 | 2.50 | 1° | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |
| 1.25 | 2.50 | 1'30' | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |
| 1.25 | 2.50 | 2° | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

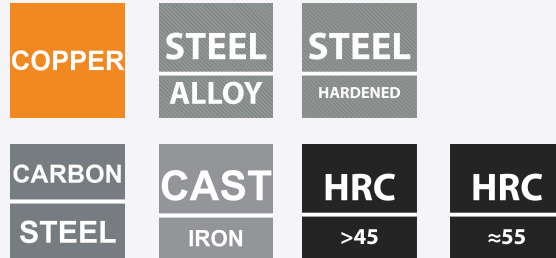
PACKING :
Single tool / pack

All Dimensions in mm otherwise specified





AXIS B9531



Ball Radius Tolerance:
±0.005 (R < 0.25)
±0.010 (R ≥ 0.25)

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a ± 10' | l | | L | D h6 |
| 0.30 | 0.60 | 30' | 4.0 | 0.66 | 38 | 3.0 |
| 0.30 | 0.60 | 30' | 6.0 | 0.70 | 38 | 3.0 |
| 0.30 | 0.60 | 45' | 4.0 | 0.70 | 38 | 3.0 |
| 0.30 | 0.60 | 45' | 6.0 | 0.75 | 38 | 3.0 |
| 0.30 | 0.60 | 1° | 4.0 | 0.73 | 38 | 3.0 |
| 0.30 | 0.60 | 1° | 6.0 | 0.80 | 38 | 3.0 |
| 0.30 | 0.60 | 1°30' | 4.0 | 0.79 | 38 | 3.0 |
| 0.30 | 0.60 | 1°30' | 6.0 | 0.90 | 38 | 3.0 |
| 0.30 | 0.60 | 2° | 4.0 | 0.86 | 38 | 3.0 |
| 0.30 | 0.60 | 2° | 6.0 | 1.00 | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 6.0 | 0.90 | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 8.0 | 0.93 | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 10.0 | 0.97 | 45 | 4.0 |
| 0.40 | 0.80 | 45' | 6.0 | 0.95 | 38 | 3.0 |
| 0.40 | 0.80 | 45' | 8.0 | 1.00 | 38 | 3.0 |
| 0.40 | 0.80 | 45' | 10.0 | 1.05 | 45 | 4.0 |
| 0.40 | 0.80 | 1° | 6.0 | 1.00 | 38 | 3.0 |
| 0.40 | 0.80 | 1° | 8.0 | 1.07 | 38 | 3.0 |
| 0.40 | 0.80 | 1° | 10.0 | 1.14 | 45 | 4.0 |
| 0.40 | 0.80 | 1°30' | 6.0 | 1.09 | 38 | 3.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Ball Radius Tolerance:
 ± 0.005 (R < 0.25)
 ± 0.010 (R \geq 0.25)

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a \pm 10' | l | | L | D h6 |
| 0.40 | 0.80 | 1°30' | 8.0 | 1.20 | 38 | 3.0 |
| 0.40 | 0.80 | 1°30' | 10.0 | 1.30 | 45 | 4.0 |
| 0.40 | 0.80 | 2° | 6.0 | 1.19 | 38 | 3.0 |
| 0.40 | 0.80 | 2° | 8.0 | 1.33 | 38 | 3.0 |
| 0.40 | 0.80 | 2° | 10.0 | 1.47 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 8.0 | 1.13 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 10.0 | 1.20 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 20.0 | 1.34 | 55 | 4.0 |
| 0.50 | 1.00 | 45' | 8.0 | 1.20 | 45 | 4.0 |
| 0.50 | 1.00 | 45' | 12.0 | 1.30 | 45 | 4.0 |
| 0.50 | 1.00 | 45' | 20.0 | 1.51 | 55 | 4.0 |
| 0.50 | 1.00 | 1° | 8.0 | 1.26 | 45 | 4.0 |
| 0.50 | 1.00 | 1° | 12.0 | 1.40 | 45 | 4.0 |
| 0.50 | 1.00 | 1° | 20.0 | 1.68 | 55 | 4.0 |
| 0.50 | 1.00 | 1°30' | 8.0 | 1.39 | 45 | 4.0 |
| 0.50 | 1.00 | 1°30' | 12.0 | 1.60 | 45 | 4.0 |
| 0.50 | 1.00 | 1°30' | 20.0 | 2.02 | 55 | 4.0 |
| 0.50 | 1.00 | 2° | 8.0 | 1.52 | 45 | 4.0 |
| 0.50 | 1.00 | 2° | 12.0 | 1.80 | 45 | 4.0 |
| 0.50 | 1.00 | 2° | 20.0 | 2.36 | 55 | 4.0 |
| 0.60 | 1.20 | 30' | 8.0 | 1.33 | 45 | 4.0 |
| 0.60 | 1.20 | 30' | 12.0 | 1.40 | 45 | 4.0 |
| 0.60 | 1.20 | 30' | 20.0 | 1.54 | 50 | 4.0 |
| 0.60 | 1.20 | 45' | 8.0 | 1.39 | 45 | 4.0 |
| 0.60 | 1.20 | 45' | 12.0 | 1.50 | 45 | 4.0 |
| 0.60 | 1.20 | 45' | 20.0 | 1.71 | 50 | 4.0 |
| 0.60 | 1.20 | 1° | 8.0 | 1.46 | 45 | 4.0 |
| 0.60 | 1.20 | 1° | 12.0 | 1.60 | 45 | 4.0 |
| 0.60 | 1.20 | 1° | 20.0 | 1.88 | 50 | 4.0 |
| 0.60 | 1.20 | 1°30' | 8.0 | 1.59 | 45 | 4.0 |
| 0.60 | 1.20 | 1°30' | 12.0 | 1.80 | 45 | 4.0 |
| 0.60 | 1.20 | 1°30' | 20.0 | 2.22 | 50 | 4.0 |
| 0.60 | 1.20 | 2° | 8.0 | 1.72 | 45 | 4.0 |
| 0.60 | 1.20 | 2° | 12.0 | 2.00 | 45 | 4.0 |
| 0.60 | 1.20 | 2° | 20.0 | 2.55 | 50 | 4.0 |
| 0.75 | 1.50 | 30' | 8.0 | 1.63 | 45 | 4.0 |
| 0.75 | 1.50 | 30' | 12.0 | 1.70 | 45 | 4.0 |
| 0.75 | 1.50 | 30' | 20.0 | 1.84 | 60 | 4.0 |
| 0.75 | 1.50 | 45' | 8.0 | 1.69 | 45 | 4.0 |
| 0.75 | 1.50 | 45' | 12.0 | 1.79 | 45 | 4.0 |
| 0.75 | 1.50 | 45' | 20.0 | 2.00 | 60 | 4.0 |
| 0.75 | 1.50 | 1° | 8.0 | 1.75 | 45 | 4.0 |
| 0.75 | 1.50 | 1° | 12.0 | 1.89 | 45 | 4.0 |
| 0.75 | 1.50 | 1° | 20.0 | 2.17 | 60 | 4.0 |
| 0.75 | 1.50 | 1°30' | 8.0 | 1.88 | 45 | 4.0 |
| 0.75 | 1.50 | 1°30' | 12.0 | 2.09 | 45 | 4.0 |

ON REQUEST :
 Inch Sizes / Special sizes

PACKING :
 Single tool / pack

All Dimensions in mm otherwise specified



Ball Radius Tolerance:
±0.005 (R < 0.25)
±0.010 (R ≥ 0.25)

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a ± 10' | l | | L | D h6 |
| 0.75 | 1.50 | 1°30' | 20.0 | 2.51 | 60 | 4.0 |
| 0.75 | 1.50 | 2° | 8.0 | 2.01 | 45 | 4.0 |
| 0.75 | 1.50 | 2° | 12.0 | 2.29 | 45 | 4.0 |
| 0.75 | 1.50 | 2° | 20.0 | 2.85 | 60 | 4.0 |
| 0.80 | 1.60 | 30' | 8.0 | 1.73 | 45 | 4.0 |
| 0.80 | 1.60 | 30' | 12.0 | 1.80 | 45 | 4.0 |
| 0.80 | 1.60 | 30' | 20.0 | 1.94 | 60 | 4.0 |
| 0.80 | 1.60 | 45' | 8.0 | 1.78 | 45 | 4.0 |
| 0.80 | 1.60 | 45' | 12.0 | 1.89 | 45 | 4.0 |
| 0.80 | 1.60 | 45' | 20.0 | 2.10 | 60 | 4.0 |
| 0.80 | 1.60 | 1° | 8.0 | 1.85 | 45 | 4.0 |
| 0.80 | 1.60 | 1° | 12.0 | 1.99 | 45 | 4.0 |
| 0.80 | 1.60 | 1° | 20.0 | 2.27 | 60 | 4.0 |
| 0.80 | 1.60 | 1°30' | 8.0 | 1.98 | 45 | 4.0 |
| 0.80 | 1.60 | 1°30' | 12.0 | 2.19 | 45 | 4.0 |
| 0.80 | 1.60 | 1°30' | 20.0 | 2.61 | 60 | 4.0 |
| 0.80 | 1.60 | 2° | 8.0 | 2.10 | 45 | 4.0 |
| 0.80 | 1.60 | 2° | 12.0 | 2.38 | 45 | 4.0 |
| 0.80 | 1.60 | 2° | 20.0 | 2.94 | 60 | 4.0 |
| 0.90 | 1.80 | 30' | 8.0 | 1.92 | 45 | 4.0 |
| 0.90 | 1.80 | 30' | 12.0 | 1.99 | 45 | 4.0 |
| 0.90 | 1.80 | 30' | 20.0 | 2.13 | 60 | 4.0 |
| 0.90 | 1.80 | 45' | 8.0 | 1.99 | 45 | 4.0 |
| 0.90 | 1.80 | 45' | 12.0 | 2.09 | 45 | 4.0 |
| 0.90 | 1.80 | 45' | 20.0 | 2.30 | 60 | 4.0 |
| 0.90 | 1.80 | 1° | 8.0 | 2.05 | 45 | 4.0 |
| 0.90 | 1.80 | 1° | 12.0 | 2.19 | 45 | 4.0 |
| 0.90 | 1.80 | 1° | 20.0 | 2.47 | 60 | 4.0 |
| 0.90 | 1.80 | 1°30' | 8.0 | 2.17 | 45 | 4.0 |
| 0.90 | 1.80 | 1°30' | 12.0 | 2.38 | 45 | 4.0 |
| 0.90 | 1.80 | 1°30' | 20.0 | 2.80 | 60 | 4.0 |
| 0.90 | 1.80 | 2° | 8.0 | 2.30 | 45 | 4.0 |
| 0.90 | 1.80 | 2° | 12.0 | 2.58 | 45 | 4.0 |
| 0.90 | 1.80 | 2° | 20.0 | 3.14 | 60 | 4.0 |
| 1.00 | 2.00 | 30' | 10.0 | 2.16 | 45 | 4.0 |
| 1.00 | 2.00 | 30' | 20.0 | 2.33 | 60 | 4.0 |
| 1.00 | 2.00 | 30' | 30.0 | 2.51 | 65 | 4.0 |
| 1.00 | 2.00 | 45' | 10.0 | 2.24 | 45 | 4.0 |
| 1.00 | 2.00 | 45' | 20.0 | 2.50 | 60 | 4.0 |
| 1.00 | 2.00 | 45' | 30.0 | 2.76 | 65 | 4.0 |
| 1.00 | 2.00 | 1° | 10.0 | 2.31 | 45 | 4.0 |
| 1.00 | 2.00 | 1° | 20.0 | 2.66 | 60 | 4.0 |
| 1.00 | 2.00 | 1° | 30.0 | 3.01 | 65 | 4.0 |
| 1.00 | 2.00 | 1°30' | 10.0 | 2.47 | 45 | 4.0 |
| 1.00 | 2.00 | 1°30' | 20.0 | 3.00 | 60 | 6.0 |
| 1.00 | 2.00 | 1°30' | 30.0 | 3.52 | 70 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Ball Radius Tolerance:
 ± 0.005 (R < 0.25)
 ± 0.010 (R \geq 0.25)

ON REQUEST :
 Inch Sizes / Special sizes

PACKING :
 Single tool / pack

All Dimensions in mm otherwise specified

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a \pm 10' | l | | L | D h6 |
| 1.00 | 2.00 | 2° | 10.0 | 2.63 | 45 | 4.0 |
| 1.00 | 2.00 | 2° | 20.0 | 3.33 | 60 | 4.0 |
| 1.00 | 2.00 | 2° | 30.0 | 4.03 | 70 | 6.0 |
| 1.25 | 2.50 | 30' | 10.0 | 2.65 | 60 | 6.0 |
| 1.25 | 2.50 | 30' | 16.0 | 2.76 | 60 | 6.0 |
| 1.25 | 2.50 | 30' | 25.0 | 2.91 | 70 | 6.0 |
| 1.25 | 2.50 | 45' | 10.0 | 2.73 | 60 | 6.0 |
| 1.25 | 2.50 | 45' | 16.0 | 2.89 | 60 | 6.0 |
| 1.25 | 2.50 | 45' | 25.0 | 3.12 | 70 | 6.0 |
| 1.25 | 2.50 | 1° | 10.0 | 2.81 | 60 | 6.0 |
| 1.25 | 2.50 | 1° | 16.0 | 3.02 | 60 | 6.0 |
| 1.25 | 2.50 | 1° | 25.0 | 3.33 | 70 | 6.0 |
| 1.25 | 2.50 | 1°30' | 10.0 | 2.96 | 60 | 6.0 |
| 1.25 | 2.50 | 1°30' | 16.0 | 3.27 | 60 | 6.0 |
| 1.25 | 2.50 | 1°30' | 25.0 | 3.74 | 70 | 6.0 |
| 1.25 | 2.50 | 2° | 10.0 | 3.11 | 60 | 6.0 |
| 1.25 | 2.50 | 2° | 16.0 | 3.53 | 60 | 6.0 |
| 1.25 | 2.50 | 2° | 25.0 | 4.16 | 70 | 6.0 |
| 2.00 | 4.00 | 30' | 25.0 | 4.40 | 65 | 6.0 |
| 2.00 | 4.00 | 1° | 25.0 | 4.80 | 65 | 6.0 |
| 2.00 | 4.00 | 1°30' | 25.0 | 5.21 | 65 | 6.0 |
| 2.00 | 4.00 | 2° | 25.0 | 5.61 | 70 | 6.0 |



2022

КАТАЛОГ ФРЕЗ КОНЦЕВЫХ
ТВЕРДОСПЛАВНЫХ

AXIS

Tools for **m**ICRO **m**ACHINING

для фрезерования
цветных металлов



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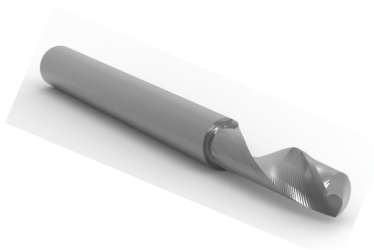
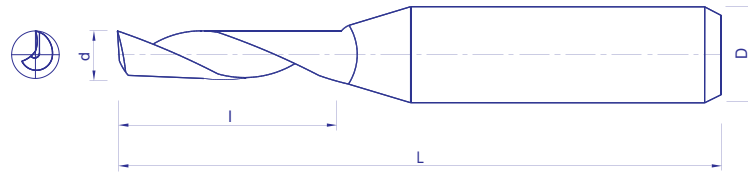


Мы предлагаем полный ассортимент фрез с алмазным покрытием CVD, сверл и специальных инструментов.

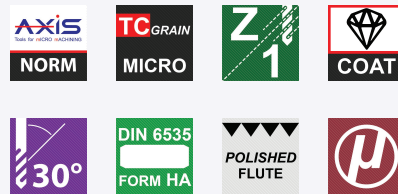
- *Высокая скорость подачи, обеспечивающая более высокую производительность*
- *Чрезвычайная износостойкость, обеспечивающая более длительный срок службы инструмента ~ 5-20x*
- *Частая смена инструментов и время простоя машины, которых удалось избежать*

QUALITY • PRECISION • CONSISTENCY





AXIS E8231



AI
<10% Si

PLASTIC **ACRYLIC**

| Dia | EFL | OAL | Shank Dia |
|------|-----|-----|-----------|
| d | l | L | D h6 |
| 0.10 | 0.3 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 |
| 0.30 | 1.0 | 38 | 3.0 |
| 0.40 | 1.0 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 |
| 0.60 | 3.0 | 38 | 3.0 |
| 0.80 | 5.0 | 38 | 3.0 |
| 1.00 | 3.0 | 38 | 3.0 |
| 1.00 | 5.0 | 38 | 3.0 |
| 1.00 | 5.0 | 40 | 6.0 |
| 1.20 | 5.0 | 38 | 3.0 |
| 1.50 | 5.0 | 38 | 3.0 |
| 1.50 | 5.0 | 40 | 6.0 |
| 1.60 | 6.0 | 38 | 3.0 |
| 1.60 | 6.0 | 40 | 6.0 |
| 1.80 | 7.0 | 38 | 3.0 |
| 2.00 | 5.0 | 40 | 3.0 |
| 2.00 | 5.0 | 40 | 6.0 |
| 2.00 | 6.0 | 38 | 3.0 |
| 2.00 | 6.0 | 50 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified

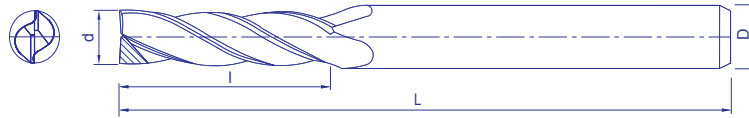


| Dia | EFL | OAL | Shank Dia |
|-------|------|-----|-----------|
| d | l | L | D h6 |
| 2.00 | 7.0 | 40 | 4.0 |
| 2.00 | 7.0 | 40 | 6.0 |
| 2.00 | 10.0 | 38 | 3.0 |
| 2.00 | 11.0 | 38 | 3.0 |
| 3.00 | 5.0 | 40 | 3.0 |
| 3.00 | 5.0 | 40 | 6.0 |
| 3.00 | 8.0 | 40 | 6.0 |
| 3.00 | 10.0 | 38 | 3.0 |
| 3.00 | 10.0 | 40 | 4.0 |
| 3.00 | 10.0 | 50 | 6.0 |
| 3.00 | 10.0 | 60 | 6.0 |
| 3.00 | 11.0 | 38 | 3.0 |
| 3.00 | 11.0 | 50 | 6.0 |
| 3.00 | 12.0 | 40 | 3.0 |
| 3.00 | 12.0 | 50 | 6.0 |
| 3.00 | 22.0 | 50 | 3.0 |
| 3.00 | 22.0 | 60 | 6.0 |
| 4.00 | 6.0 | 40 | 4.0 |
| 4.00 | 6.0 | 40 | 6.0 |
| 4.00 | 12.0 | 60 | 6.0 |
| 4.00 | 14.0 | 50 | 4.0 |
| 4.00 | 14.0 | 50 | 6.0 |
| 4.00 | 22.0 | 50 | 6.0 |
| 4.00 | 32.0 | 64 | 4.0 |
| 5.00 | 7.0 | 40 | 6.0 |
| 5.00 | 14.0 | 50 | 6.0 |
| 5.00 | 14.0 | 60 | 5.0 |
| 5.00 | 14.0 | 60 | 6.0 |
| 5.00 | 16.0 | 60 | 6.0 |
| 6.00 | 8.0 | 40 | 6.0 |
| 6.00 | 14.0 | 50 | 6.0 |
| 6.00 | 16.0 | 60 | 6.0 |
| 6.00 | 20.0 | 60 | 6.0 |
| 6.00 | 22.0 | 50 | 6.0 |
| 6.00 | 32.0 | 64 | 6.0 |
| 8.00 | 14.0 | 50 | 8.0 |
| 8.00 | 20.0 | 60 | 8.0 |
| 8.00 | 20.0 | 75 | 8.0 |
| 8.00 | 32.0 | 64 | 8.0 |
| 10.00 | 22.0 | 64 | 10.0 |
| 12.00 | 22.0 | 64 | 12.0 |

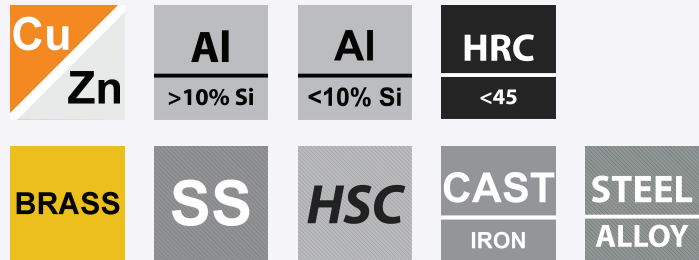
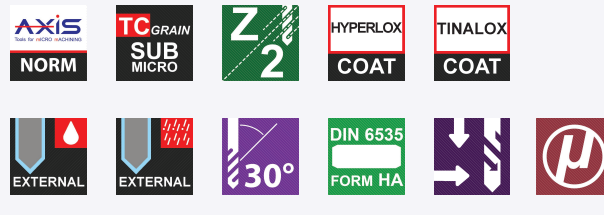
ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



AXIS E8311



| Dia | EFL | Total Length | Shank Dia | | Dia | EFL | Total Length | Shank Dia |
|------|------|--------------|-----------|--|-------|------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 | | 5.00 | 15.0 | 50 | 6.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 | | 5.00 | 25.0 | 60 | 6.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 | | 6.00 | 18.0 | 50 | 6.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 | | 6.00 | 30.0 | 65 | 6.0 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 | | 8.00 | 24.0 | 75 | 8.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 | | 8.00 | 40.0 | 80 | 8.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 | | 10.00 | 30.0 | 75 | 10.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 | | 10.00 | 50.0 | 95 | 10.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 | | 12.00 | 36.0 | 75 | 12.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 | | 12.00 | 60.0 | 100 | 12.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 | | | | | |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.50 | 7.5 | 38 | 6.0 | | | | | |
| 2.50 | 12.0 | 38 | 6.0 | | | | | |
| 3.00 | 9.0 | 38 | 6.0 | | | | | |
| 3.00 | 15.0 | 50 | 6.0 | | | | | |
| 4.00 | 12.0 | 50 | 6.0 | | | | | |
| 4.00 | 20.0 | 60 | 6.0 | | | | | |

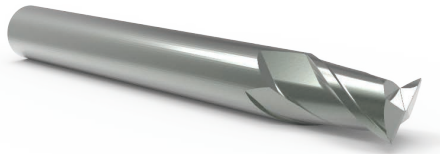
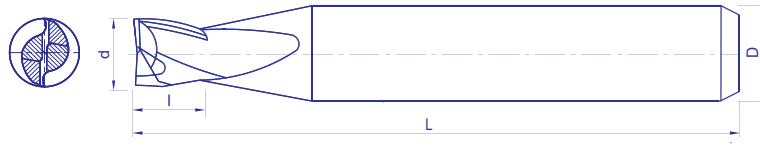
ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 3.00mm : 10 tools / pack,
Dia > 3.00mm : Single tool / pack

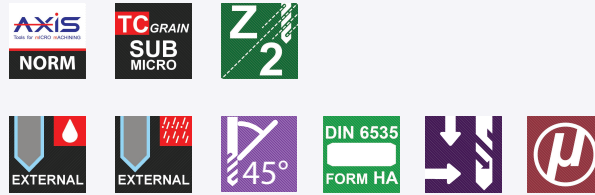
All Dimensions in mm otherwise specified



For Aluminium Application



AXIS E8381



AI
>10% Si

AI
<10% Si

HSC

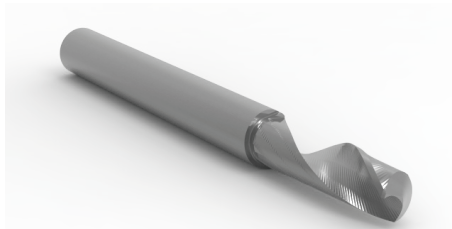
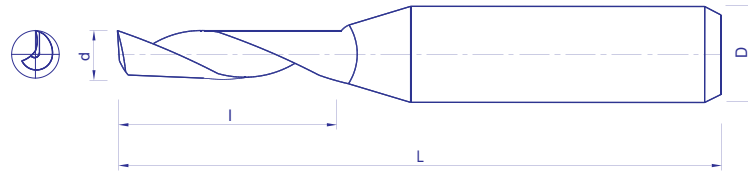
| Dia | EFL | | Total Length | Shank Dia |
|------|------|------|--------------|-----------|
| d | l | | L | D h6 |
| | 2d | 3d | | |
| 0.40 | 0.8 | 1.2 | 38 | 3.0 |
| 0.50 | 1.0 | 1.5 | 38 | 3.0 |
| 0.60 | 1.2 | 1.8 | 38 | 3.0 |
| 0.80 | 1.6 | 2.4 | 38 | 3.0 |
| 0.90 | 1.8 | 2.7 | 38 | 3.0 |
| 1.00 | 2.0 | 3.0 | 38 | 3.0 |
| 1.20 | 2.4 | 3.6 | 38 | 3.0 |
| 1.30 | 2.6 | 3.0 | 38 | 3.0 |
| 1.40 | 2.8 | 4.2 | 38 | 3.0 |
| 1.50 | 3.0 | 4.5 | 38 | 3.0 |
| 1.60 | 3.2 | 4.8 | 38 | 3.0 |
| 1.80 | 3.6 | 5.4 | 38 | 3.0 |
| 2.00 | 4.0 | 6.0 | 38 | 3.0 |
| 2.50 | 5.0 | 7.5 | 38 | 3.0 |
| 3.00 | 6.0 | 9.0 | 50 | 6.0 |
| 3.50 | 7.0 | 12.0 | 50 | 6.0 |
| 4.00 | 8.0 | 12.0 | 50 | 6.0 |
| 4.50 | 9.0 | 12.0 | 50 | 6.0 |
| 5.00 | 10.0 | 15.0 | 60 | 6.0 |
| 5.50 | 12.0 | 15.0 | 60 | 6.0 |
| 6.00 | 12.0 | 18.0 | 60 | 6.0 |
| 8.00 | 16.0 | 24.0 | 75 | 8.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 2.50mm : 10 tools / pack,
Dia 3.00 - 4.50mm : 5 tools / pack,
Dia > 5.00mm : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9231

AI
<10% Si

PLASTIC

ACRYLIC

| Dia | EFL | OAL | Shank Dia |
|------|-----|-----|-----------|
| d | l | L | D h6 |
| 0.10 | 0.3 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 |
| 0.30 | 1.0 | 38 | 3.0 |
| 0.40 | 1.0 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 |
| 0.60 | 3.0 | 38 | 3.0 |
| 0.80 | 5.0 | 38 | 3.0 |
| 1.00 | 3.0 | 38 | 3.0 |
| 1.00 | 5.0 | 38 | 3.0 |
| 1.00 | 5.0 | 40 | 6.0 |
| 1.20 | 5.0 | 38 | 3.0 |
| 1.50 | 5.0 | 38 | 3.0 |
| 1.50 | 5.0 | 40 | 6.0 |
| 1.60 | 6.0 | 38 | 3.0 |
| 1.60 | 6.0 | 40 | 6.0 |
| 1.80 | 7.0 | 38 | 3.0 |
| 2.00 | 5.0 | 40 | 3.0 |
| 2.00 | 5.0 | 40 | 6.0 |
| 2.00 | 6.0 | 50 | 4.0 |
| 2.00 | 6.0 | 50 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 3.00mm : 10 tools / pack,
Dia > 3.00mm : Single tool / pack

All Dimensions in mm otherwise specified

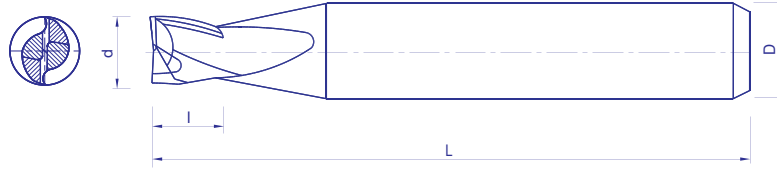


| Dia | EFL | OAL | Shank Dia |
|-------|------|-----|-----------|
| d | l | L | D h6 |
| 2.00 | 7.0 | 40 | 4.0 |
| 2.00 | 7.0 | 40 | 6.0 |
| 2.00 | 8.0 | 40 | 3.0 |
| 2.00 | 10.0 | 38 | 3.0 |
| 3.00 | 5.0 | 40 | 3.0 |
| 3.00 | 5.0 | 40 | 6.0 |
| 3.00 | 8.0 | 40 | 6.0 |
| 3.00 | 10.0 | 38 | 3.0 |
| 3.00 | 10.0 | 40 | 3.0 |
| 3.00 | 10.0 | 40 | 4.0 |
| 3.00 | 10.0 | 50 | 6.0 |
| 3.00 | 10.0 | 60 | 6.0 |
| 3.00 | 12.0 | 40 | 3.0 |
| 3.00 | 12.0 | 50 | 6.0 |
| 3.00 | 22.0 | 50 | 3.0 |
| 3.00 | 22.0 | 60 | 6.0 |
| 4.00 | 6.0 | 40 | 4.0 |
| 4.00 | 6.0 | 40 | 6.0 |
| 4.00 | 12.0 | 60 | 6.0 |
| 4.00 | 14.0 | 50 | 4.0 |
| 4.00 | 22.0 | 50 | 6.0 |
| 4.00 | 32.0 | 64 | 4.0 |
| 5.00 | 7.0 | 40 | 6.0 |
| 5.00 | 14.0 | 50 | 6.0 |
| 5.00 | 14.0 | 60 | 5.0 |
| 5.00 | 14.0 | 60 | 6.0 |
| 5.00 | 16.0 | 60 | 5.0 |
| 6.00 | 8.0 | 40 | 6.0 |
| 6.00 | 14.0 | 50 | 6.0 |
| 6.00 | 16.0 | 60 | 6.0 |
| 6.00 | 20.0 | 60 | 6.0 |
| 6.00 | 25.0 | 60 | 6.0 |
| 8.00 | 14.0 | 50 | 8.0 |
| 8.00 | 20.0 | 60 | 8.0 |
| 8.00 | 20.0 | 75 | 8.0 |
| 8.00 | 30.0 | 75 | 8.0 |
| 8.00 | 55.0 | 100 | 8.0 |
| 10.00 | 25.0 | 75 | 10.0 |
| 10.00 | 32.0 | 75 | 10.0 |
| 10.00 | 55.0 | 100 | 10.0 |
| 10.00 | 75.0 | 120 | 10.0 |
| 12.00 | 25.0 | 75 | 12.0 |

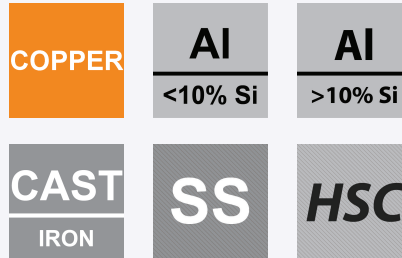
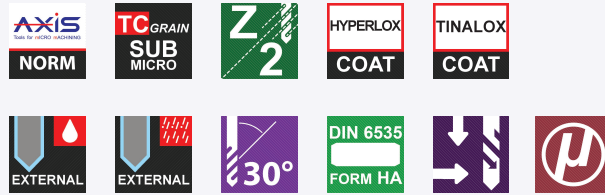
ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 3.00mm : 10 tools / pack,
Dia > 3.00mm : Single tool / pack

All Dimensions in mm otherwise specified



AXIS E9661



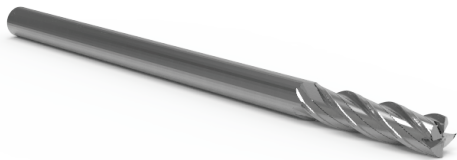
| Dia | EFL | Total Length | Shank Dia | | Dia | Flute Length | Total Length | Shank Dia |
|------|-----|--------------|-----------|--|------|--------------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 0.10 | 0.2 | 38 | 3.0 | | 1.20 | 2.4 | 38 | 3.0 |
| 0.10 | 0.3 | 38 | 3.0 | | 1.20 | 3.6 | 38 | 3.0 |
| 0.20 | 0.4 | 38 | 3.0 | | 1.40 | 2.8 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 | | 1.40 | 4.2 | 38 | 3.0 |
| 0.30 | 0.6 | 38 | 3.0 | | 1.50 | 3.0 | 38 | 3.0 |
| 0.30 | 0.9 | 38 | 3.0 | | 1.50 | 4.5 | 38 | 3.0 |
| 0.40 | 0.8 | 38 | 3.0 | | 1.60 | 3.2 | 38 | 3.0 |
| 0.40 | 1.2 | 38 | 3.0 | | 1.60 | 4.8 | 38 | 3.0 |
| 0.50 | 1.0 | 38 | 3.0 | | 1.80 | 3.6 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 | | 1.80 | 5.4 | 38 | 3.0 |
| 0.60 | 1.2 | 38 | 3.0 | | 2.00 | 4.0 | 38 | 3.0 |
| 0.60 | 1.8 | 38 | 3.0 | | 2.00 | 6.0 | 38 | 3.0 |
| 0.70 | 1.4 | 38 | 3.0 | | 2.50 | 5.0 | 38 | 3.0 |
| 0.70 | 2.1 | 38 | 3.0 | | 2.50 | 7.5 | 38 | 3.0 |
| 0.80 | 1.6 | 38 | 3.0 | | 3.00 | 6.0 | 38 | 3.0 |
| 0.80 | 2.4 | 38 | 3.0 | | 3.00 | 9.0 | 38 | 3.0 |
| 0.90 | 1.8 | 38 | 3.0 | | | | | |
| 0.90 | 2.7 | 38 | 3.0 | | | | | |
| 1.00 | 2.0 | 38 | 3.0 | | | | | |
| 1.00 | 3.0 | 38 | 3.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
10 tools / pack

All Dimensions in mm otherwise specified





AXIS E9671

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Dia | EFL | Total Length | Shank Dia |
|------|-----|--------------|-----------|
| d | l | L | D h6 |
| 0.20 | 0.4 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 |
| 0.30 | 0.6 | 38 | 3.0 |
| 0.30 | 0.9 | 38 | 3.0 |
| 0.40 | 0.8 | 38 | 3.0 |
| 0.40 | 1.2 | 38 | 3.0 |
| 0.50 | 1.0 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 |
| 0.60 | 1.2 | 38 | 3.0 |
| 0.60 | 1.8 | 38 | 3.0 |
| 0.70 | 1.4 | 38 | 3.0 |
| 0.70 | 2.1 | 38 | 3.0 |
| 0.80 | 1.6 | 38 | 3.0 |
| 0.80 | 2.4 | 38 | 3.0 |
| 0.90 | 1.8 | 38 | 3.0 |
| 0.90 | 2.7 | 38 | 3.0 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified



| Dia | EFL | Total Length | Shank Dia |
|-------|------|--------------|-----------|
| d | l | L | D h6 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 |
| 2.50 | 7.5 | 38 | 6.0 |
| 2.50 | 10.0 | 38 | 6.0 |
| 3.00 | 9.0 | 38 | 6.0 |
| 3.00 | 12.0 | 38 | 6.0 |
| 4.00 | 12.0 | 45 | 6.0 |
| 4.00 | 16.0 | 45 | 6.0 |
| 5.00 | 10.0 | 50 | 6.0 |
| 5.00 | 15.0 | 50 | 6.0 |
| 6.00 | 12.0 | 50 | 6.0 |
| 6.00 | 18.0 | 50 | 6.0 |
| 8.00 | 16.0 | 50 | 8.0 |
| 8.00 | 24.0 | 63 | 8.0 |
| 10.00 | 20.0 | 63 | 10.0 |
| 10.00 | 30.0 | 75 | 10.0 |
| 12.00 | 24.0 | 75 | 12.0 |
| 12.00 | 36.0 | 80 | 12.0 |

ON REQUEST :
Inch Sizes / Special sizes

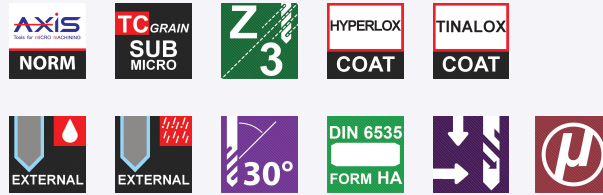
PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9681



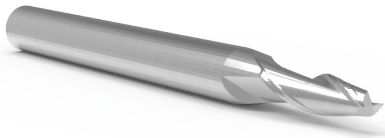
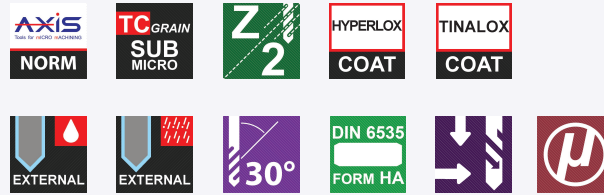
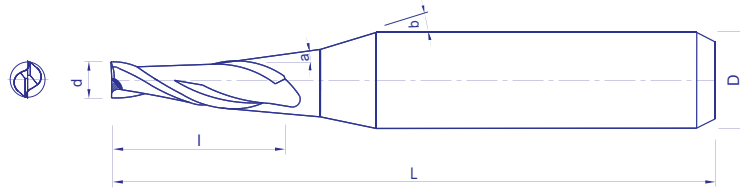
| Dia | EFL | Total Length | Shank Dia | | Dia | Flute | Total Length | Shank Dia |
|------|------|--------------|-----------|--|-------|-------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 | | 5.00 | 10.0 | 50 | 6.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 | | 5.00 | 15.0 | 50 | 6.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 | | 6.00 | 12.0 | 50 | 6.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 | | 6.00 | 18.0 | 50 | 6.0 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 | | 8.00 | 16.0 | 50 | 8.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 | | 8.00 | 24.0 | 63 | 8.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 | | 10.00 | 20.0 | 63 | 10.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 | | 10.00 | 30.0 | 75 | 10.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 | | 12.00 | 24.0 | 75 | 12.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 | | 12.00 | 36.0 | 80 | 12.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 | | | | | |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.50 | 7.5 | 38 | 6.0 | | | | | |
| 2.50 | 10.0 | 38 | 6.0 | | | | | |
| 3.00 | 9.0 | 38 | 6.0 | | | | | |
| 3.00 | 12.0 | 38 | 6.0 | | | | | |
| 4.00 | 12.0 | 45 | 6.0 | | | | | |
| 4.00 | 16.0 | 45 | 6.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

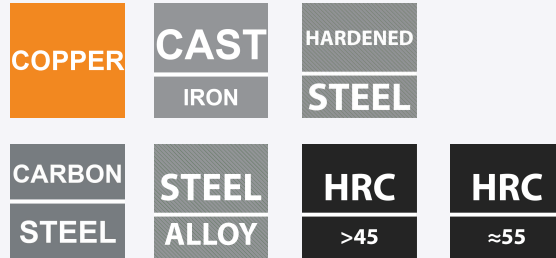
PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9501



Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
Dia d 0.201 - 0.400 : -0.010 / -0.030
Dia d 0.401 - 12.00 : -0.010 / -0.050

ON REQUEST :

Inch Sizes / Special sizes

PACKING :

Single tool / pack

All Dimensions in mm otherwise specified

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|------|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | b | L | D h6 |
| 0.20 | 30' | 0.80 | 0.21 | 9° | 45 | 4.0 |
| 0.20 | 1° | 0.80 | 0.23 | 9° | 45 | 4.0 |
| 0.20 | 1°30' | 0.80 | 0.24 | 9° | 45 | 4.0 |
| 0.20 | 2° | 0.80 | 0.26 | 9° | 45 | 4.0 |
| 0.20 | 3° | 0.80 | 0.28 | 9° | 45 | 4.0 |
| 0.20 | 5° | 0.80 | 0.34 | 9° | 45 | 4.0 |
| 0.20 | 10° | 0.80 | 0.48 | - | 45 | 4.0 |
| 0.30 | 30' | 1.20 | 0.32 | 9° | 45 | 4.0 |
| 0.30 | 1° | 1.20 | 0.34 | 9° | 45 | 4.0 |
| 0.30 | 1°30' | 1.20 | 0.36 | 9° | 45 | 4.0 |
| 0.30 | 2° | 1.20 | 0.38 | 9° | 45 | 4.0 |
| 0.30 | 3° | 1.20 | 0.43 | 9° | 45 | 4.0 |
| 0.30 | 5° | 1.20 | 0.51 | 9° | 45 | 4.0 |
| 0.30 | 10° | 1.20 | 0.72 | - | 45 | 4.0 |
| 0.40 | 30' | 1.60 | 0.43 | 9° | 45 | 4.0 |
| 0.40 | 1° | 1.60 | 0.46 | 9° | 45 | 4.0 |
| 0.40 | 1°30' | 1.60 | 0.48 | 9° | 45 | 4.0 |
| 0.40 | 2° | 1.60 | 0.51 | 9° | 45 | 4.0 |
| 0.40 | 3° | 1.60 | 0.57 | 9° | 45 | 4.0 |
| 0.40 | 5° | 1.60 | 0.68 | 9° | 45 | 4.0 |

Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
Dia d 0.201 - 0.400 : -0.010 / -0.030
Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|-----|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 0.40 | 10° | 1.6 | 0.96 | - | 45 | 4.0 |
| 0.50 | 30' | 2.0 | 0.53 | 9° | 45 | 4.0 |
| 0.50 | 1° | 2.0 | 0.57 | 9° | 45 | 4.0 |
| 0.50 | 1°30' | 2.0 | 0.60 | 9° | 45 | 4.0 |
| 0.50 | 2° | 2.0 | 0.64 | 9° | 45 | 4.0 |
| 0.50 | 3° | 2.0 | 0.71 | 9° | 45 | 4.0 |
| 0.50 | 4° | 2.0 | 0.78 | 9° | 45 | 4.0 |
| 0.50 | 5° | 2.0 | 0.85 | 9° | 45 | 4.0 |
| 0.50 | 6° | 2.0 | 0.92 | 9° | 45 | 4.0 |
| 0.50 | 7° | 2.0 | 0.99 | 9° | 45 | 4.0 |
| 0.50 | 10° | 2.0 | 1.21 | - | 45 | 4.0 |
| 0.50 | 15° | 2.0 | 1.57 | 15° | 45 | 4.0 |
| 0.50 | 20° | 2.0 | 1.96 | 15° | 45 | 4.0 |
| 0.60 | 30' | 2.0 | 0.63 | 9° | 45 | 4.0 |
| 0.60 | 1° | 2.0 | 0.67 | 9° | 45 | 4.0 |
| 0.60 | 1°30' | 2.0 | 0.70 | 9° | 45 | 4.0 |
| 0.60 | 2° | 2.0 | 0.74 | 9° | 45 | 4.0 |
| 0.60 | 3° | 2.0 | 0.81 | 9° | 45 | 4.0 |
| 0.60 | 4° | 2.0 | 0.88 | 9° | 45 | 4.0 |
| 0.60 | 5° | 2.0 | 0.95 | 9° | 45 | 4.0 |
| 0.60 | 6° | 2.0 | 1.02 | 9° | 45 | 4.0 |
| 0.60 | 7° | 2.0 | 1.09 | 9° | 45 | 4.0 |
| 0.60 | 10° | 2.0 | 1.31 | - | 45 | 4.0 |
| 0.60 | 15° | 2.0 | 1.67 | 15° | 45 | 4.0 |
| 0.60 | 20° | 2.0 | 2.06 | 15° | 45 | 4.0 |
| 0.70 | 30' | 2.0 | 0.73 | 9° | 45 | 4.0 |
| 0.70 | 1° | 2.0 | 0.77 | 9° | 45 | 4.0 |
| 0.70 | 1°30' | 2.0 | 0.80 | 9° | 45 | 4.0 |
| 0.70 | 2° | 2.0 | 0.84 | 9° | 45 | 4.0 |
| 0.70 | 2° | 2.0 | 0.91 | 9° | 45 | 4.0 |
| 0.70 | 4° | 2.0 | 0.98 | 9° | 45 | 4.0 |
| 0.70 | 5° | 2.0 | 1.05 | 9° | 45 | 4.0 |
| 0.70 | 6° | 2.0 | 1.12 | 9° | 45 | 4.0 |
| 0.70 | 7° | 2.0 | 1.19 | 9° | 45 | 4.0 |
| 0.70 | 10° | 2.0 | 1.41 | - | 45 | 4.0 |
| 0.70 | 15° | 2.0 | 1.77 | 15° | 45 | 4.0 |
| 0.70 | 20° | 2.0 | 2.16 | 15° | 45 | 4.0 |
| 0.80 | 30' | 3.0 | 0.85 | 9° | 45 | 4.0 |
| 0.80 | 1° | 3.0 | 0.90 | 9° | 45 | 4.0 |
| 0.80 | 1°30' | 3.0 | 0.96 | 9° | 45 | 4.0 |
| 0.80 | 2° | 3.0 | 1.01 | 9° | 45 | 4.0 |
| 0.80 | 3° | 3.0 | 1.11 | 9° | 45 | 4.0 |
| 0.80 | 4° | 3.0 | 1.21 | 9° | 45 | 4.0 |
| 0.80 | 5° | 3.0 | 1.32 | 9° | 45 | 4.0 |
| 0.80 | 6° | 3.0 | 1.43 | 9° | 45 | 4.0 |
| 0.80 | 7° | 3.0 | 1.54 | 9° | 45 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Tolerance:
Dia d ≤ 0.200 : -0.010 / -0.025
Dia d 0.201 - 0.400 : -0.010 / -0.030
Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|-----|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 0.80 | 10° | 3.0 | 1.86 | - | 45 | 4.0 |
| 0.80 | 15° | 3.0 | 2.41 | 15° | 45 | 4.0 |
| 0.80 | 20° | 3.0 | 2.98 | - | 45 | 4.0 |
| 0.90 | 30' | 3.0 | 0.95 | 9° | 45 | 4.0 |
| 0.90 | 1° | 3.0 | 1.00 | 9° | 45 | 4.0 |
| 0.90 | 1°30' | 3.0 | 1.06 | 9° | 45 | 4.0 |
| 0.90 | 2° | 3.0 | 1.11 | 9° | 45 | 4.0 |
| 0.90 | 3° | 3.0 | 1.21 | 9° | 45 | 4.0 |
| 0.90 | 4° | 3.0 | 1.32 | 9° | 45 | 4.0 |
| 0.90 | 5° | 3.0 | 1.42 | 9° | 45 | 4.0 |
| 0.90 | 6° | 3.0 | 1.53 | 9° | 45 | 4.0 |
| 0.90 | 7° | 3.0 | 1.64 | 9° | 45 | 4.0 |
| 0.90 | 10° | 3.0 | 1.96 | - | 45 | 4.0 |
| 0.90 | 15° | 3.0 | 2.51 | 15° | 45 | 4.0 |
| 0.90 | 20° | 3.0 | 3.08 | 9° | 45 | 4.0 |
| 1.00 | 30' | 4.0 | 1.07 | 9° | 45 | 4.0 |
| 1.00 | 1° | 4.0 | 1.14 | 9° | 45 | 4.0 |
| 1.00 | 1°30' | 4.0 | 1.21 | 9° | 45 | 4.0 |
| 1.00 | 2° | 4.0 | 1.28 | 9° | 45 | 4.0 |
| 1.00 | 3° | 4.0 | 1.42 | 9° | 45 | 4.0 |
| 1.00 | 4° | 4.0 | 1.56 | 9° | 45 | 4.0 |
| 1.00 | 5° | 4.0 | 1.70 | 9° | 45 | 4.0 |
| 1.00 | 6° | 4.0 | 1.84 | 9° | 45 | 4.0 |
| 1.00 | 7° | 4.0 | 1.98 | 9° | 45 | 4.0 |
| 1.00 | 10° | 4.0 | 2.41 | - | 45 | 4.0 |
| 1.00 | 15° | 4.0 | 3.14 | 15° | 50 | 6.0 |
| 1.00 | 20° | 4.0 | 3.91 | 15° | 50 | 6.0 |
| 1.50 | 30' | 5.0 | 1.59 | 9° | 45 | 4.0 |
| 1.50 | 1° | 5.0 | 1.67 | 9° | 45 | 4.0 |
| 1.50 | 1°30' | 5.0 | 1.76 | 9° | 45 | 4.0 |
| 1.50 | 2° | 5.0 | 1.85 | 9° | 45 | 4.0 |
| 1.50 | 3° | 5.0 | 2.02 | 9° | 45 | 4.0 |
| 1.50 | 4° | 5.0 | 2.20 | 9° | 45 | 4.0 |
| 1.50 | 5° | 5.0 | 2.37 | 9° | 45 | 4.0 |
| 1.50 | 6° | 5.0 | 2.55 | 9° | 45 | 4.0 |
| 1.50 | 7° | 5.0 | 2.73 | 9° | 45 | 4.0 |
| 1.50 | 10° | 5.0 | 3.26 | - | 45 | 4.0 |
| 1.50 | 15° | 5.0 | 4.18 | 15° | 50 | 6.0 |
| 1.50 | 20° | 5.0 | 5.14 | - | 50 | 6.0 |
| 2.00 | 30' | 6.0 | 2.10 | 9° | 45 | 4.0 |
| 2.00 | 1° | 6.0 | 2.21 | 9° | 45 | 4.0 |
| 2.00 | 1°30' | 6.0 | 2.31 | 9° | 45 | 4.0 |
| 2.00 | 2° | 6.0 | 2.41 | 9° | 45 | 4.0 |
| 2.00 | 3° | 6.0 | 2.62 | 9° | 45 | 4.0 |
| 2.00 | 4° | 6.0 | 2.84 | 9° | 45 | 4.0 |
| 2.00 | 5° | 6.0 | 3.05 | 9° | 45 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
 Dia d 0.201 - 0.400 : -0.010 / -0.030
 Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|------|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 2.00 | 6° | 6.0 | 3.26 | 9° | 45 | 4.0 |
| 2.00 | 7° | 6.0 | 3.47 | - | 45 | 4.0 |
| 2.00 | 10° | 6.0 | 4.11 | - | 50 | 6.0 |
| 2.00 | 15° | 6.0 | 5.22 | - | 50 | 6.0 |
| 2.00 | 20° | 6.0 | 6.37 | - | 50 | 6.0 |
| 2.50 | 30' | 8.0 | 2.64 | 9° | 45 | 4.0 |
| 2.50 | 1° | 8.0 | 2.78 | 9° | 45 | 4.0 |
| 2.50 | 1°30' | 8.0 | 2.91 | 9° | 45 | 4.0 |
| 2.50 | 2° | 8.0 | 3.05 | 9° | 45 | 4.0 |
| 2.50 | 3° | 8.0 | 3.33 | 9° | 45 | 4.0 |
| 2.50 | 4° | 8.0 | 3.62 | - | 45 | 4.0 |
| 2.50 | 5° | 8.0 | 3.90 | - | 45 | 4.0 |
| 2.50 | 6° | 8.0 | 4.18 | - | 50 | 4.0 |
| 2.50 | 7° | 8.0 | 4.46 | - | 50 | 4.0 |
| 2.50 | 10° | 8.0 | 5.32 | - | 50 | 6.0 |
| 2.50 | 15° | 8.0 | 6.79 | - | 50 | 6.0 |
| 2.50 | 20° | 8.0 | 8.32 | - | 60 | 8.0 |
| 3.00 | 30' | 10.0 | 3.17 | 9° | 50 | 6.0 |
| 3.00 | 1° | 10.0 | 3.35 | 9° | 50 | 6.0 |
| 3.00 | 1°30' | 10.0 | 3.52 | 9° | 50 | 6.0 |
| 3.00 | 2° | 10.0 | 3.69 | 9° | 50 | 6.0 |
| 3.00 | 3° | 10.0 | 4.05 | 9° | 50 | 6.0 |
| 3.00 | 4° | 10.0 | 4.40 | 9° | 50 | 6.0 |
| 3.00 | 5° | 10.0 | 4.75 | 9° | 50 | 6.0 |
| 3.00 | 6° | 10.0 | 5.10 | - | 50 | 6.0 |
| 3.00 | 7° | 10.0 | 5.46 | - | 50 | 6.0 |
| 3.00 | 10° | 10.0 | 6.53 | - | 50 | 6.0 |
| 3.00 | 15° | 10.0 | 8.36 | - | 60 | 8.0 |
| 3.00 | 20° | 10.0 | 10.30 | - | 70 | 10.0 |
| 4.00 | 30' | 15.0 | 4.26 | 9° | 50 | 6.0 |
| 4.00 | 1° | 15.0 | 4.52 | 9° | 50 | 6.0 |
| 4.00 | 1°30' | 15.0 | 4.79 | 9° | 50 | 6.0 |
| 4.00 | 2° | 15.0 | 5.04 | 9° | 50 | 6.0 |
| 4.00 | 3° | 15.0 | 5.57 | 9° | 50 | 6.0 |
| 4.00 | 4° | 15.0 | 6.10 | - | 55 | 6.0 |
| 4.00 | 5° | 15.0 | 6.62 | - | 55 | 6.0 |
| 4.00 | 6° | 15.0 | 7.15 | - | 55 | 6.0 |
| 4.00 | 7° | 15.0 | 7.68 | - | 55 | 6.0 |
| 4.00 | 10° | 15.0 | 9.29 | - | 60 | 8.0 |
| 4.00 | 15° | 15.0 | 12.04 | - | 80 | 12.0 |
| 4.00 | 20° | 15.0 | 14.92 | - | 80 | 12.0 |
| 5.00 | 30' | 20.0 | 5.34 | 9° | 55 | 6.0 |
| 5.00 | 1° | 20.0 | 5.70 | 9° | 55 | 6.0 |
| 5.00 | 1°30' | 20.0 | 6.04 | - | 55 | 6.0 |
| 5.00 | 2° | 20.0 | 6.39 | - | 55 | 6.0 |
| 5.00 | 3° | 20.0 | 7.10 | - | 55 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Tolerance:

Dia d ≤ 0.200 : -0.010 / -0.025
 Dia d 0.201 - 0.400 : -0.010 / -0.030
 Dia d 0.401 - 12.00 : -0.010 / -0.050

| Dia | Taper Angle | EFL | Dia at larger end | Shoulder Angle | Total Length | Shank Dia |
|-------|-------------|------|-------------------|----------------|--------------|-----------|
| d | a ± 10' | l | | q | L | D h6 |
| 5.00 | 4° | 20.0 | 7.80 | - | 60 | 6.0 |
| 5.00 | 5° | 20.0 | 8.50 | - | 60 | 8.0 |
| 5.00 | 6° | 20.0 | 9.20 | - | 60 | 8.0 |
| 5.00 | 7° | 20.0 | 9.91 | - | 70 | 10.0 |
| 5.00 | 10° | 20.0 | 12.05 | - | 80 | 12.0 |
| 6.00 | 30' | 20.0 | 6.35 | - | 55 | 6.0 |
| 6.00 | 1° | 20.0 | 6.70 | - | 55 | 6.0 |
| 6.00 | 1°30' | 20.0 | 7.05 | - | 55 | 6.0 |
| 6.00 | 2° | 20.0 | 7.40 | - | 55 | 6.0 |
| 6.00 | 3° | 20.0 | 8.10 | - | 60 | 8.0 |
| 6.00 | 4° | 20.0 | 8.80 | - | 65 | 8.0 |
| 6.00 | 5° | 20.0 | 9.50 | - | 65 | 8.0 |
| 6.00 | 6° | 20.0 | 10.20 | - | 70 | 10.0 |
| 6.00 | 7° | 20.0 | 10.91 | - | 70 | 10.0 |
| 6.00 | 10° | 20.0 | 13.05 | - | 80 | 12.0 |
| 8.00 | 30' | 25.0 | 8.44 | - | 65 | 8.0 |
| 8.00 | 1° | 25.0 | 8.87 | - | 65 | 8.0 |
| 8.00 | 1°30' | 25.0 | 9.31 | - | 65 | 8.0 |
| 8.00 | 2° | 25.0 | 9.74 | - | 65 | 8.0 |
| 8.00 | 30' | 25.0 | 8.44 | - | 65 | 8.0 |
| 8.00 | 1° | 25.0 | 8.87 | - | 65 | 8.0 |
| 8.00 | 1°30' | 25.0 | 9.31 | - | 65 | 8.0 |
| 8.00 | 2° | 25.0 | 9.74 | - | 65 | 8.0 |
| 8.00 | 3° | 25.0 | 10.62 | - | 70 | 10.0 |
| 8.00 | 5° | 25.0 | 12.37 | - | 90 | 12.0 |
| 10.00 | 30' | 35.0 | 10.61 | - | 85 | 10.0 |
| 10.00 | 1° | 35.0 | 11.22 | - | 85 | 10.0 |
| 10.00 | 1°30' | 35.0 | 11.83 | - | 85 | 10.0 |
| 10.00 | 2° | 35.0 | 12.44 | - | 90 | 12.0 |
| 10.00 | 3° | 35.0 | 13.67 | - | 90 | 12.0 |
| 12.00 | 30' | 35.0 | 12.61 | - | 85 | 12.0 |
| 12.00 | 1° | 35.0 | 13.22 | - | 90 | 12.0 |
| 12.00 | 2° | 35.0 | 14.44 | - | 90 | 12.0 |

ON REQUEST :

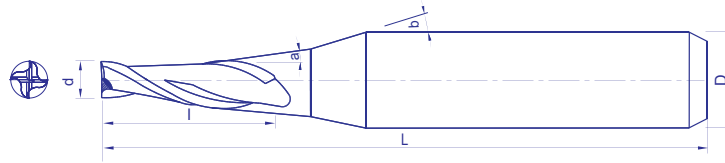
Inch Sizes / Special sizes

PACKING :

Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9511

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Dia | Taper Angle | EFL | | | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|-----|------|------|----------------|--------------|-----------|
| d | a | l | | | b | L | D h6 |
| 0.20 | 30' | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.20 | 1° | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.20 | 1'30' | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.20 | 2° | 2.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 30' | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 1° | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 1'30' | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.30 | 2° | 3.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 1° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 1'30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.40 | 2° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 1° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 1'30' | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.50 | 2° | 4.0 | ---- | ---- | 15° | 40 | 3.0 |
| 0.60 | 30' | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |
| 0.60 | 1° | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |
| 0.60 | 1'30' | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |
| 0.60 | 2° | 4.0 | 6.0 | ---- | 15° | 40 | 3.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



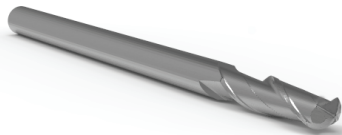
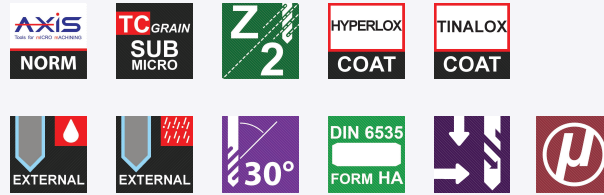
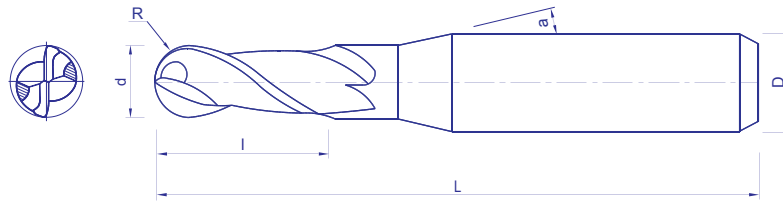
| Dia | Taper Angle | EFL | | | Shoulder Angle | Total Length | Shank Dia |
|------|-------------|------|------|-------|----------------|--------------|-----------|
| d | a | l | | | q | L | D h6 |
| 0.70 | 30' | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.70 | 1° | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.70 | 1'30' | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.70 | 2° | 6.0 | 8.0 | ----- | 15° | 40 | 3.0 |
| 0.80 | 30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 0.80 | 1° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 0.80 | 1'30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 0.80 | 2° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 1° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 1'30' | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.00 | 2° | 6.0 | 8.0 | 10.0 | 15° | 45 | 4.0 |
| 1.20 | 30' | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.20 | 1° | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.20 | 1'30' | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.20 | 2° | 10.0 | 12.0 | 16.0 | 15° | 50 | 4.0 |
| 1.50 | 30' | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 1.50 | 1° | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 1.50 | 1'30' | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 1.50 | 2° | 10.0 | 16.0 | 20.0 | 15° | 55 | 4.0 |
| 2.00 | 30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 1° | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 1'30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 2° | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.00 | 3° | 10.0 | 16.0 | 25.0 | 15° | 60 | 6.0 |
| 2.50 | 30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.50 | 1° | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.50 | 1'30' | 10.0 | 16.0 | 25.0 | 15° | 60 | 4.0 |
| 2.50 | 2° | 10.0 | 16.0 | 25.0 | 15° | 60 | 6.0 |
| 3.00 | 30' | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |
| 3.00 | 1° | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |
| 3.00 | 1'30' | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |
| 3.00 | 2° | 25.0 | 40.0 | ----- | 15° | 60 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

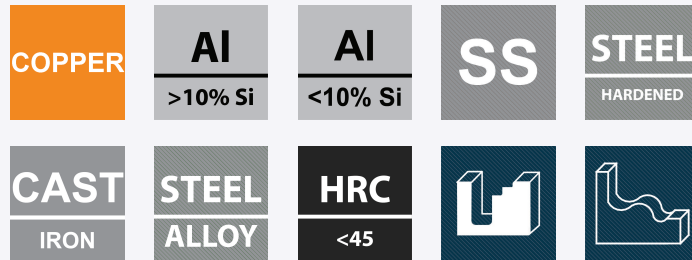
PACKING :
Single tool / pack

All Dimensions in mm otherwise specified





AXIS B9701



BALL RADIUS TOL:
± 0.005 (R 0.10 - R 1.50)
± 0.010 (R 2.00 - R 6.00)

For dia range:
0.20 - 1.499mm a = 11°
1.50 - 12.00mm a = 15°

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 1.80mm : 10 tools / pack,
Dia > 1.80mm : Single tool / pack

All Dimensions in mm otherwise specified

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|------|-----|--------------|-----------|
| R | d | l | L | D h6 |
| 0.10 | 0.20 | 0.2 | 38 | 3.0 / 4.0 |
| 0.10 | 0.20 | 0.4 | 38 | 3.0 / 4.0 |
| 0.15 | 0.30 | 0.3 | 38 | 3.0 / 4.0 |
| 0.15 | 0.30 | 0.6 | 38 | 3.0 / 4.0 |
| 0.20 | 0.40 | 0.4 | 38 | 3.0 / 4.0 |
| 0.20 | 0.40 | 0.8 | 38 | 3.0 / 4.0 |
| 0.25 | 0.50 | 0.5 | 38 | 3.0 / 4.0 |
| 0.25 | 0.50 | 1.0 | 38 | 3.0 / 4.0 |
| 0.30 | 0.60 | 0.6 | 38 | 3.0 / 4.0 |
| 0.30 | 0.60 | 1.2 | 38 | 3.0 / 4.0 |
| 0.35 | 0.70 | 0.7 | 38 | 3.0 / 4.0 |
| 0.35 | 0.70 | 1.4 | 38 | 3.0 / 4.0 |
| 0.40 | 0.80 | 0.8 | 38 | 3.0 / 4.0 |
| 0.40 | 0.80 | 1.6 | 38 | 3.0 / 4.0 |
| 0.45 | 0.90 | 0.9 | 38 | 3.0 / 4.0 |
| 0.45 | 0.90 | 1.8 | 38 | 3.0 / 4.0 |
| 0.50 | 1.00 | 1.0 | 38 | 3.0 / 4.0 |
| 0.50 | 1.00 | 2.0 | 38 | 3.0 / 4.0 |
| 0.60 | 1.20 | 2.4 | 38 | 3.0 / 4.0 |
| 0.60 | 1.20 | 3.6 | 38 | 3.0 / 4.0 |

BALL RADIUS TOL:

± 0.005 (R 0.10 - R 1.50)
± 0.010 (R 2.00 - R 6.00)

For dia range:

0.20 - 1.499mm a = 11°
1.50 - 12.00mm a = 15°

ON REQUEST :

Inch Sizes / Special sizes

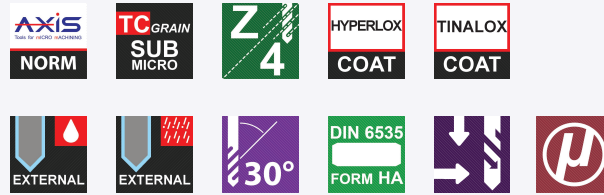
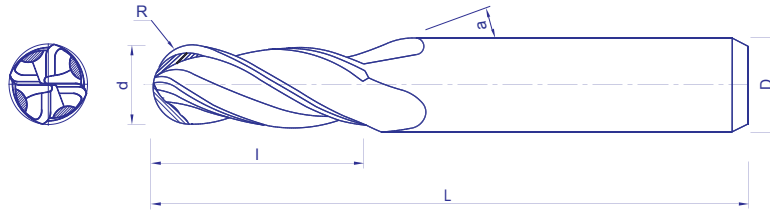
PACKING :

Up to Dia 1.80mm : 10 tools / pack,
Dia > 1.80mm : Single tool / pack

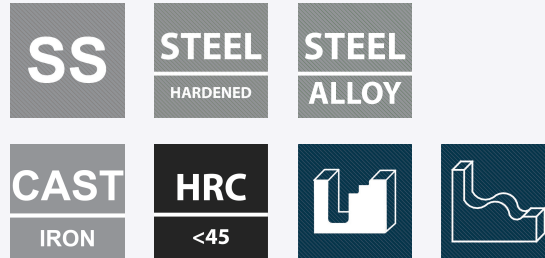
All Dimensions in mm otherwise specified

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|-------|------|--------------|-----------|
| R | d | l | L | D h6 |
| 0.70 | 1.40 | 2.8 | 38 | 3.0 / 4.0 |
| 0.70 | 1.40 | 4.2 | 38 | 3.0 / 4.0 |
| 0.75 | 1.50 | 3.0 | 38 | 3.0 / 4.0 |
| 0.75 | 1.50 | 4.5 | 38 | 3.0 / 4.0 |
| 0.80 | 1.60 | 3.2 | 38 | 3.0 / 4.0 |
| 0.80 | 1.60 | 4.8 | 38 | 3.0 / 4.0 |
| 0.90 | 1.80 | 3.6 | 38 | 3.0 / 4.0 |
| 0.90 | 1.80 | 5.4 | 38 | 3.0 / 4.0 |
| 1.00 | 2.00 | 4.0 | 38 | 6.0 |
| 1.00 | 2.00 | 6.0 | 38 | 6.0 |
| 1.25 | 2.50 | 5.0 | 38 | 6.0 |
| 1.25 | 2.50 | 7.5 | 38 | 6.0 |
| 1.50 | 3.00 | 6.0 | 38 | 6.0 |
| 1.50 | 3.00 | 8.0 | 38 | 6.0 |
| 2.00 | 4.00 | 8.0 | 45 | 6.0 |
| 2.00 | 4.00 | 12.0 | 45 | 6.0 |
| 2.50 | 5.00 | 8.0 | 50 | 6.0 |
| 2.50 | 5.00 | 12.0 | 50 | 6.0 |
| 3.00 | 6.00 | 10.0 | 50 | 6.0 |
| 3.00 | 6.00 | 12.0 | 50 | 6.0 |
| 4.00 | 8.00 | 12.0 | 50 | 8.0 |
| 4.00 | 8.00 | 16.0 | 63 | 8.0 |
| 5.00 | 10.00 | 15.0 | 63 | 10.0 |
| 5.00 | 10.00 | 20.0 | 75 | 10.0 |
| 6.00 | 12.00 | 18.0 | 75 | 12.0 |
| 6.00 | 12.00 | 24.0 | 75 | 12.0 |





AXIS B9721



For dia range:
0.20 - 1.499mm a = 11°
1.50 - 12.00mm a = 15°

| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|------|-----|--------------|------------|
| R | d | l | L | D h6 |
| 0.10 | 0.20 | 0.2 | 38 | 3.0 / 4.0* |
| 0.10 | 0.20 | 0.6 | 38 | 3.0 / 4.0* |
| 0.15 | 0.30 | 0.3 | 38 | 3.0 / 4.0* |
| 0.15 | 0.30 | 0.9 | 38 | 3.0 / 4.0* |
| 0.20 | 0.40 | 0.8 | 38 | 3.0 / 4.0* |
| 0.20 | 0.40 | 1.2 | 38 | 3.0 / 4.0* |
| 0.25 | 0.50 | 1.0 | 38 | 3.0 / 4.0* |
| 0.25 | 0.50 | 1.5 | 38 | 3.0 / 4.0* |
| 0.30 | 0.60 | 1.2 | 38 | 3.0 / 4.0* |
| 0.30 | 0.60 | 1.8 | 38 | 3.0 / 4.0* |
| 0.35 | 0.70 | 1.4 | 38 | 3.0 / 4.0* |
| 0.35 | 0.70 | 2.1 | 38 | 3.0 / 4.0* |
| 0.40 | 0.80 | 1.6 | 38 | 3.0 / 4.0* |
| 0.40 | 0.80 | 2.4 | 38 | 3.0 / 4.0* |
| 0.45 | 0.90 | 1.8 | 38 | 3.0 / 4.0* |
| 0.45 | 0.90 | 2.7 | 38 | 3.0 / 4.0* |
| 0.50 | 1.00 | 3.0 | 38 | 3.0 / 4.0* |
| 0.50 | 1.00 | 5.0 | 38 | 3.0 / 4.0* |
| 0.60 | 1.20 | 3.6 | 38 | 3.0 / 4.0* |
| 0.60 | 1.20 | 6.0 | 38 | 3.0 / 4.0* |

ON REQUEST :

* Standard non Stock / Inch Sizes / Special sizes

PACKING :

Up to Dia 1.80mm : 10 tools / pack with Shank 3.00mm
Single / pack with Shank 4.00mm,
Dia 2.00 - 6.00mm : 5 tools / pack,
Dia > 6.00mm : Single tool / pack

All Dimensions in mm otherwise specified



| Radius | Dia | EFL | Total Length | Shank Dia |
|--------|-------|------|--------------|------------|
| R | d | l | L | D h6 |
| 0.70 | 1.40 | 4.2 | 38 | 3.0 / 4.0* |
| 0.70 | 1.40 | 7.0 | 38 | 3.0 / 4.0* |
| 0.75 | 1.50 | 4.5 | 38 | 3.0 / 4.0* |
| 0.75 | 1.50 | 7.5 | 38 | 3.0 / 4.0* |
| 0.80 | 1.60 | 4.8 | 38 | 3.0 / 4.0* |
| 0.80 | 1.60 | 8.0 | 38 | 3.0 / 4.0* |
| 0.90 | 1.80 | 5.4 | 38 | 3.0 / 4.0* |
| 0.90 | 1.80 | 9.0 | 38 | 3.0 / 4.0* |
| 1.00 | 2.00 | 6.0 | 38 | 6.0 |
| 1.00 | 2.00 | 10.0 | 38 | 6.0 |
| 1.25 | 2.50 | 7.5 | 38 | 6.0 |
| 1.25 | 2.50 | 10.0 | 38 | 6.0 |
| 1.50 | 3.00 | 9.0 | 38 | 6.0 |
| 1.50 | 3.00 | 12.0 | 38 | 6.0 |
| 2.00 | 4.00 | 12.0 | 45 | 6.0 |
| 2.00 | 4.00 | 16.0 | 45 | 6.0 |
| 2.50 | 5.00 | 10.0 | 50 | 6.0 |
| 2.50 | 5.00 | 15.0 | 50 | 6.0 |
| 3.00 | 6.00 | 12.0 | 50 | 6.0 |
| 3.00 | 6.00 | 18.0 | 50 | 6.0 |
| 4.00 | 8.00 | 16.0 | 50 | 8.0 |
| 4.00 | 8.00 | 20.0 | 63 | 8.0 |
| 5.00 | 10.00 | 22.0 | 75 | 10.0 |
| 6.00 | 12.00 | 25.0 | 75 | 12.0 |

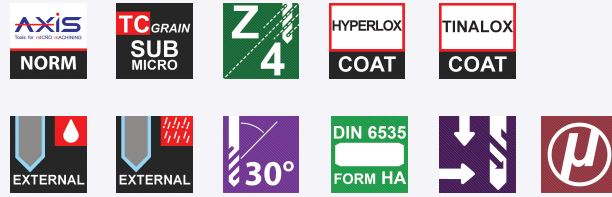
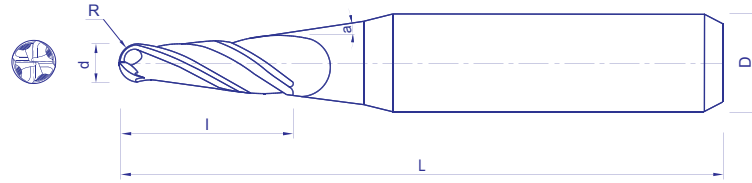
For dia range:
 0.20 - 1.499mm a = 11°
 1.50 - 12.00mm a = 15°

ON REQUEST :
 * Standard non Stock / Inch Sizes /
 Special sizes

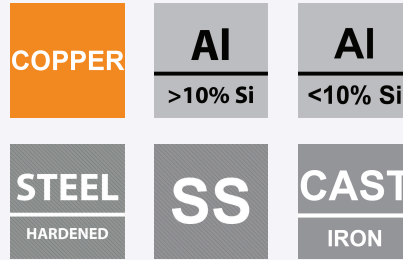
PACKING :
 Up to Dia 1.80mm : 10 tools / pack
 with Shank 3.00mm
 Single / pack with Shank 4.00mm,
 Dia 2.00 - 6.00mm : 5 tools / pack,
 Dia > 6.00mm : Single tool / pack

All Dimensions in mm otherwise
 specified





AXIS B9521



| Radius | Dia | Taper Angle | EFL | | | Total Length | Shank Dia |
|--------|------|-------------|-----|------|-------|--------------|-----------|
| R | d | a | l | | | L | D h6 |
| 0.30 | 0.60 | 30' | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.30 | 0.60 | 1° | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.30 | 0.60 | 1'30' | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.30 | 0.60 | 2° | 4.0 | 6.0 | ----- | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.40 | 0.80 | 1° | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.40 | 0.80 | 1'30' | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.40 | 0.80 | 2° | 6.0 | 8.0 | 10.0 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.50 | 1.00 | 1° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.50 | 1.00 | 1'30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.50 | 1.00 | 2° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 1° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 1'30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.60 | 1.20 | 2° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 1° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 1'30' | 8.0 | 12.0 | 20.0 | 50 | 4.0 |
| 0.75 | 1.50 | 2° | 8.0 | 12.0 | 20.0 | 50 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



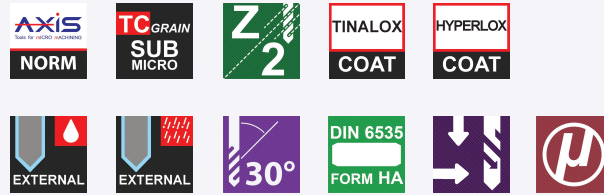
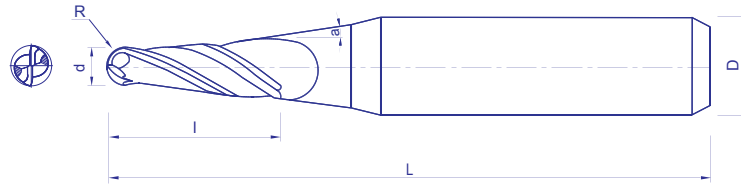
| Radius | Dia | Taper Angle | EFL | | | Total Length | Shank Dia |
|--------|------|-------------|------|------|------|--------------|-----------|
| R | d | a | l | | | L | D h6 |
| 0.80 | 1.60 | 30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.80 | 1.60 | 1° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.80 | 1.60 | 1'30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.80 | 1.60 | 2° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 1° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 1'30' | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 0.90 | 1.80 | 2° | 8.0 | 12.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 30' | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 1° | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 1'30' | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.00 | 2.00 | 2° | 10.0 | 16.0 | 20.0 | 60.0 | 4.0 |
| 1.25 | 2.50 | 30' | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |
| 1.25 | 2.50 | 1° | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |
| 1.25 | 2.50 | 1'30' | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |
| 1.25 | 2.50 | 2° | 10.0 | 16.0 | 20.0 | 60.0 | 6.0 |

ON REQUEST :
Inch Sizes / Special sizes

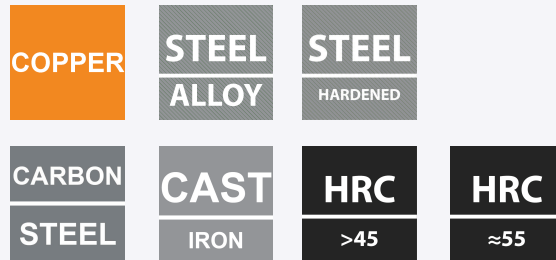
PACKING :
Single tool / pack

All Dimensions in mm otherwise specified





AXIS B9531



Ball Radius Tolerance:
±0.005 (R < 0.25)
±0.010 (R ≥ 0.25)

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a ± 10' | l | | L | D h6 |
| 0.30 | 0.60 | 30' | 4.0 | 0.66 | 38 | 3.0 |
| 0.30 | 0.60 | 30' | 6.0 | 0.70 | 38 | 3.0 |
| 0.30 | 0.60 | 45' | 4.0 | 0.70 | 38 | 3.0 |
| 0.30 | 0.60 | 45' | 6.0 | 0.75 | 38 | 3.0 |
| 0.30 | 0.60 | 1° | 4.0 | 0.73 | 38 | 3.0 |
| 0.30 | 0.60 | 1° | 6.0 | 0.80 | 38 | 3.0 |
| 0.30 | 0.60 | 1°30' | 4.0 | 0.79 | 38 | 3.0 |
| 0.30 | 0.60 | 1°30' | 6.0 | 0.90 | 38 | 3.0 |
| 0.30 | 0.60 | 2° | 4.0 | 0.86 | 38 | 3.0 |
| 0.30 | 0.60 | 2° | 6.0 | 1.00 | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 6.0 | 0.90 | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 8.0 | 0.93 | 38 | 3.0 |
| 0.40 | 0.80 | 30' | 10.0 | 0.97 | 45 | 4.0 |
| 0.40 | 0.80 | 45' | 6.0 | 0.95 | 38 | 3.0 |
| 0.40 | 0.80 | 45' | 8.0 | 1.00 | 38 | 3.0 |
| 0.40 | 0.80 | 45' | 10.0 | 1.05 | 45 | 4.0 |
| 0.40 | 0.80 | 1° | 6.0 | 1.00 | 38 | 3.0 |
| 0.40 | 0.80 | 1° | 8.0 | 1.07 | 38 | 3.0 |
| 0.40 | 0.80 | 1° | 10.0 | 1.14 | 45 | 4.0 |
| 0.40 | 0.80 | 1°30' | 6.0 | 1.09 | 38 | 3.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Ball Radius Tolerance:
±0.005 (R < 0.25)
±0.010 (R ≥ 0.25)

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a ± 10' | l | | L | D h6 |
| 0.40 | 0.80 | 1°30' | 8.0 | 1.20 | 38 | 3.0 |
| 0.40 | 0.80 | 1°30' | 10.0 | 1.30 | 45 | 4.0 |
| 0.40 | 0.80 | 2° | 6.0 | 1.19 | 38 | 3.0 |
| 0.40 | 0.80 | 2° | 8.0 | 1.33 | 38 | 3.0 |
| 0.40 | 0.80 | 2° | 10.0 | 1.47 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 8.0 | 1.13 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 10.0 | 1.20 | 45 | 4.0 |
| 0.50 | 1.00 | 30' | 20.0 | 1.34 | 55 | 4.0 |
| 0.50 | 1.00 | 45' | 8.0 | 1.20 | 45 | 4.0 |
| 0.50 | 1.00 | 45' | 12.0 | 1.30 | 45 | 4.0 |
| 0.50 | 1.00 | 45' | 20.0 | 1.51 | 55 | 4.0 |
| 0.50 | 1.00 | 1° | 8.0 | 1.26 | 45 | 4.0 |
| 0.50 | 1.00 | 1° | 12.0 | 1.40 | 45 | 4.0 |
| 0.50 | 1.00 | 1° | 20.0 | 1.68 | 55 | 4.0 |
| 0.50 | 1.00 | 1°30' | 8.0 | 1.39 | 45 | 4.0 |
| 0.50 | 1.00 | 1°30' | 12.0 | 1.60 | 45 | 4.0 |
| 0.50 | 1.00 | 1°30' | 20.0 | 2.02 | 55 | 4.0 |
| 0.50 | 1.00 | 2° | 8.0 | 1.52 | 45 | 4.0 |
| 0.50 | 1.00 | 2° | 12.0 | 1.80 | 45 | 4.0 |
| 0.50 | 1.00 | 2° | 20.0 | 2.36 | 55 | 4.0 |
| 0.60 | 1.20 | 30' | 8.0 | 1.33 | 45 | 4.0 |
| 0.60 | 1.20 | 30' | 12.0 | 1.40 | 45 | 4.0 |
| 0.60 | 1.20 | 30' | 20.0 | 1.54 | 50 | 4.0 |
| 0.60 | 1.20 | 45' | 8.0 | 1.39 | 45 | 4.0 |
| 0.60 | 1.20 | 45' | 12.0 | 1.50 | 45 | 4.0 |
| 0.60 | 1.20 | 45' | 20.0 | 1.71 | 50 | 4.0 |
| 0.60 | 1.20 | 1° | 8.0 | 1.46 | 45 | 4.0 |
| 0.60 | 1.20 | 1° | 12.0 | 1.60 | 45 | 4.0 |
| 0.60 | 1.20 | 1° | 20.0 | 1.88 | 50 | 4.0 |
| 0.60 | 1.20 | 1°30' | 8.0 | 1.59 | 45 | 4.0 |
| 0.60 | 1.20 | 1°30' | 12.0 | 1.80 | 45 | 4.0 |
| 0.60 | 1.20 | 1°30' | 20.0 | 2.22 | 50 | 4.0 |
| 0.60 | 1.20 | 2° | 8.0 | 1.72 | 45 | 4.0 |
| 0.60 | 1.20 | 2° | 12.0 | 2.00 | 45 | 4.0 |
| 0.60 | 1.20 | 2° | 20.0 | 2.55 | 50 | 4.0 |
| 0.75 | 1.50 | 30' | 8.0 | 1.63 | 45 | 4.0 |
| 0.75 | 1.50 | 30' | 12.0 | 1.70 | 45 | 4.0 |
| 0.75 | 1.50 | 30' | 20.0 | 1.84 | 60 | 4.0 |
| 0.75 | 1.50 | 45' | 8.0 | 1.69 | 45 | 4.0 |
| 0.75 | 1.50 | 45' | 12.0 | 1.79 | 45 | 4.0 |
| 0.75 | 1.50 | 45' | 20.0 | 2.00 | 60 | 4.0 |
| 0.75 | 1.50 | 1° | 8.0 | 1.75 | 45 | 4.0 |
| 0.75 | 1.50 | 1° | 12.0 | 1.89 | 45 | 4.0 |
| 0.75 | 1.50 | 1° | 20.0 | 2.17 | 60 | 4.0 |
| 0.75 | 1.50 | 1°30' | 8.0 | 1.88 | 45 | 4.0 |
| 0.75 | 1.50 | 1°30' | 12.0 | 2.09 | 45 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Ball Radius Tolerance:
±0.005 (R < 0.25)
±0.010 (R ≥ 0.25)

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a ± 10' | l | | L | D h6 |
| 0.75 | 1.50 | 1°30' | 20.0 | 2.51 | 60 | 4.0 |
| 0.75 | 1.50 | 2° | 8.0 | 2.01 | 45 | 4.0 |
| 0.75 | 1.50 | 2° | 12.0 | 2.29 | 45 | 4.0 |
| 0.75 | 1.50 | 2° | 20.0 | 2.85 | 60 | 4.0 |
| 0.80 | 1.60 | 30' | 8.0 | 1.73 | 45 | 4.0 |
| 0.80 | 1.60 | 30' | 12.0 | 1.80 | 45 | 4.0 |
| 0.80 | 1.60 | 30' | 20.0 | 1.94 | 60 | 4.0 |
| 0.80 | 1.60 | 45' | 8.0 | 1.78 | 45 | 4.0 |
| 0.80 | 1.60 | 45' | 12.0 | 1.89 | 45 | 4.0 |
| 0.80 | 1.60 | 45' | 20.0 | 2.10 | 60 | 4.0 |
| 0.80 | 1.60 | 1° | 8.0 | 1.85 | 45 | 4.0 |
| 0.80 | 1.60 | 1° | 12.0 | 1.99 | 45 | 4.0 |
| 0.80 | 1.60 | 1° | 20.0 | 2.27 | 60 | 4.0 |
| 0.80 | 1.60 | 1°30' | 8.0 | 1.98 | 45 | 4.0 |
| 0.80 | 1.60 | 1°30' | 12.0 | 2.19 | 45 | 4.0 |
| 0.80 | 1.60 | 1°30' | 20.0 | 2.61 | 60 | 4.0 |
| 0.80 | 1.60 | 2° | 8.0 | 2.10 | 45 | 4.0 |
| 0.80 | 1.60 | 2° | 12.0 | 2.38 | 45 | 4.0 |
| 0.80 | 1.60 | 2° | 20.0 | 2.94 | 60 | 4.0 |
| 0.90 | 1.80 | 30' | 8.0 | 1.92 | 45 | 4.0 |
| 0.90 | 1.80 | 30' | 12.0 | 1.99 | 45 | 4.0 |
| 0.90 | 1.80 | 30' | 20.0 | 2.13 | 60 | 4.0 |
| 0.90 | 1.80 | 45' | 8.0 | 1.99 | 45 | 4.0 |
| 0.90 | 1.80 | 45' | 12.0 | 2.09 | 45 | 4.0 |
| 0.90 | 1.80 | 45' | 20.0 | 2.30 | 60 | 4.0 |
| 0.90 | 1.80 | 1° | 8.0 | 2.05 | 45 | 4.0 |
| 0.90 | 1.80 | 1° | 12.0 | 2.19 | 45 | 4.0 |
| 0.90 | 1.80 | 1° | 20.0 | 2.47 | 60 | 4.0 |
| 0.90 | 1.80 | 1°30' | 8.0 | 2.17 | 45 | 4.0 |
| 0.90 | 1.80 | 1°30' | 12.0 | 2.38 | 45 | 4.0 |
| 0.90 | 1.80 | 1°30' | 20.0 | 2.80 | 60 | 4.0 |
| 0.90 | 1.80 | 2° | 8.0 | 2.30 | 45 | 4.0 |
| 0.90 | 1.80 | 2° | 12.0 | 2.58 | 45 | 4.0 |
| 0.90 | 1.80 | 2° | 20.0 | 3.14 | 60 | 4.0 |
| 1.00 | 2.00 | 30' | 10.0 | 2.16 | 45 | 4.0 |
| 1.00 | 2.00 | 30' | 20.0 | 2.33 | 60 | 4.0 |
| 1.00 | 2.00 | 30' | 30.0 | 2.51 | 65 | 4.0 |
| 1.00 | 2.00 | 45' | 10.0 | 2.24 | 45 | 4.0 |
| 1.00 | 2.00 | 45' | 20.0 | 2.50 | 60 | 4.0 |
| 1.00 | 2.00 | 45' | 30.0 | 2.76 | 65 | 4.0 |
| 1.00 | 2.00 | 1° | 10.0 | 2.31 | 45 | 4.0 |
| 1.00 | 2.00 | 1° | 20.0 | 2.66 | 60 | 4.0 |
| 1.00 | 2.00 | 1° | 30.0 | 3.01 | 65 | 4.0 |
| 1.00 | 2.00 | 1°30' | 10.0 | 2.47 | 45 | 4.0 |
| 1.00 | 2.00 | 1°30' | 20.0 | 3.00 | 60 | 6.0 |
| 1.00 | 2.00 | 1°30' | 30.0 | 3.52 | 70 | 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Single tool / pack

All Dimensions in mm otherwise specified



Ball Radius Tolerance:
 ± 0.005 (R < 0.25)
 ± 0.010 (R \geq 0.25)

ON REQUEST :
 Inch Sizes / Special sizes

PACKING :
 Single tool / pack

All Dimensions in mm otherwise specified

| Radius | Dia | Taper Angle | EFL | Dia at larger end | Total Length | Shank Dia |
|--------|------|-------------|------|-------------------|--------------|-----------|
| R | d | a \pm 10' | l | | L | D h6 |
| 1.00 | 2.00 | 2° | 10.0 | 2.63 | 45 | 4.0 |
| 1.00 | 2.00 | 2° | 20.0 | 3.33 | 60 | 4.0 |
| 1.00 | 2.00 | 2° | 30.0 | 4.03 | 70 | 6.0 |
| 1.25 | 2.50 | 30' | 10.0 | 2.65 | 60 | 6.0 |
| 1.25 | 2.50 | 30' | 16.0 | 2.76 | 60 | 6.0 |
| 1.25 | 2.50 | 30' | 25.0 | 2.91 | 70 | 6.0 |
| 1.25 | 2.50 | 45' | 10.0 | 2.73 | 60 | 6.0 |
| 1.25 | 2.50 | 45' | 16.0 | 2.89 | 60 | 6.0 |
| 1.25 | 2.50 | 45' | 25.0 | 3.12 | 70 | 6.0 |
| 1.25 | 2.50 | 1° | 10.0 | 2.81 | 60 | 6.0 |
| 1.25 | 2.50 | 1° | 16.0 | 3.02 | 60 | 6.0 |
| 1.25 | 2.50 | 1° | 25.0 | 3.33 | 70 | 6.0 |
| 1.25 | 2.50 | 1°30' | 10.0 | 2.96 | 60 | 6.0 |
| 1.25 | 2.50 | 1°30' | 16.0 | 3.27 | 60 | 6.0 |
| 1.25 | 2.50 | 1°30' | 25.0 | 3.74 | 70 | 6.0 |
| 1.25 | 2.50 | 2° | 10.0 | 3.11 | 60 | 6.0 |
| 1.25 | 2.50 | 2° | 16.0 | 3.53 | 60 | 6.0 |
| 1.25 | 2.50 | 2° | 25.0 | 4.16 | 70 | 6.0 |
| 2.00 | 4.00 | 30' | 25.0 | 4.40 | 65 | 6.0 |
| 2.00 | 4.00 | 1° | 25.0 | 4.80 | 65 | 6.0 |
| 2.00 | 4.00 | 1°30' | 25.0 | 5.21 | 65 | 6.0 |
| 2.00 | 4.00 | 2° | 25.0 | 5.61 | 70 | 6.0 |



2022

КАТАЛОГ ФРЕЗ КОНЦЕВЫХ
ТВЕРДОСПЛАВНЫХ

AXIS

Tools for **m**ICRO **m**ACHINING

для фрезерования
супер сплавов



ООО "Современные Технологии НС"

125310, г. Москва, Пятницкое шоссе,
домовладение 54, корпус 1, офис 204/1

+7(495)181-23-88, +7(968)712-88-42
office@creativetechnologys.ru
www.creativetechnologys.ru

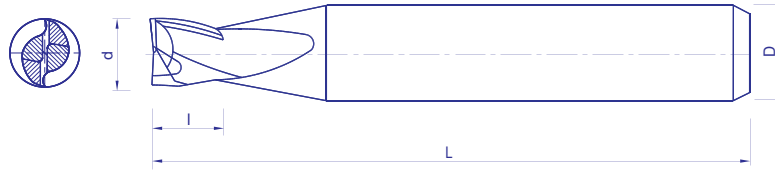


Мы предлагаем полный ассортимент фрез с алмазным покрытием CVD, сверл и специальных инструментов.

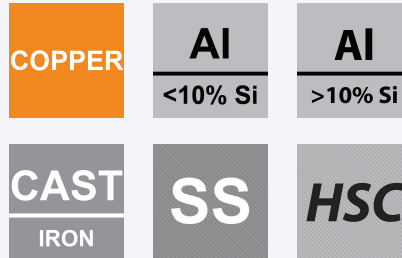
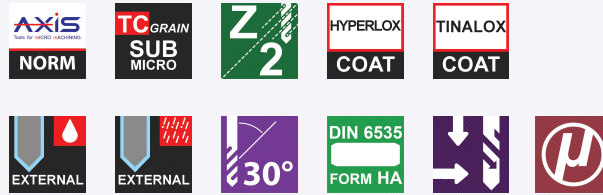
- *Высокая скорость подачи, обеспечивающая более высокую производительность*
- *Чрезвычайная износостойкость, обеспечивающая более длительный срок службы инструмента ~ 5-20x*
- *Частая смена инструментов и время простоя машины, которых удалось избежать*

QUALITY • PRECISION • CONSISTENCY





AXIS E9661



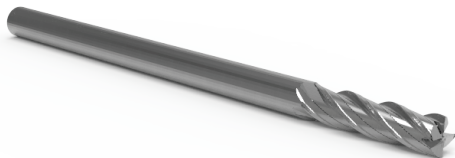
| Dia | EFL | Total Length | Shank Dia | | Dia | Flute Length | Total Length | Shank Dia |
|------|-----|--------------|-----------|--|------|--------------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 0.10 | 0.2 | 38 | 3.0 | | 1.20 | 2.4 | 38 | 3.0 |
| 0.10 | 0.3 | 38 | 3.0 | | 1.20 | 3.6 | 38 | 3.0 |
| 0.20 | 0.4 | 38 | 3.0 | | 1.40 | 2.8 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 | | 1.40 | 4.2 | 38 | 3.0 |
| 0.30 | 0.6 | 38 | 3.0 | | 1.50 | 3.0 | 38 | 3.0 |
| 0.30 | 0.9 | 38 | 3.0 | | 1.50 | 4.5 | 38 | 3.0 |
| 0.40 | 0.8 | 38 | 3.0 | | 1.60 | 3.2 | 38 | 3.0 |
| 0.40 | 1.2 | 38 | 3.0 | | 1.60 | 4.8 | 38 | 3.0 |
| 0.50 | 1.0 | 38 | 3.0 | | 1.80 | 3.6 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 | | 1.80 | 5.4 | 38 | 3.0 |
| 0.60 | 1.2 | 38 | 3.0 | | 2.00 | 4.0 | 38 | 3.0 |
| 0.60 | 1.8 | 38 | 3.0 | | 2.00 | 6.0 | 38 | 3.0 |
| 0.70 | 1.4 | 38 | 3.0 | | 2.50 | 5.0 | 38 | 3.0 |
| 0.70 | 2.1 | 38 | 3.0 | | 2.50 | 7.5 | 38 | 3.0 |
| 0.80 | 1.6 | 38 | 3.0 | | 3.00 | 6.0 | 38 | 3.0 |
| 0.80 | 2.4 | 38 | 3.0 | | 3.00 | 9.0 | 38 | 3.0 |
| 0.90 | 1.8 | 38 | 3.0 | | | | | |
| 0.90 | 2.7 | 38 | 3.0 | | | | | |
| 1.00 | 2.0 | 38 | 3.0 | | | | | |
| 1.00 | 3.0 | 38 | 3.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
10 tools / pack

All Dimensions in mm otherwise specified





AXIS E9671

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Dia | EFL | Total Length | Shank Dia |
|------|-----|--------------|-----------|
| d | l | L | D h6 |
| 0.20 | 0.4 | 38 | 3.0 |
| 0.20 | 0.6 | 38 | 3.0 |
| 0.30 | 0.6 | 38 | 3.0 |
| 0.30 | 0.9 | 38 | 3.0 |
| 0.40 | 0.8 | 38 | 3.0 |
| 0.40 | 1.2 | 38 | 3.0 |
| 0.50 | 1.0 | 38 | 3.0 |
| 0.50 | 1.5 | 38 | 3.0 |
| 0.60 | 1.2 | 38 | 3.0 |
| 0.60 | 1.8 | 38 | 3.0 |
| 0.70 | 1.4 | 38 | 3.0 |
| 0.70 | 2.1 | 38 | 3.0 |
| 0.80 | 1.6 | 38 | 3.0 |
| 0.80 | 2.4 | 38 | 3.0 |
| 0.90 | 1.8 | 38 | 3.0 |
| 0.90 | 2.7 | 38 | 3.0 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified



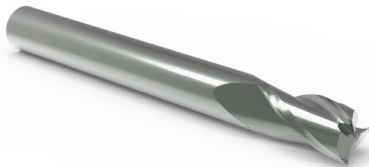
| Dia | EFL | Total Length | Shank Dia |
|-------|------|--------------|-----------|
| d | l | L | D h6 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 |
| 2.50 | 7.5 | 38 | 6.0 |
| 2.50 | 10.0 | 38 | 6.0 |
| 3.00 | 9.0 | 38 | 6.0 |
| 3.00 | 12.0 | 38 | 6.0 |
| 4.00 | 12.0 | 45 | 6.0 |
| 4.00 | 16.0 | 45 | 6.0 |
| 5.00 | 10.0 | 50 | 6.0 |
| 5.00 | 15.0 | 50 | 6.0 |
| 6.00 | 12.0 | 50 | 6.0 |
| 6.00 | 18.0 | 50 | 6.0 |
| 8.00 | 16.0 | 50 | 8.0 |
| 8.00 | 24.0 | 63 | 8.0 |
| 10.00 | 20.0 | 63 | 10.0 |
| 10.00 | 30.0 | 75 | 10.0 |
| 12.00 | 24.0 | 75 | 12.0 |
| 12.00 | 36.0 | 80 | 12.0 |

ON REQUEST :
Inch Sizes / Special sizes

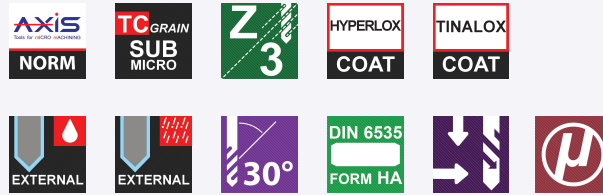
PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified





AXIS E9681



| Dia | EFL | Total Length | Shank Dia | | Dia | Flute | Total Length | Shank Dia |
|------|------|--------------|-----------|--|-------|-------|--------------|-----------|
| d | l | L | D h6 | | d | l | L | D h6 |
| 1.00 | 3.0 | 38 | 3.0 / 4.0 | | 5.00 | 10.0 | 50 | 6.0 |
| 1.00 | 5.0 | 38 | 3.0 / 4.0 | | 5.00 | 15.0 | 50 | 6.0 |
| 1.20 | 3.6 | 38 | 3.0 / 4.0 | | 6.00 | 12.0 | 50 | 6.0 |
| 1.20 | 6.0 | 38 | 3.0 / 4.0 | | 6.00 | 18.0 | 50 | 6.0 |
| 1.40 | 4.2 | 38 | 3.0 / 4.0 | | 8.00 | 16.0 | 50 | 8.0 |
| 1.40 | 7.0 | 38 | 3.0 / 4.0 | | 8.00 | 24.0 | 63 | 8.0 |
| 1.50 | 4.5 | 38 | 3.0 / 4.0 | | 10.00 | 20.0 | 63 | 10.0 |
| 1.50 | 7.5 | 38 | 3.0 / 4.0 | | 10.00 | 30.0 | 75 | 10.0 |
| 1.60 | 4.8 | 38 | 3.0 / 4.0 | | 12.00 | 24.0 | 75 | 12.0 |
| 1.60 | 8.0 | 38 | 3.0 / 4.0 | | 12.00 | 36.0 | 80 | 12.0 |
| 1.80 | 5.4 | 38 | 3.0 / 4.0 | | | | | |
| 1.80 | 9.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 6.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.00 | 10.0 | 38 | 3.0 / 4.0 | | | | | |
| 2.50 | 7.5 | 38 | 6.0 | | | | | |
| 2.50 | 10.0 | 38 | 6.0 | | | | | |
| 3.00 | 9.0 | 38 | 6.0 | | | | | |
| 3.00 | 12.0 | 38 | 6.0 | | | | | |
| 4.00 | 12.0 | 45 | 6.0 | | | | | |
| 4.00 | 16.0 | 45 | 6.0 | | | | | |

ON REQUEST :
Inch Sizes / Special sizes

PACKING :
Up to Dia 4.00mm : 10 tools / pack,
Dia > 4.00 : Single tool / pack

All Dimensions in mm otherwise specified



2022

КАТАЛОГ СПЕЦИАЛЬНОГО ТВЕРДОСПЛАВНОГО ИНСТРУМЕНТА

AXIS

Tools for mICRO mACHINING



ООО "Современные Технологии НС"

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домовладение 54, корпус 1, офис 204/1

+7(495)181-23-88, +7(968)712-88-42
office@creativetechnologys.ru
www.creativetechnologys.ru



Алмазное
покрытие

Мы предлагаем полный ассортимент фрез с алмазным покрытием CVD, сверл и специальных инструментов.

- *Высокая скорость подачи, обеспечивающая более высокую производительность*
- *Чрезвычайная износостойкость, обеспечивающая более длительный срок службы инструмента ~ 5-20x*
- *Частая смена инструментов и время простоя машины, которых удалось избежать*

QUALITY • PRECISION • CONSISTENCY



| | Series | Dia Range (mm) | Description | Tool Image | Page |
|----------|--------------|-------------------|---|---|-------|
| Drilling | H305 | 0.80 - 6.00 | INDrill Cool_5xd |  | 16 |
| | H310 | 0.80 - 6.00 | INDrill Cool_10xd |  | 17 |
| | H315 | 0.80 - 6.00 | INDrill Cool_15xd |  | 18 |
| | H320 | 0.80 - 6.00 | INDrill Cool_20xd |  | 19 |
| | H325 | 1.00 - 6.00 | INDrill Cool_25xd |  | 20 |
| | H330 | 1.00 - 6.00 | INDrill Cool_30xd |  | 21 |
| | T210 | 1.00 - 6.00 | Pilot Drills |  | 22 |
| | T311 | 0.30 - 3.00 | INDrill+ Short Flute Length Series |  | 24-26 |
| | T312 | 0.30 - 3.00 | INDrill+ Medium Flute Length Series |  | 27-29 |
| | T313 | 0.30 - 3.00 | INDrill+ Longer Flute Length Series |  | 30-32 |
| | T301 | 0.30 - 3.00 | INDrill Short Flute Length Series |  | 34-36 |
| | T302 | 0.10 - 3.00 | INDrill Medium Flute Length Series |  | 37-39 |
| | T303 | 0.015 - 3.00 | INDrill Longer Flute Length Series |  | 40-42 |
| | T580 /T581 | 0.05 - 6.00 | NC Pointing Drills |  | 43 |
| | T698 | 0.05 - 1.50 | Reinforced Shank mICRO Drills |  | 44-45 |
| | T732 | 0.60 - 16.00 | Parallel Shank Drills Stub Series |  | 46-47 |
| | T832 | 0.50 - 16.00 | Parallel Shank Drills Jobber Series |  | 48-49 |
| | R90X/H90X | 0.90 - 12.15 | High Precision Reamers |  | 50 |
| Milling | E305 | 1.00 - 12.00 | High Performance End Mills |  | 52 |
| | E307 | 1.00 - 12.00 | High Performance End Mills |  | 53 |
| | E923 | 0.10 - 6.00 | Single Flute End Mills |  | 55 |
| | E966 | 0.05 - 6.00 | 2 Flute End Mills |  | 56 |
| | E967 | 0.20 - 6.00 | 4 Flute End Mills |  | 57 |
| | E968 | 1.00 - 6.00 | 3 Flute End Mills |  | 58 |
| | B970 / B870 | 0.20 - 6.00 | 2 Flute Ballnose End Mills |  | 60 |
| | B972 | 0.20 - 6.00 | 4 Flute Ballnose End Mills |  | 61 |
| | G847 | 0.05 - 0.20 | Engravers |  | 62 |
| C676 | 3.00 - 12.00 | Chamfering Cutter |  | 63 | |

Application Guide

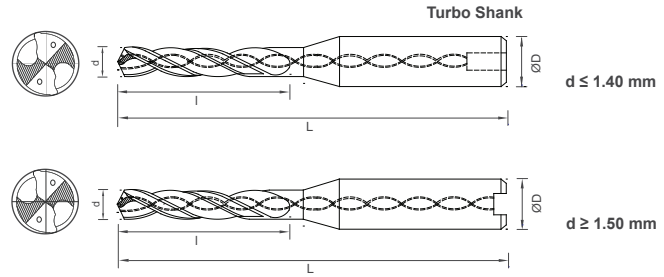
| Type | Description | ISO P | | | ISO M | | |
|---|--|---------------------|---------------------|--------------------|----------------------|------------|-----------------------|
| | | Low/Unalloyed Steel | Low/Unalloyed Steel | High Alloyed Steel | Ferritic/Martensitic | Austenitic | Duplex/Martensitic/PH |
| | | <600 N/mm2 | 600-850 N/mm2 | 700-1500 N/mm2 | | | > 800 N/mm2 |
| T580 / T581 | NC Pointing Drills | ● | ● | ● | ● | ● | ● |
| T698 | Reinforced Shank mICRO Drills | ● | ● | ◐ | ◐ | ◐ | ◐ |
| T732 / T832 | Parallel Shank Drills Stub and Jobber Series | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ |
| T301 / T302 / T303 | INDRILL | ● | ● | ◐ | ◐ | ◐ | ◐ |
| T311 / T312 / T313 | INDRILL+ | ◐ | ◐ | ● | ● | ● | ● |
| T210 | Pilot Drills | ● | ● | ● | ● | ● | ● |
| H305 / H310 / H315 / H320 / H325 / H330 | INDRILL Cool | ● | ● | ● | ● | ● | ● |
| R901/R904 | High Precision Reamers | ● | ● | ● | ● | ● | ● |
| E923 | Single Flute Endmills | ○ | ○ | ○ | ○ | ○ | ○ |
| E966 | 2 Flute Endmills | ● | ● | ◐ | ◐ | ◐ | ◐ |
| E967 | 4 Flute Endmills | ◐ | ◐ | ● | ◐ | ◐ | ◐ |
| E968 | 3 Flute Endmills | ● | ● | ◐ | ◐ | ◐ | ◐ |
| E305/ E307 | High Performance Endmills | ◐ | ◐ | ◐ | ● | ● | ● |
| B970 / B870 | 2 Flute Ballnose Endmills | ● | ● | ● | ◐ | ◐ | ◐ |
| B972 | 4 Flute Ballnose Endmills | ◐ | ◐ | ● | ◐ | ◐ | ◐ |
| G847 | Engraver | ◐ | ◐ | ◐ | ◐ | ◐ | ◐ |
| C676 | Chamfering | ● | ● | ● | ● | ● | ● |

| ISO K | | ISO N | | Plastics | ISO S | |
|-----------|-------------|-----------|-----------|----------|----------------|------------------------|
| GCI / NCI | | Al Alloys | Cu Alloys | | Ti Based Alloy | Fe, Ni, Co Based Alloy |
| < 180 BHN | 200-250 BHN | | | | | |
| ● | ● | ● | ● | ○ | ○ | ○ |
| ◐ | ◐ | ◐ | ◐ | ◐ | ○ | ○ |
| ◐ | ◐ | ◐ | ◐ | ○ | ○ | ○ |
| ◐ | ◐ | ● | ● | ● | ○ | ○ |
| ● | ● | ◐ | ◐ | ○ | ◐ | ● |
| ● | ● | ◐ | ◐ | ○ | ● | ◐ |
| ● | ● | ● | ● | ○ | ◐ | ◐ |
| ○ | ○ | ● | ◐ | ● | ○ | ○ |
| ◐ | ◐ | ● | ● | ◐ | ◐ | ◐ |
| ● | ● | ○ | ◐ | ○ | ◐ | ◐ |
| ◐ | ◐ | ◐ | ◐ | ○ | ◐ | ○ |
| ○ | ○ | ○ | ○ | ○ | ● | ● |
| ◐ | ◐ | ● | ● | ○ | ◐ | ◐ |
| ● | ● | ○ | ○ | ○ | ○ | ○ |
| ◐ | ◐ | ● | ● | ● | ○ | ○ |
| ● | ● | ● | ● | ● | ● | ● |

Description : ● Optimal ◐ Suitable ○ Not Suitable



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z
2
- 135°
- AxiCoat
TiAlN
- AXIS+
VVVV
- Edge Prep
- Form HA
DIN 6535

A versatile high performance drill crafted for deep hole drilling applications in Carbon & Alloy Steels, Cast Iron, Stainless Steel and Super Alloys

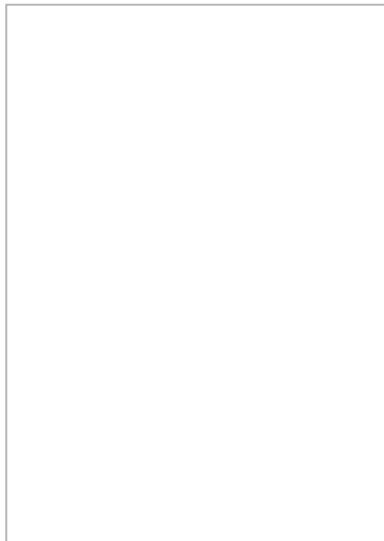
Four margin geometry to ensure balanced and precise drilling of deep holes

Wavy cutting edges and specially designed flute geometry for controlled chip formation and evacuation

Differentiated web construction supports excellent hole form and quality with efficient chip evacuation

High performance ultra fine carbide substrate developed specifically for mICRO machining applications

Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process provide superior edge strength, excellent chip evacuation, better coating adhesion and longer tool life



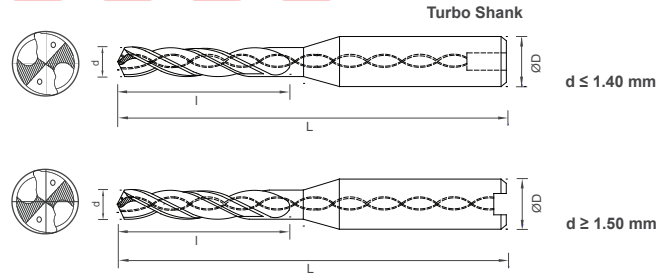
World of mICRO Tools

| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| | | | | Coated |
| 0.80 | 8.00 | 45.00 | 3.00 | |
| 0.90 | | | | |
| 1.00 | | | | |
| 1.10 | 10.00 | 45.00 | 3.00 | |
| 1.20 | | | | |
| 1.30 | | | | |
| 1.40 | 12.00 | 55.00 | 3.00 | |
| 1.50 | | | | |
| 1.60 | | | | |
| 1.70 | 16.00 | 60.00 | 3.00 | |
| 1.80 | | | | |
| 1.90 | | | | |
| 2.00 | 16.00 | 60.00 | 4.00 | |
| 2.10 | | | | |
| 2.20 | | | | |
| 2.30 | 18.00 | 60.00 | 4.00 | |
| 2.40 | | | | |
| 2.50 | | | | |
| 2.60 | 22.00 | 60.00 | 4.00 | |
| 2.70 | | | | |
| 2.80 | | | | |
| 2.90 | 24.00 | 65.00 | 4.00 | |
| 3.00 | | | | |
| 3.10 | | | | |
| 3.20 | 26.00 | 75.00 | 4.00 | |
| 3.30 | | | | |
| 3.40 | | | | |
| 3.50 | 28.00 | 75.00 | 4.00 | |
| 3.60 | | | | |
| 3.70 | | | | |
| 3.80 | 36.00 | 75.00 | 6.00 | |
| 3.90 | | | | |
| 4.00 | | | | |
| 4.10 | 44.00 | 80.00 | 6.00 | |
| 4.20 | | | | |
| 4.30 | | | | |
| 4.40 | | | | |
| 4.50 | | | | |
| 4.60 | | | | |
| 4.70 | | | | |
| 4.80 | | | | |
| 4.90 | | | | |
| 5.00 | | | | |
| 5.10 | 48.00 | 80.00 | 6.00 | |
| 5.20 | | | | |
| 5.30 | | | | |
| 5.40 | | | | |
| 5.50 | | | | |
| 5.60 | | | | |
| 5.70 | | | | |
| 5.80 | | | | |
| 5.90 | | | | |
| 6.00 | | | | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z
2
- 135°
- AxiCoat
TiAlN
- AXIS+
VVVV
- Edge Prep
- Form HA
DIN 6535

A versatile high performance drill crafted for deep hole drilling applications in Carbon & Alloy Steels, Cast Iron, Stainless Steel and Super Alloys

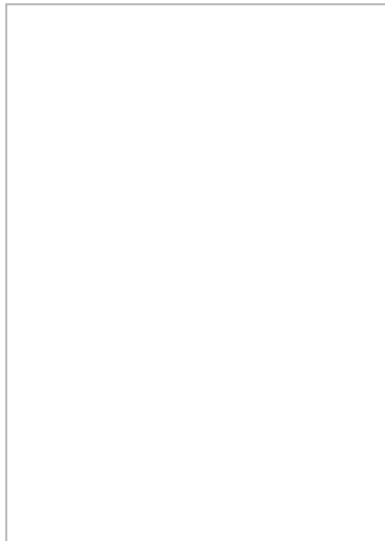
Four margin geometry to ensure balanced and precise drilling of deep holes

Wavy cutting edges and specially designed flute geometry for controlled chip formation and evacuation

Differentiated web construction supports excellent hole form and quality with efficient chip evacuation

High performance ultra fine carbide substrate developed specifically for mICRO machining applications

Finely honed cutting edge and highly polished flutes by MMP Superfinishing process provide superior edge strength, excellent chip evacuation, better coating adhesion and longer tool life



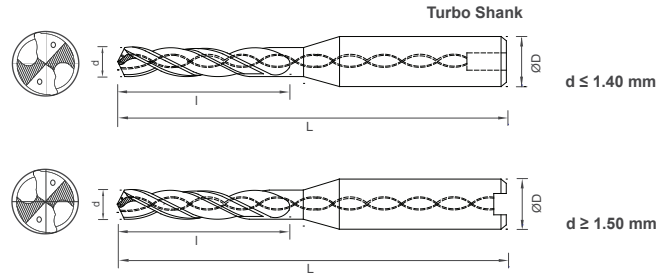
World of mICRO Tools

| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| | | | | Coated |
| 0.80 | 12.00 | 55.00 | 3.00 | |
| 0.90 | | | | |
| 1.00 | | | | |
| 1.10 | 16.00 | 55.00 | 3.00 | |
| 1.20 | | | | |
| 1.30 | | | | |
| 1.40 | 18.00 | 55.00 | 3.00 | |
| 1.50 | | | | |
| 1.60 | | | | |
| 1.70 | 26.00 | 65.00 | 3.00 | |
| 1.80 | | | | |
| 1.90 | | | | |
| 2.00 | 26.00 | 65.00 | 4.00 | |
| 2.10 | | | | |
| 2.20 | | | | |
| 2.30 | 33.00 | 75.00 | 4.00 | |
| 2.40 | | | | |
| 2.50 | | | | |
| 2.60 | 40.00 | 80.00 | 4.00 | |
| 2.70 | | | | |
| 2.80 | | | | |
| 2.90 | 42.00 | 80.00 | 4.00 | |
| 3.00 | | | | |
| 3.10 | | | | |
| 3.20 | 45.00 | 90.00 | 4.00 | |
| 3.30 | | | | |
| 3.40 | | | | |
| 3.50 | 52.00 | 90.00 | 4.00 | |
| 3.60 | | | | |
| 3.70 | | | | |
| 3.80 | 60.00 | 100.0 | 6.00 | |
| 3.90 | | | | |
| 4.00 | | | | |
| 4.10 | 65.00 | 108.0 | 6.00 | |
| 4.20 | | | | |
| 4.30 | | | | |
| 4.40 | 72.00 | 108.0 | 6.00 | |
| 4.50 | | | | |
| 4.60 | | | | |
| 4.70 | 78.00 | 120.0 | 6.00 | |
| 4.80 | | | | |
| 4.90 | | | | |
| 5.00 | 78.00 | 120.0 | 6.00 | |
| 5.10 | | | | |
| 5.20 | | | | |
| 5.30 | 78.00 | 120.0 | 6.00 | |
| 5.40 | | | | |
| 5.50 | | | | |
| 5.60 | 78.00 | 120.0 | 6.00 | |
| 5.70 | | | | |
| 5.80 | | | | |
| 5.90 | 78.00 | 120.0 | 6.00 | |
| 6.00 | | | | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z
2
- 135°
- AxiCoat
TiAlN
- AXIS+
VVVV
- Edge Prep
- Form HA
DIN 6535

A versatile high performance drill crafted for deep hole drilling applications in Carbon & Alloy Steels, Cast Iron, Stainless Steel and Super Alloys

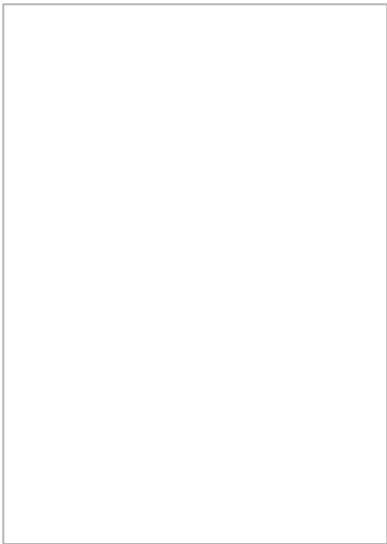
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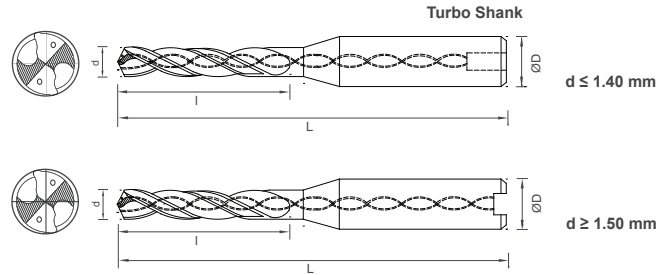
World of mICRO Tools

| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| | | | | Coated |
| 0.80 | 16.00 | 55.00 | 3.00 | |
| 0.90 | | | | |
| 1.00 | 18.00 | 75.00 | 3.00 | |
| 1.10 | | | | |
| 1.20 | 24.00 | 75.00 | 3.00 | |
| 1.30 | | | | |
| 1.40 | 27.00 | 75.00 | 3.00 | |
| 1.50 | | | | |
| 1.60 | 30.00 | 75.00 | 3.00 | |
| 1.70 | | | | |
| 1.80 | 35.00 | 75.00 | 3.00 | |
| 1.90 | | | | |
| 2.00 | 35.00 | 80.00 | 4.00 | |
| 2.10 | | | | |
| 2.20 | 40.00 | 80.00 | 4.00 | |
| 2.30 | | | | |
| 2.40 | 45.00 | 90.00 | 4.00 | |
| 2.50 | | | | |
| 2.60 | 48.00 | 90.00 | 4.00 | |
| 2.70 | | | | |
| 2.80 | 50.00 | 90.00 | 4.00 | |
| 2.90 | | | | |
| 3.00 | 55.00 | 100.0 | 6.00 | |
| 3.10 | | | | |
| 3.20 | 60.00 | 100.0 | 6.00 | |
| 3.30 | | | | |
| 3.40 | 65.00 | 108.0 | 6.00 | |
| 3.50 | | | | |
| 3.60 | 70.00 | 108.0 | 6.00 | |
| 3.70 | | | | |
| 3.80 | 75.00 | 120.0 | 6.00 | |
| 3.90 | | | | |
| 4.00 | 80.00 | 120.0 | 6.00 | |
| 4.10 | | | | |
| 4.20 | 85.00 | 125.0 | 6.00 | |
| 4.30 | | | | |
| 4.40 | 90.00 | 140.0 | 6.00 | |
| 4.50 | | | | |
| 4.60 | 95.00 | 140.0 | 6.00 | |
| 4.70 | | | | |
| 4.80 | 100.0 | 150.0 | 6.00 | |
| 4.90 | | | | |
| 5.00 | 100.0 | 150.0 | 6.00 | |
| 5.10 | | | | |
| 5.20 | 100.0 | 150.0 | 6.00 | |
| 5.30 | | | | |
| 5.40 | 100.0 | 150.0 | 6.00 | |
| 5.50 | | | | |
| 5.60 | 100.0 | 150.0 | 6.00 | |
| 5.70 | | | | |
| 5.80 | 100.0 | 150.0 | 6.00 | |
| 5.90 | | | | |
| 6.00 | | | | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z
2
- 135°
- AxiCoat
TiAlN
- AXIS+
VVVV
- Edge Prep
- Form HA
DIN 6535

A versatile high performance drill crafted for deep hole drilling applications in Carbon & Alloy Steels, Cast Iron, Stainless Steel and Super Alloys

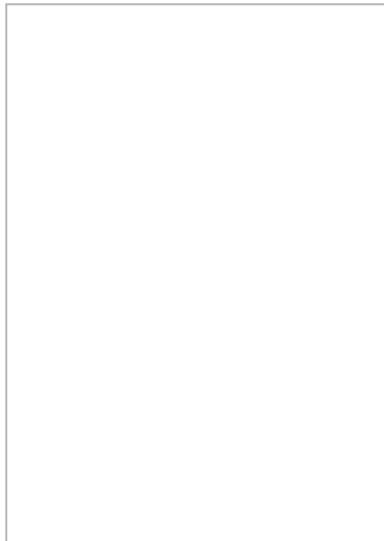
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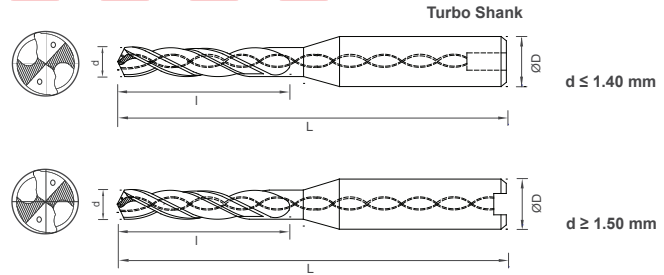
World of mICRO Tools

| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| | | | | Coated |
| 0.80 | 20.00 | 65.00 | 3.00 | |
| 0.90 | | | | |
| 1.00 | 25.00 | 75.00 | 3.00 | |
| 1.10 | | | | |
| 1.20 | 28.00 | 75.00 | 3.00 | |
| 1.30 | | | | |
| 1.40 | 30.00 | 75.00 | 3.00 | |
| 1.50 | | | | |
| 1.60 | 32.00 | 75.00 | 3.00 | |
| 1.70 | | | | |
| 1.80 | 36.00 | 80.00 | 3.00 | |
| 1.90 | | | | |
| 2.00 | 40.00 | 85.00 | 3.00 | |
| 2.10 | | | | |
| 2.20 | 45.00 | 95.00 | 4.00 | |
| 2.30 | | | | |
| 2.40 | 50.00 | 95.00 | 4.00 | |
| 2.50 | | | | |
| 2.60 | 55.00 | 95.00 | 4.00 | |
| 2.70 | | | | |
| 2.80 | 60.00 | 108.0 | 4.00 | |
| 2.90 | | | | |
| 3.00 | 65.00 | 108.0 | 4.00 | |
| 3.10 | | | | |
| 3.20 | 68.00 | 112.0 | 4.00 | |
| 3.30 | | | | |
| 3.40 | 68.00 | 112.0 | 6.00 | |
| 3.50 | | | | |
| 3.60 | 75.00 | 120.0 | 6.00 | |
| 3.70 | | | | |
| 3.80 | 80.00 | 130.0 | 6.00 | |
| 3.90 | | | | |
| 4.00 | 85.00 | 130.0 | 6.00 | |
| 4.10 | | | | |
| 4.20 | 90.00 | 140.0 | 6.00 | |
| 4.30 | | | | |
| 4.40 | 95.00 | 120.0 | 6.00 | |
| 4.50 | | | | |
| 4.60 | 100.0 | 150.0 | 6.00 | |
| 4.70 | | | | |
| 4.80 | 110.0 | 160.0 | 6.00 | |
| 4.90 | | | | |
| 5.00 | 115.0 | 160.0 | 6.00 | |
| 5.10 | | | | |
| 5.20 | 125.0 | 165.0 | 6.00 | |
| 5.30 | | | | |
| 5.40 | 140.0 | 185.0 | 6.00 | |
| 5.50 | | | | |
| 5.60 | 140.0 | 185.0 | 6.00 | |
| 5.70 | | | | |
| 5.80 | 140.0 | 185.0 | 6.00 | |
| 5.90 | | | | |
| 6.00 | | | | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z
2
- 135°
- AxiCoat
TiAlN
- AXIS+
VVVV
- Edge Prep
- Form HA
DIN 6535

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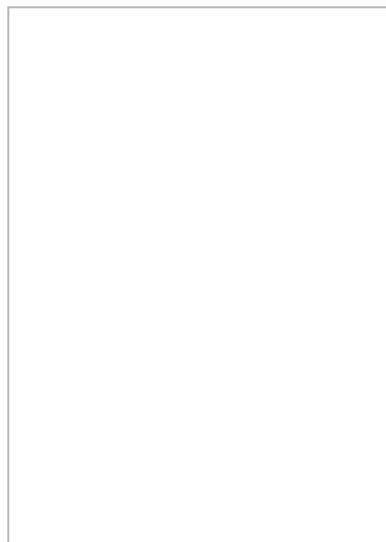
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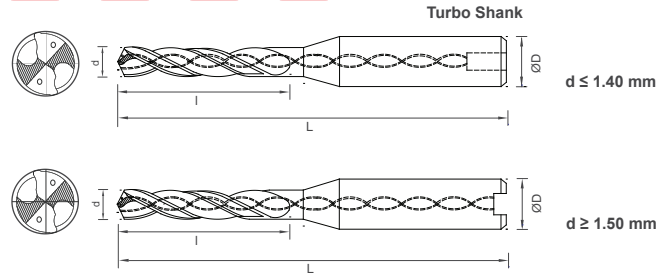
World of mICRO Tools

| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| | | | | Coated |
| 1.00 | 30.0 | 75.0 | 3.00 | |
| 1.10 | | | | |
| 1.20 | 35.0 | 75.0 | 3.00 | |
| 1.30 | | | | |
| 1.40 | 40.0 | 85.0 | 3.00 | |
| 1.50 | | | | |
| 1.60 | 45.0 | 85.0 | 3.00 | |
| 1.70 | | | | |
| 1.80 | 50.0 | 95.0 | 3.00 | |
| 1.90 | | | | |
| 2.00 | 55.0 | 95.0 | 4.00 | |
| 2.10 | | | | |
| 2.20 | 60.0 | 108.0 | 4.00 | |
| 2.30 | | | | |
| 2.40 | 65.0 | 108.0 | 4.00 | |
| 2.50 | | | | |
| 2.60 | 70.0 | 112.0 | 4.00 | |
| 2.70 | | | | |
| 2.80 | 75.0 | 120.0 | 4.00 | |
| 2.90 | | | | |
| 3.00 | 80.0 | 125.0 | 4.00 | |
| 3.10 | | | | |
| 3.20 | 85.0 | 130.0 | 6.00 | |
| 3.30 | | | | |
| 3.40 | 95.0 | 140.0 | 6.00 | |
| 3.50 | | | | |
| 3.60 | 100.0 | 150.0 | 6.00 | |
| 3.70 | | | | |
| 3.80 | 105.0 | 150.0 | 6.00 | |
| 3.90 | | | | |
| 4.00 | 110.0 | 160.0 | 6.00 | |
| 4.10 | | | | |
| 4.20 | 120.0 | 170.0 | 6.00 | |
| 4.30 | | | | |
| 4.40 | 130.0 | 180.0 | 6.00 | |
| 4.50 | | | | |
| 4.60 | 130.0 | 180.0 | 6.00 | |
| 4.70 | | | | |
| 4.80 | 140.0 | 190.0 | 6.00 | |
| 4.90 | | | | |
| 5.00 | 140.0 | 190.0 | 6.00 | |
| 5.10 | | | | |
| 5.20 | 150.0 | 200.0 | 6.00 | |
| 5.30 | | | | |
| 5.40 | 150.0 | 200.0 | 6.00 | |
| 5.50 | | | | |
| 5.60 | 160.0 | 210.0 | 6.00 | |
| 5.70 | | | | |
| 5.80 | 160.0 | 210.0 | 6.00 | |
| 5.90 | | | | |
| 6.00 | 170.0 | 220.0 | 6.00 | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z
2
- 135°
- AxiCoat
TiAlN
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- Edge Prep
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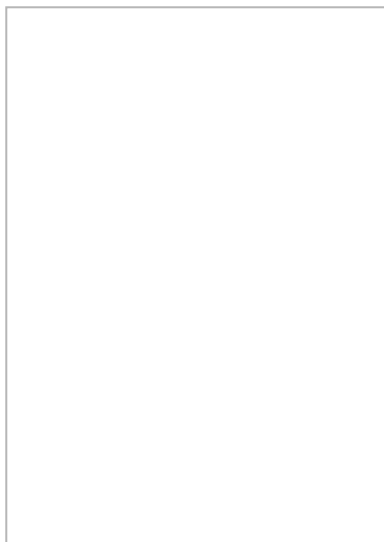
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World of mICRO Tools

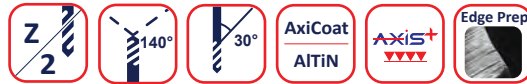
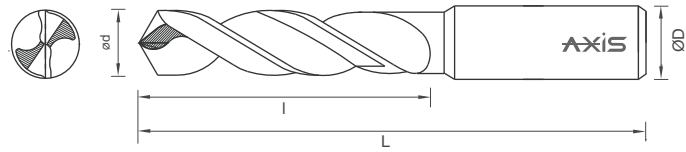
| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| | | | | Coated |
| 1.00 | 35.0 | 75.0 | 3.00 | |
| 1.10 | | | | |
| 1.20 | | | | |
| 1.30 | 45.0 | 85.0 | 3.00 | |
| 1.40 | | | | |
| 1.50 | | | | |
| 1.60 | 55.0 | 95.0 | 3.00 | |
| 1.70 | | | | |
| 1.80 | | | | |
| 1.90 | 65.0 | 105.0 | 3.00 | |
| 2.00 | | | | |
| 2.10 | | | | |
| 2.20 | 75.0 | 115.0 | 4.00 | |
| 2.30 | | | | |
| 2.40 | | | | |
| 2.50 | 85.0 | 130.0 | 4.00 | |
| 2.60 | | | | |
| 2.70 | | | | |
| 2.80 | 95.0 | 140.0 | 4.00 | |
| 2.90 | | | | |
| 3.00 | | | | |
| 3.10 | 105.0 | 150.0 | 6.00 | |
| 3.20 | | | | |
| 3.30 | | | | |
| 3.40 | 115.0 | 160.0 | 6.00 | |
| 3.50 | | | | |
| 3.60 | | | | |
| 3.70 | 125.0 | 175.0 | 6.00 | |
| 3.80 | | | | |
| 3.90 | | | | |
| 4.00 | 135.0 | 185.0 | 6.00 | |
| 4.10 | | | | |
| 4.20 | | | | |
| 4.30 | 145.0 | 195.0 | 6.00 | |
| 4.40 | | | | |
| 4.50 | | | | |
| 4.60 | 155.0 | 205.0 | 6.00 | |
| 4.70 | | | | |
| 4.80 | | | | |
| 4.90 | 165.0 | 210.0 | 6.00 | |
| 5.00 | | | | |
| 5.10 | | | | |
| 5.20 | 175.0 | 220.0 | 6.00 | |
| 5.30 | | | | |
| 5.40 | | | | |
| 5.50 | 190.0 | 240.0 | 6.00 | |
| 5.60 | | | | |
| 5.70 | | | | |
| 5.80 | | | | |
| 5.90 | | | | |
| 6.00 | | | | |

* Non Stockable



Pilot Drills

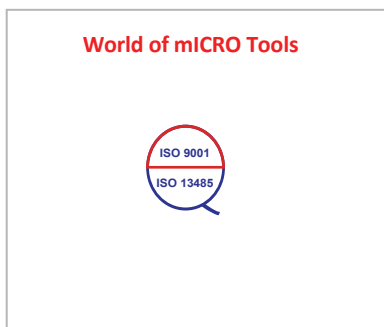
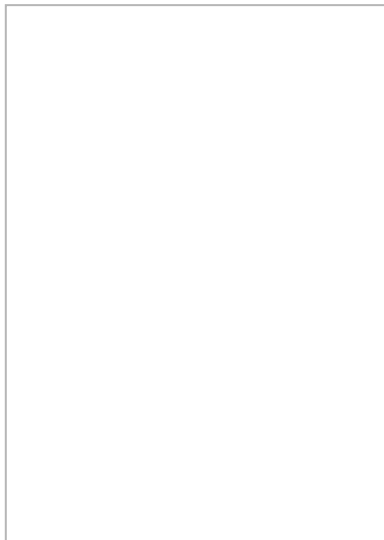
T210



Excellent self centering ability and short flute length ensures better positional accuracy

Diameter Tolerance and Point angle aligned in accordance with INDrill Cool series

Made from micro fine grade carbide with a balanced mix of high toughness and excellent hardness



| ød m7 | l | L | ØD h5 | Prices € | |
|----------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.80 | | | | | |
| 0.90 | 5.00 | 45.00 | 3.00 | | |
| 1.00 | | | | | |
| 1.10 | | | | | |
| 1.20 | 6.00 | 45.00 | 3.00 | | |
| 1.30 | | | | | |
| 1.40 | | | | | |
| 1.50 | | | | | |
| 1.60 | | | | | |
| 1.70 | 8.00 | 45.00 | 3.00 | | |
| 1.80 | | | | | |
| 1.90 | | | | | |
| 2.00 | | | | | |
| 2.10 | 10.00 | 45.00 | 4.00 | | |
| 2.20 | | | | | |
| 2.30 | | | | | |
| 2.40 | | | | | |
| 2.50 | | | | | |
| 2.60 | 12.00 | 55.00 | 4.00 | | |
| 2.70 | | | | | |
| 2.80 | | | | | |
| 2.90 | | | | | |
| 3.00 | | | | | |
| 3.10 | | | | | |
| 3.20 | | | | | |
| 3.30 | | | | | |
| 3.40 | 20.00 | 60.00 | 4.00 | | |
| 3.50 | | | | | |
| 3.60 | | | | | |
| 3.70 | | | | | |
| 3.80 | | | | | |
| 3.90 | 24.00 | 64.00 | 4.00 | | |
| 4.00 | | | | | |
| 4.10 | | | | | |
| 4.20 | | | | | |
| 4.30 | 24.00 | 64.00 | 6.00 | | |
| 4.40 | | | | | |
| 4.50 | | | | | |
| 4.60 | | | | | |
| 4.70 | | | | | |
| 4.80 | | | | | |
| 4.90 | | | | | |
| 5.00 | | | | | |
| 5.10 | | | | | |
| 5.20 | | | | | |
| 5.30 | | | | | |
| 5.40 | 28.00 | 64.00 | 6.00 | | |
| 5.50 | | | | | |
| 5.60 | | | | | |
| 5.70 | | | | | |
| 5.80 | | | | | |
| 5.90 | | | | | |
| 6.00 | | | | | |

* Non Stockable

INDRILL+

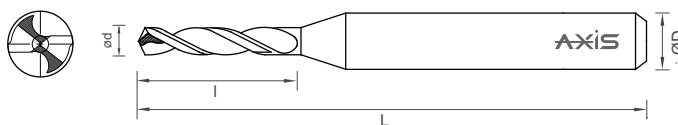
T311



Short Flute Length Series

Dia Range : \varnothing 0.30-3.00mm

Flute Length : ~3-5d



A versatile drill crafted with good centering and keen cutting abilities for use across different materials and applications

Special point geometry for increased penetration for center cutting abilities

Differentiated web taper for faster chip evacuation

Web thinned geometry for better centering and chip formation and evacuation

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process for superior edge strength, chip evacuation, better coating adhesion and longer tool life

| \varnothing d | l | L | \varnothing D h6 | Prices € |
|-----------------|------|-------|--------------------|----------|
| 0.30 | 1.50 | 38.00 | 3.00 | |
| 0.31 | | | | |
| 0.32 | | | | |
| 0.33 | | | | |
| 0.34 | | | | |
| 0.35 | | | | |
| 0.36 | | | | |
| 0.37 | | | | |
| 0.38 | | | | |
| 0.39 | | | | |
| 0.40 | | | | |
| 0.41 | 2.00 | 38.00 | 3.00 | |
| 0.42 | | | | |
| 0.43 | | | | |
| 0.44 | | | | |
| 0.45 | | | | |
| 0.46 | | | | |
| 0.47 | | | | |
| 0.48 | | | | |
| 0.49 | | | | |
| 0.50 | | | | |
| 0.51 | 2.50 | 38.00 | 3.00 | |
| 0.52 | | | | |
| 0.53 | | | | |
| 0.54 | | | | |
| 0.55 | | | | |
| 0.56 | | | | |
| 0.57 | | | | |
| 0.58 | | | | |
| 0.59 | | | | |
| 0.60 | | | | |
| 0.61 | | | | |
| 0.62 | | | | |
| 0.63 | | | | |
| 0.64 | | | | |
| 0.65 | | | | |
| 0.66 | | | | |
| 0.67 | 3.00 | 38.00 | 3.00 | |
| 0.68 | | | | |
| 0.69 | | | | |
| 0.70 | | | | |
| 0.71 | | | | |
| 0.72 | | | | |
| 0.73 | | | | |
| 0.74 | | | | |
| 0.75 | | | | |
| 0.76 | | | | |
| 0.77 | | | | |
| 0.78 | | | | |
| 0.79 | | | | |
| 0.80 | 4.00 | 38.00 | 3.00 | |
| 0.81 | | | | |

World of mICRO Tools



T311

| ød | l | L | ØD h6 | Prices € |
|------|------|-------|----------|----------|
| 0.82 | 4.00 | 38.00 | 3.00 | |
| 0.83 | | | | |
| 0.84 | | | | |
| 0.85 | | | | |
| 0.86 | | | | |
| 0.87 | | | | |
| 0.88 | | | | |
| 0.89 | | | | |
| 0.90 | 5.00 | 38.00 | 3.00 | |
| 0.91 | | | | |
| 0.92 | | | | |
| 0.93 | | | | |
| 0.94 | | | | |
| 0.95 | | | | |
| 0.96 | | | | |
| 0.97 | | | | |
| 0.98 | | | | |
| 0.99 | | | | |
| 1.00 | | | | |
| 1.01 | | | | |
| 1.02 | | | | |
| 1.03 | | | | |
| 1.04 | | | | |
| 1.05 | | | | |
| 1.06 | | | | |
| 1.07 | | | | |
| 1.08 | | | | |
| 1.09 | | | | |
| 1.10 | 6.00 | 38.00 | 3.00 | |
| 1.11 | | | | |
| 1.12 | | | | |
| 1.13 | | | | |
| 1.14 | | | | |
| 1.15 | | | | |
| 1.16 | | | | |
| 1.17 | | | | |
| 1.18 | | | | |
| 1.19 | | | | |
| 1.20 | | | | |
| 1.21 | | | | |
| 1.22 | | | | |
| 1.23 | | | | |
| 1.24 | | | | |
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| 1.27 | | | | |
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| 1.29 | | | | |
| 1.30 | | | | |
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| 1.32 | | | | |
| 1.33 | | | | |
| 1.34 | | | | |
| 1.35 | | | | |
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| 1.37 | | | | |
| 1.38 | | | | |
| 1.39 | | | | |
| 1.40 | | | | |
| 1.41 | | | | |
| 1.42 | | | | |
| 1.43 | | | | |
| 1.44 | | | | |
| 1.45 | | | | |
| 1.46 | | | | |
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| ød | l | L | ØD h6 | Prices € |
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| 1.51 | 8.00 | 38.00 | 3.00 | |
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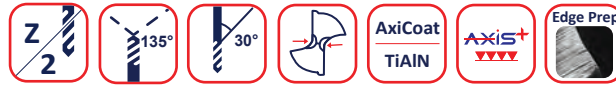
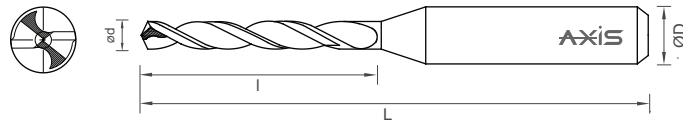
T311

| ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
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* Non Stockable





A versatile drill crafted with good centering and keen cutting abilities for use across different materials and applications

Special point geometry for increased penetration for center cutting abilities

Differentiated web taper for faster chip evacuation

Web thinned geometry for better centering and chip formation and evacuation

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Finely honed cutting edge and highly polished flutes by MMP Superfinishing process for superior edge strength, chip evacuation, better coating adhesion and longer tool life

| ød | l | L | ØD h6 | Prices € |
|------|------|-------|-------|----------|
| 0.30 | 3.00 | 38.00 | 3.00 | |
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| 0.39 | | | | |
| 0.40 | | | | |
| 0.41 | 4.00 | 38.00 | 3.00 | |
| 0.42 | | | | |
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| 0.76 | | | | |
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| 0.79 | | | | |
| 0.80 | 6.00 | 38.00 | 3.00 | |
| 0.81 | | | | |

World of mICRO Tools



T312

| ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| 0.82 | 6.00 | 38.00 | 3.00 | |
| 0.83 | | | | |
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| 1.50 | 12.00 | 45.00 | 3.00 | |

| ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| 1.51 | 12.00 | 38.00 | 3.00 | |
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T312

| ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| 2.20 | 14.00 | 45.00 | 3.00 | |
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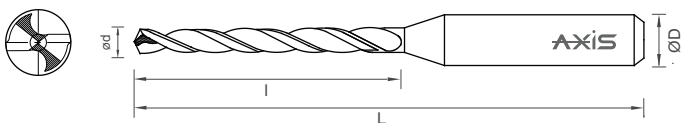
| ød | l | L | ØD h6 | Prices € |
|------|-------|-------|----------|----------|
| 2.61 | 16.00 | 45.00 | 3.00 | |
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* Non Stockable





- SS
- Titanium Alloy
- Steel High Alloyed
- Steel Low/Unalloyed
- Nickel Alloy
- Cast Iron
- Non-Ferrous



- Z
2
- 135°
- 30°
-
- AxiCoat
TiAlN
- AXIS+
VVVV
- Edge Prep

A versatile drill crafted with good centering and keen cutting abilities for use across different materials and applications

Special point geometry for increased penetration for center cutting abilities

Differentiated web taper for faster chip evacuation

Web thinned geometry for better centering and chip formation and evacuation

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process for superior edge strength, chip evacuation, better coating adhesion and longer tool life



World of mICRO Tools

ISO 9001

ISO 13485

| ød | l | L | ØD h6 | Prices € |
|------|------|-------|-------|----------|
| 0.30 | 5.50 | 38.00 | 3.00 | |
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T313

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| 0.82 | 8.00 | 38.00 | 3.00 | |
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| ød | l | L | ØD h6 | Prices € |
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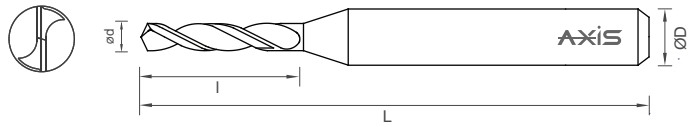
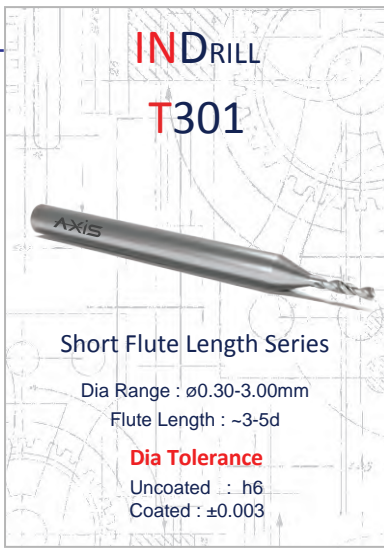
T313

| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|-------|----------|
| 2.20 | 20.00 | 50.00 | 3.00 | |
| 2.21 | | | | |
| 2.22 | | | | |
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| 2.50 | 24.00 | 50.00 | 3.00 | |
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| Ød | l | L | ØD h6 | Prices € |
|------|-------|-------|-------|----------|
| 2.61 | 24.00 | 50.00 | 3.00 | |
| 2.62 | | | | |
| 2.63 | | | | |
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| 2.68 | | | | |
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| 2.70 | | | | |
| 2.71 | 26.00 | 50.00 | 3.00 | |
| 2.72 | | | | |
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| 3.00 | | | | |

* Non Stockable





$\varnothing d < 0.40\text{mm}$ $\varnothing d \geq 0.40\text{mm}$

A versatile drill crafted with good centering and keen cutting abilities for use across different materials and applications

Differentiated web taper for faster chip evacuation

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process for superior edge strength, chip evacuation, better coating adhesion and longer tool life



World of mICRO Tools

| ød | l | L | ØD h6 | Prices € | |
|------|------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.30 | 1.50 | 38.00 | 3.00 | | |
| 0.31 | | | | | |
| 0.32 | | | | | |
| 0.33 | | | | | |
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| 0.35 | | | | | |
| 0.36 | | | | | |
| 0.37 | | | | | |
| 0.38 | | | | | |
| 0.39 | | | | | |
| 0.40 | 2.00 | 38.00 | 3.00 | | |
| 0.41 | | | | | |
| 0.42 | | | | | |
| 0.43 | | | | | |
| 0.44 | | | | | |
| 0.45 | | | | | |
| 0.46 | | | | | |
| 0.47 | | | | | |
| 0.48 | | | | | |
| 0.49 | | | | | |
| 0.50 | 2.50 | 38.00 | 3.00 | | |
| 0.51 | | | | | |
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| 0.54 | | | | | |
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| 0.58 | | | | | |
| 0.59 | | | | | |
| 0.60 | 3.00 | 38.00 | 3.00 | | |
| 0.61 | | | | | |
| 0.62 | | | | | |
| 0.63 | | | | | |
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| 0.66 | | | | | |
| 0.67 | | | | | |
| 0.68 | | | | | |
| 0.69 | | | | | |
| 0.70 | 4.00 | 38.00 | 3.00 | | |
| 0.71 | | | | | |
| 0.72 | | | | | |
| 0.73 | | | | | |
| 0.74 | | | | | |
| 0.75 | | | | | |
| 0.76 | | | | | |
| 0.77 | | | | | |
| 0.78 | | | | | |
| 0.79 | | | | | |
| 0.80 | | | | | |
| 0.81 | | | | | |



T301

| ød | l | L | ØD h6 | Prices € | |
|------|------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.82 | 4.00 | 38.00 | 3.00 | | |
| 0.83 | | | | | |
| 0.84 | | | | | |
| 0.85 | | | | | |
| 0.86 | | | | | |
| 0.87 | | | | | |
| 0.88 | | | | | |
| 0.89 | | | | | |
| 0.90 | 5.00 | 38.00 | 3.00 | | |
| 0.91 | | | | | |
| 0.92 | | | | | |
| 0.93 | | | | | |
| 0.94 | | | | | |
| 0.95 | | | | | |
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| 1.10 | 6.00 | 38.00 | 3.00 | | |
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| 1.47 | | | | | |
| 1.48 | | | | | |
| 1.49 | | | | | |
| 1.50 | 8.00 | 38.00 | 3.00 | | |

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 1.51 | 8.00 | 38.00 | 3.00 | | |
| 1.52 | | | | | |
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| 1.98 | | | | | |
| 1.99 | | | | | |
| 2.00 | 12.00 | 38.00 | 3.00 | | |
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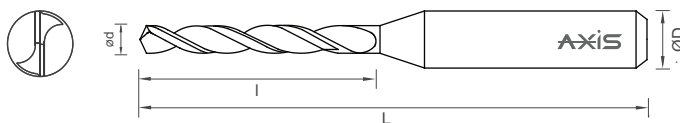
T301

| Ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 2.20 | | | | | |
| 2.21 | | | | | |
| 2.22 | | | | | |
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| 2.39 | | | | | |
| 2.40 | 12.00 | 38.00 | 3.00 | | |
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| Ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 2.61 | | | | | |
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| 2.77 | | | | | |
| 2.78 | | | | | |
| 2.79 | | | | | |
| 2.80 | | | | | |
| 2.81 | 12.00 | 38.00 | 3.00 | | |
| 2.82 | | | | | |
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| 2.98 | | | | | |
| 2.99 | | | | | |
| 3.00 | | | | | |

* Non Stockable





ød <0.40mm ød ≥0.40mm

A versatile drill crafted with good centering and keen cutting abilities for use across different materials and applications

Differentiated web taper for faster chip evacuation

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Finely honed cutting edge and highly polished flutes by MMP Superfinishing process for superior edge strength, chip evacuation, better coating adhesion and longer tool life

| ød | l | L | ØD h6 | Prices € | |
|------|------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.10 | 0.80 | 38.00 | 3.00 | | |
| 0.11 | | | | | |
| 0.12 | | | | | |
| 0.13 | | | | | |
| 0.14 | 1.00 | 38.00 | 3.00 | | |
| 0.15 | | | | | |
| 0.16 | | | | | |
| 0.17 | | | | | |
| 0.18 | 1.50 | 38.00 | 3.00 | | |
| 0.19 | | | | | |
| 0.20 | | | | | |
| 0.21 | | | | | |
| 0.22 | 2.00 | 38.00 | 3.00 | | |
| 0.23 | | | | | |
| 0.24 | | | | | |
| 0.25 | | | | | |
| 0.26 | 2.00 | 38.00 | 3.00 | | |
| 0.27 | | | | | |
| 0.28 | | | | | |
| 0.29 | | | | | |
| 0.30 | 3.00 | 38.00 | 3.00 | | |
| 0.31 | | | | | |
| 0.32 | | | | | |
| 0.33 | | | | | |
| 0.34 | 3.00 | 38.00 | 3.00 | | |
| 0.35 | | | | | |
| 0.36 | | | | | |
| 0.37 | | | | | |
| 0.38 | 3.00 | 38.00 | 3.00 | | |
| 0.39 | | | | | |
| 0.40 | | | | | |
| 0.41 | | | | | |
| 0.42 | 4.00 | 38.00 | 3.00 | | |
| 0.43 | | | | | |
| 0.44 | | | | | |
| 0.45 | | | | | |
| 0.46 | 4.00 | 38.00 | 3.00 | | |
| 0.47 | | | | | |
| 0.48 | | | | | |
| 0.49 | | | | | |
| 0.50 | 5.00 | 38.00 | 3.00 | | |
| 0.51 | | | | | |
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| 0.53 | | | | | |
| 0.54 | 5.00 | 38.00 | 3.00 | | |
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| 0.56 | | | | | |
| 0.57 | | | | | |
| 0.58 | 5.00 | 38.00 | 3.00 | | |
| 0.59 | | | | | |
| 0.60 | | | | | |
| 0.61 | | | | | |

World of mICRO Tools



T302

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.62 | 5.00 | 38.00 | 3.00 | | |
| 0.63 | | | | | |
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| 0.76 | | | | | |
| 0.77 | | | | | |
| 0.78 | | | | | |
| 0.79 | | | | | |
| 0.80 | 6.00 | 38.00 | 3.00 | | |
| 0.81 | | | | | |
| 0.82 | | | | | |
| 0.83 | | | | | |
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| 0.90 | | | | | |
| 0.91 | 8.00 | 38.00 | 3.00 | | |
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| 1.10 | 10.00 | 38.00 | 3.00 | | |
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| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 1.31 | 10.00 | 38.00 | 3.00 | | |
| 1.32 | | | | | |
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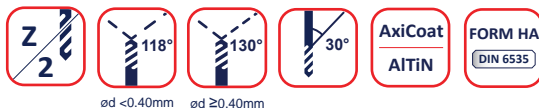
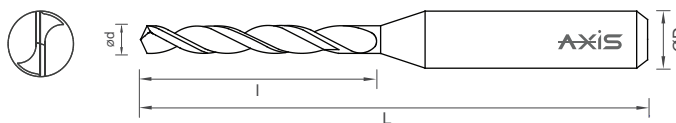
T302

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 2.00 | 12.00 | 38.00 | 3.00 | | |
| 2.01 | 14.00 | 45.00 | 3.00 | | |
| 2.02 | | | | | |
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| 2.38 | | | | | |
| 2.39 | | | | | |
| 2.40 | | | | | |
| 2.41 | 16.00 | 45.00 | 3.00 | | |
| 2.42 | | | | | |
| 2.43 | | | | | |
| 2.44 | | | | | |
| 2.45 | | | | | |
| 2.46 | | | | | |
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| 2.49 | | | | | |
| 2.50 | | | | | |

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 2.51 | 16.00 | 45.00 | 3.00 | | |
| 2.52 | | | | | |
| 2.53 | | | | | |
| 2.54 | | | | | |
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| 2.67 | | | | | |
| 2.68 | | | | | |
| 2.69 | | | | | |
| 2.70 | | | | | |
| 2.71 | 18.00 | 45.00 | 3.00 | | |
| 2.72 | | | | | |
| 2.73 | | | | | |
| 2.74 | | | | | |
| 2.75 | | | | | |
| 2.76 | | | | | |
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| 2.97 | | | | | |
| 2.98 | | | | | |
| 2.99 | | | | | |
| 3.00 | | | | | |

* Non Stockable



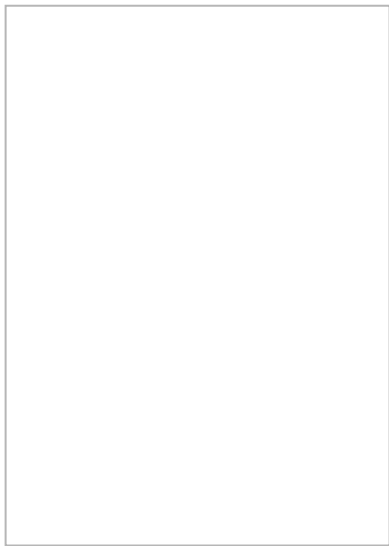


A versatile drill crafted with good centering and keen cutting abilities for use across different materials and applications

Differentiated web taper for faster chip evacuation

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process for superior edge strength, chip evacuation, better coating adhesion and longer tool life



| ød | l | L | ØD h6 | Prices € | |
|-------|------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.015 | 0.15 | 38.00 | 3.00 | | |
| 0.020 | 0.20 | | | | |
| 0.030 | 0.30 | | | | |
| 0.040 | 0.40 | | | | |
| 0.050 | 0.50 | | | | |
| 0.060 | 0.60 | | | | |
| 0.070 | 0.70 | | | | |
| 0.080 | 0.80 | | | | |
| 0.090 | 0.90 | | | | |
| 0.10 | 1.00 | 38.00 | 3.00 | | |
| 0.11 | 1.50 | 38.00 | 3.00 | | |
| 0.12 | | | | | |
| 0.13 | | | | | |
| 0.14 | | | | | |
| 0.15 | 2.00 | 38.00 | 3.00 | | |
| 0.16 | | | | | |
| 0.17 | | | | | |
| 0.18 | | | | | |
| 0.19 | | | | | |
| 0.20 | | | | | |
| 0.21 | | | | | |
| 0.22 | 4.00 | 38.00 | 3.00 | | |
| 0.23 | | | | | |
| 0.24 | | | | | |
| 0.25 | | | | | |
| 0.26 | | | | | |
| 0.27 | | | | | |
| 0.28 | | | | | |
| 0.29 | | | | | |
| 0.30 | 5.50 | 38.00 | 3.00 | | |
| 0.31 | | | | | |
| 0.32 | | | | | |
| 0.33 | | | | | |
| 0.34 | | | | | |
| 0.35 | | | | | |
| 0.36 | | | | | |
| 0.37 | | | | | |
| 0.38 | | | | | |
| 0.39 | | | | | |
| 0.40 | 6.00 | 38.00 | 3.00 | | |
| 0.41 | | | | | |
| 0.42 | | | | | |
| 0.43 | | | | | |
| 0.44 | | | | | |
| 0.45 | | | | | |
| 0.46 | | | | | |
| 0.47 | | | | | |
| 0.48 | | | | | |
| 0.49 | | | | | |
| 0.50 | | | | | |
| 0.51 | | | | | |
| 0.52 | | | | | |



T303

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.53 | 6.00 | 38.00 | 3.00 | | |
| 0.54 | | | | | |
| 0.55 | | | | | |
| 0.56 | | | | | |
| 0.57 | | | | | |
| 0.58 | | | | | |
| 0.59 | | | | | |
| 0.60 | | | | | |
| 0.61 | | | | | |
| 0.62 | | | | | |
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| 0.64 | | | | | |
| 0.65 | | | | | |
| 0.66 | | | | | |
| 0.67 | | | | | |
| 0.68 | | | | | |
| 0.69 | | | | | |
| 0.70 | | | | | |
| 0.71 | | | | | |
| 0.72 | 8.00 | 38.00 | 3.00 | | |
| 0.73 | | | | | |
| 0.74 | | | | | |
| 0.75 | | | | | |
| 0.76 | | | | | |
| 0.77 | | | | | |
| 0.78 | | | | | |
| 0.79 | | | | | |
| 0.80 | | | | | |
| 0.81 | | | | | |
| 0.82 | | | | | |
| 0.83 | | | | | |
| 0.84 | | | | | |
| 0.85 | | | | | |
| 0.86 | | | | | |
| 0.87 | | | | | |
| 0.88 | | | | | |
| 0.89 | | | | | |
| 0.90 | | | | | |
| 0.91 | 10.00 | 38.00 | 3.00 | | |
| 0.92 | | | | | |
| 0.93 | | | | | |
| 0.94 | | | | | |
| 0.95 | | | | | |
| 0.96 | | | | | |
| 0.97 | | | | | |
| 0.98 | | | | | |
| 0.99 | | | | | |
| 1.00 | | | | | |
| 1.01 | | | | | |
| 1.02 | | | | | |
| 1.03 | | | | | |
| 1.04 | | | | | |
| 1.05 | | | | | |
| 1.06 | | | | | |
| 1.07 | | | | | |
| 1.08 | | | | | |
| 1.09 | | | | | |
| 1.10 | | | | | |
| 1.11 | 12.00 | 38.00 | 3.00 | | |
| 1.12 | | | | | |
| 1.13 | | | | | |
| 1.14 | | | | | |
| 1.15 | | | | | |
| 1.16 | | | | | |
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| 1.18 | | | | | |
| 1.19 | | | | | |
| 1.20 | | | | | |
| 1.21 | | | | | |

| ød | l | L | ØD h6 | Prices € | | | | |
|------|-------|-------|----------|----------|----------|------|--|--|
| | | | | Coated | Uncoated | | | |
| 1.22 | 12.00 | 38.00 | 3.00 | | | | | |
| 1.23 | | | | | | | | |
| 1.24 | | | | | | | | |
| 1.25 | | | | | | | | |
| 1.26 | | | | | | | | |
| 1.27 | | | | | | | | |
| 1.28 | | | | | | | | |
| 1.29 | | | | | | | | |
| 1.30 | | | | 14.00 | 45.00 | 3.00 | | |
| 1.31 | | | | | | | | |
| 1.32 | | | | | | | | |
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| 1.47 | | | | | | | | |
| 1.48 | | | | | | | | |
| 1.49 | | | | | | | | |
| 1.50 | 16.00 | 45.00 | 3.00 | | | | | |
| 1.51 | | | | | | | | |
| 1.52 | | | | | | | | |
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| 1.67 | | | | | | | | |
| 1.68 | | | | | | | | |
| 1.69 | | | | | | | | |
| 1.70 | 18.00 | 45.00 | 3.00 | | | | | |
| 1.71 | | | | | | | | |
| 1.72 | | | | | | | | |
| 1.73 | | | | | | | | |
| 1.74 | | | | | | | | |
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| 1.88 | | | | | | | | |
| 1.89 | | | | | | | | |
| 1.90 | | | | | | | | |

T303

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 1.91 | 18.00 | 45.00 | 3.00 | | |
| 1.92 | | | | | |
| 1.93 | | | | | |
| 1.94 | | | | | |
| 1.95 | | | | | |
| 1.96 | | | | | |
| 1.97 | | | | | |
| 1.98 | | | | | |
| 1.99 | | | | | |
| 2.00 | | | | | |
| 2.01 | 20.00 | 50.00 | 3.00 | | |
| 2.02 | | | | | |
| 2.03 | | | | | |
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| 2.23 | | | | | |
| 2.24 | | | | | |
| 2.25 | | | | | |
| 2.26 | 22.00 | 50.00 | 3.00 | | |
| 2.27 | | | | | |
| 2.28 | | | | | |
| 2.29 | | | | | |
| 2.30 | | | | | |
| 2.31 | | | | | |
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| 2.42 | | | | | |
| 2.43 | | | | | |
| 2.44 | | | | | |
| 2.45 | | | | | |

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 2.46 | 22.00 | 50.00 | 3.00 | | |
| 2.47 | | | | | |
| 2.48 | | | | | |
| 2.49 | | | | | |
| 2.50 | | | | 24.00 | 50.00 |
| 2.51 | | | | | |
| 2.52 | | | | | |
| 2.53 | | | | | |
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| 2.67 | | | | | |
| 2.68 | | | | | |
| 2.69 | | | | | |
| 2.70 | | | | | |
| 2.71 | 26.00 | 50.00 | 3.00 | | |
| 2.72 | | | | | |
| 2.73 | | | | | |
| 2.74 | | | | | |
| 2.75 | | | | | |
| 2.76 | | | | | |
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| 2.97 | | | | | |
| 2.98 | | | | | |
| 2.99 | | | | | |
| 3.00 | | | | | |

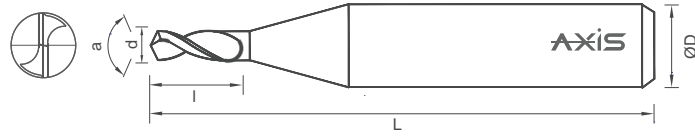


NC Pointing Drills

T580
T581



Dia Tolerance
 $\varnothing d$ 0.050 - 0.090mm - 0.005 / - 0.010
 $\varnothing d \geq 0.10$ mm - 0.010 / - 0.015

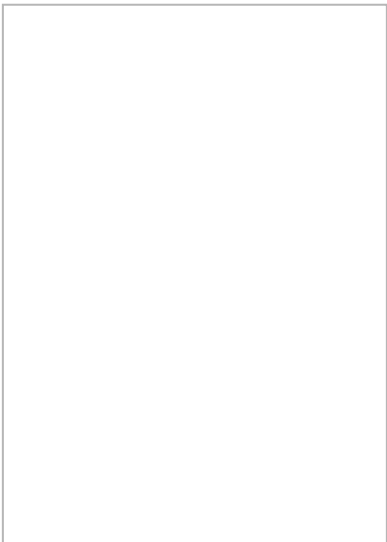


Stub flute length and thinner web ensures better positional accuracy

Provides accurate guide for subsequent drilling

Helps in drilling on angular surfaces without drill walking

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

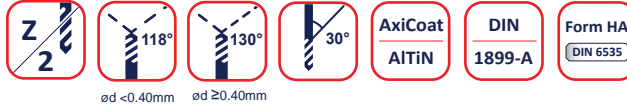
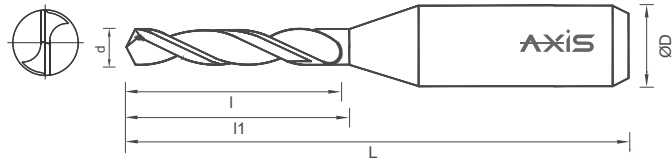


| Ød | l | L | ØD h6 | T580 a | T581 a | Prices € | |
|------|------|-------|----------|-----------|-----------|----------|----------|
| | | | | | | Coated | Uncoated |
| 0.05 | 0.10 | 38.00 | 3.00 | 120° | 90° | | |
| 0.06 | | | | | | | |
| 0.07 | | | | | | | |
| 0.08 | | | | | | | |
| 0.09 | 0.20 | 38.00 | 3.00 | 120° | 90° | | |
| 0.10 | | | | | | | |
| 0.15 | | | | | | | |
| 0.20 | | | | | | | |
| 0.25 | 0.40 | 38.00 | 3.00 | 120° | 90° | | |
| 0.30 | | | | | | | |
| 0.35 | | | | | | | |
| 0.40 | | | | | | | |
| 0.45 | 0.60 | 38.00 | 3.00 | 120° | 90° | | |
| 0.50 | | | | | | | |
| 0.55 | | | | | | | |
| 0.60 | | | | | | | |
| 0.65 | 1.00 | 38.00 | 3.00 | 120° | 90° | | |
| 0.70 | | | | | | | |
| 0.75 | | | | | | | |
| 0.80 | | | | | | | |
| 0.85 | 1.20 | 38.00 | 3.00 | 120° | 90° | | |
| 0.90 | | | | | | | |
| 0.95 | | | | | | | |
| 1.00 | | | | | | | |
| 1.50 | 1.80 | 38.00 | 3.00 | 120° | 90° | | |
| 2.00 | | | | | | | |
| 2.50 | | | | | | | |
| 3.00 | | | | | | | |
| 4.00 | 5.50 | 38.00 | 3.00 | 120° | 90° | | |
| 5.00 | | | | | | | |
| 6.00 | | | | | | | |
| 6.00 | | | | | | | |

* Non Stockable

World of mICRO Tools



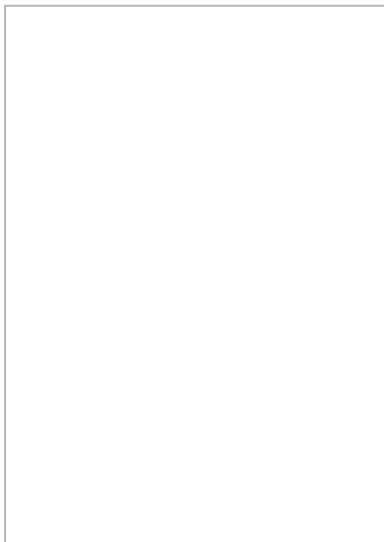



A universal drill rendered with self centering & keen cutting abilities for use across different materials and applications

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

MMP Superfinishing process to ensure better coating adhesion, better chip evacuation and reduced friction of the chips

Dimensions as per DIN 1899-A



| Ød | l | l1 | L | ØD h6 | Prices € | |
|------|------|------|-------|----------|----------|----------|
| | | | | | Coated | Uncoated |
| 0.05 | 0.50 | 0.70 | 25.00 | 1.00 | | |
| 0.08 | | | | | | |
| 0.09 | | | | | | |
| 0.10 | | | | | | |
| 0.11 | | | | | | |
| 0.12 | | | | | | |
| 0.13 | 0.80 | 1.00 | 25.00 | 1.00 | | |
| 0.14 | | | | | | |
| 0.15 | | | | | | |
| 0.16 | 1.10 | 1.40 | 25.00 | 1.00 | | |
| 0.17 | | | | | | |
| 0.18 | | | | | | |
| 0.19 | | | | | | |
| 0.20 | 1.50 | 1.80 | 25.00 | 1.00 | | |
| 0.21 | | | | | | |
| 0.22 | | | | | | |
| 0.23 | | | | | | |
| 0.24 | | | | | | |
| 0.25 | 1.90 | 2.20 | 25.00 | 1.00 | | |
| 0.26 | | | | | | |
| 0.27 | | | | | | |
| 0.28 | | | | | | |
| 0.29 | | | | | | |
| 0.30 | | | | | | |
| 0.31 | 2.40 | 2.80 | 25.00 | 1.00 | | |
| 0.32 | | | | | | |
| 0.33 | | | | | | |
| 0.34 | | | | | | |
| 0.35 | | | | | | |
| 0.36 | | | | | | |
| 0.37 | | | | | | |
| 0.38 | | | | | | |



T698

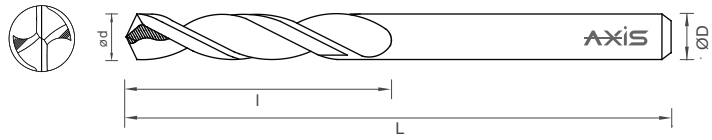
| ød | l | l1 | L | ØD h6 | Prices € | |
|------|------|------|-------|----------|----------|----------|
| | | | | | Coated | Uncoated |
| 0.39 | 2.70 | 3.60 | 25.00 | 1.00 | | |
| 0.40 | | | | | | |
| 0.41 | | | | | | |
| 0.42 | | | | | | |
| 0.43 | | | | | | |
| 0.44 | | | | | | |
| 0.45 | | | | | | |
| 0.46 | | | | | | |
| 0.47 | | | | | | |
| 0.48 | | | | | | |
| 0.49 | 3.20 | 4.00 | 25.00 | 1.00 | | |
| 0.50 | | | | | | |
| 0.51 | | | | | | |
| 0.52 | | | | | | |
| 0.53 | | | | | | |
| 0.54 | 3.60 | 4.50 | 25.00 | 1.00 | | |
| 0.55 | | | | | | |
| 0.56 | | | | | | |
| 0.57 | | | | | | |
| 0.58 | | | | | | |
| 0.59 | | | | | | |
| 0.60 | | | | | | |
| 0.61 | 3.90 | 4.50 | 25.00 | 1.00 | | |
| 0.62 | 3.90 | 5.00 | 25.00 | 1.00 | | |
| 0.63 | | | | | | |
| 0.64 | | | | | | |
| 0.65 | | | | | | |
| 0.66 | | | | | | |
| 0.67 | | | | | | |
| 0.68 | | | | | | |
| 0.69 | 4.50 | 5.60 | 25.00 | 1.00 | | |
| 0.70 | | | | | | |
| 0.71 | | | | | | |
| 0.72 | | | | | | |
| 0.73 | | | | | | |
| 0.74 | | | | | | |

| ød | l | l1 | L | ØD h6 | Prices € | |
|------|------|-------|-------|----------|----------|----------|
| | | | | | Coated | Uncoated |
| 0.75 | 4.50 | 5.60 | 25.00 | 1.00 | | |
| 0.76 | 5.00 | 6.30 | 25.00 | 1.00 | | |
| 0.77 | | | | | | |
| 0.78 | | | | | | |
| 0.79 | | | | | | |
| 0.80 | | | | | 5.00 | 6.30 |
| 0.81 | | | | | | |
| 0.82 | | | | | | |
| 0.83 | | | | | | |
| 0.84 | | | | | | |
| 0.85 | | | | | | |
| 0.86 | 5.70 | 7.10 | 25.00 | 1.50 | | |
| 0.87 | | | | | | |
| 0.88 | | | | | | |
| 0.89 | | | | | | |
| 0.90 | | | | | | |
| 0.91 | | | | | | |
| 0.92 | | | | | | |
| 0.93 | | | | | | |
| 0.94 | | | | | | |
| 0.95 | | | | | | |
| 0.96 | 6.50 | 8.00 | 25.00 | 1.50 | | |
| 0.97 | | | | | | |
| 0.98 | | | | | | |
| 0.99 | | | | | | |
| 1.00 | | | | | | |
| 1.05 | 7.30 | 9.00 | 25.00 | 1.50 | | |
| 1.10 | | | | | | |
| 1.15 | | | | | | |
| 1.20 | 8.20 | 10.00 | 25.00 | 1.50 | | |
| 1.25 | | | | | | |
| 1.30 | | | | | | |
| 1.35 | 9.20 | 11.20 | 25.00 | 1.50 | | |
| 1.40 | | | | | | |
| 1.45 | | | | | | |
| 1.50 | | | | | | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous



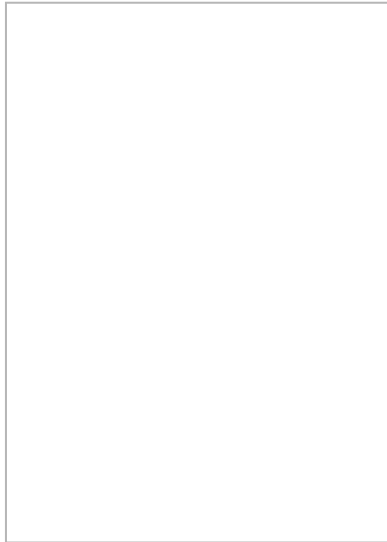
- Z
2
 - 140°
 - 30°
 - AxiCoat
AlTiN
 - DIN
6539
 - Form HA
DIN 6535
- ød ≥ 1.50mm

A universal drill rendered with self centering & keen cutting abilities for use across different materials and applications

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

MMP Superfinishing process to ensure better coating adhesion, better chip evacuation and reduced friction of the chips

Dimensions as per DIN 338



World of mICRO Tools

| ød | l | L | Prices € | |
|------|-------|-------|----------|----------|
| | | | Coated | Uncoated |
| 0.60 | 3.50 | 21.00 | | |
| 0.65 | 4.00 | 22.00 | | |
| 0.70 | | | | |
| 0.75 | 4.50 | 23.00 | | |
| 0.80 | | | | |
| 0.85 | 5.00 | 24.00 | | |
| 0.90 | | | | |
| 0.95 | 5.50 | 25.00 | | |
| 1.00 | | | | |
| 1.05 | 6.00 | 26.00 | | |
| 1.10 | | | | |
| 1.15 | 7.00 | 28.00 | | |
| 1.20 | | | | |
| 1.25 | 8.00 | 30.00 | | |
| 1.30 | | | | |
| 1.35 | | | | |
| 1.40 | | | | |
| 1.45 | 9.00 | 32.00 | | |
| 1.50 | | | | |
| 1.55 | | | | |
| 1.60 | 10.00 | 34.00 | | |
| 1.65 | | | | |
| 1.70 | | | | |
| 1.75 | | | | |
| 1.80 | 11.00 | 36.00 | | |
| 1.85 | | | | |
| 1.90 | | | | |
| 1.95 | | | | |
| 2.00 | 12.00 | 38.00 | | |
| 2.05 | | | | |
| 2.10 | | | | |
| 2.15 | | | | |
| 2.20 | | | | |
| 2.25 | 13.00 | 40.00 | | |
| 2.30 | | | | |
| 2.35 | | | | |
| 2.40 | | | | |
| 2.45 | | | | |
| 2.50 | 14.00 | 43.00 | | |
| 2.55 | | | | |
| 2.60 | | | | |
| 2.65 | | | | |
| 2.70 | | | | |
| 2.75 | | | | |
| 2.80 | | | | |
| 2.85 | 16.00 | 46.00 | | |
| 2.90 | | | | |
| 2.95 | | | | |
| 3.00 | | | | |
| 3.05 | | | | |
| 3.10 | 18.00 | 49.00 | | |
| 3.15 | | | | |

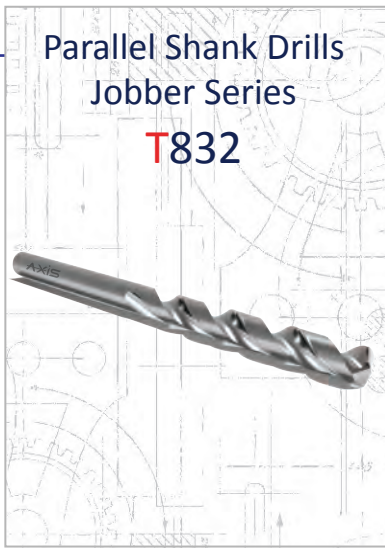


T732

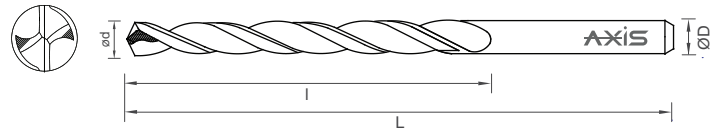
| ød | l | L | Prices € | |
|------|-------|-------|----------|----------|
| | | | Coated | Uncoated |
| 3.20 | 18.00 | 49.00 | | |
| 3.25 | | | | |
| 3.30 | | | | |
| 3.35 | | | | |
| 3.40 | | | | |
| 3.45 | 20.00 | 52.00 | | |
| 3.50 | | | | |
| 3.55 | | | | |
| 3.60 | | | | |
| 3.65 | | | | |
| 3.70 | | | | |
| 3.75 | | | | |
| 3.80 | 22.00 | 55.00 | | |
| 3.85 | | | | |
| 3.90 | | | | |
| 3.95 | | | | |
| 4.00 | | | | |
| 4.05 | | | | |
| 4.10 | | | | |
| 4.15 | | | | |
| 4.20 | | | | |
| 4.25 | | | | |
| 4.30 | 24.00 | 58.00 | | |
| 4.35 | | | | |
| 4.40 | | | | |
| 4.45 | | | | |
| 4.50 | | | | |
| 4.55 | | | | |
| 4.60 | | | | |
| 4.65 | | | | |
| 4.70 | | | | |
| 4.75 | | | | |
| 4.80 | 26.00 | 62.00 | | |
| 4.85 | | | | |
| 4.90 | | | | |
| 4.95 | | | | |
| 5.00 | | | | |
| 5.05 | | | | |
| 5.10 | | | | |
| 5.15 | | | | |
| 5.20 | | | | |
| 5.25 | | | | |
| 5.30 | 28.00 | 66.00 | | |
| 5.35 | | | | |
| 5.40 | | | | |
| 5.45 | | | | |
| 5.50 | | | | |
| 5.55 | | | | |
| 5.60 | | | | |
| 5.65 | | | | |
| 5.70 | | | | |
| 5.75 | | | | |
| 5.80 | 31.00 | 70.00 | | |
| 5.85 | | | | |
| 5.90 | | | | |
| 5.95 | | | | |
| 6.00 | | | | |
| 6.10 | | | | |
| 6.20 | | | | |
| 6.30 | | | | |
| 6.40 | | | | |
| 6.50 | | | | |
| 6.60 | | | | |

| ød | l | L | Prices € | |
|-------|-------|-------|----------|----------|
| | | | Coated | Uncoated |
| 6.70 | 31.00 | 70.00 | | |
| 6.80 | 34.00 | 74.00 | | |
| 6.90 | | | | |
| 7.00 | | | | |
| 7.10 | | | | |
| 7.20 | | | | |
| 7.30 | | | | |
| 7.40 | | | | |
| 7.50 | 37.00 | 79.00 | | |
| 7.60 | | | | |
| 7.70 | | | | |
| 7.80 | | | | |
| 7.90 | | | | |
| 8.00 | | | | |
| 8.10 | | | | |
| 8.20 | | | | |
| 8.30 | | | | |
| 8.40 | | | | |
| 8.50 | 40.00 | 84.00 | | |
| 8.60 | | | | |
| 8.70 | | | | |
| 8.80 | | | | |
| 8.90 | | | | |
| 9.00 | | | | |
| 9.10 | | | | |
| 9.20 | | | | |
| 9.30 | | | | |
| 9.40 | | | | |
| 9.50 | 43.00 | 89.00 | | |
| 9.60 | | | | |
| 9.70 | | | | |
| 9.80 | | | | |
| 9.90 | | | | |
| 10.00 | | | | |
| 10.10 | | | | |
| 10.20 | | | | |
| 10.30 | | | | |
| 10.40 | | | | |
| 10.50 | 47.00 | 95.00 | | |
| 10.60 | | | | |
| 10.70 | | | | |
| 10.80 | | | | |
| 10.90 | | | | |
| 11.00 | | | | |
| 11.10 | | | | |
| 11.20 | | | | |
| 11.30 | | | | |
| 11.40 | | | | |
| 11.50 | 51.00 | 102.0 | | |
| 11.60 | | | | |
| 11.70 | | | | |
| 11.80 | | | | |
| 11.90 | | | | |
| 12.00 | | | | |
| 12.50 | | | | |
| 13.00 | 54.00 | 107.0 | | |
| 13.50 | | | | |
| 14.00 | | | | |
| 14.50 | | | 56.00 | 111.0 |
| 15.00 | | | | |
| 15.50 | 58.00 | 115.0 | | |
| 16.00 | | | | |

* Non Stockable



- Steel
- SS
- Cast Iron
- Non-Ferrous



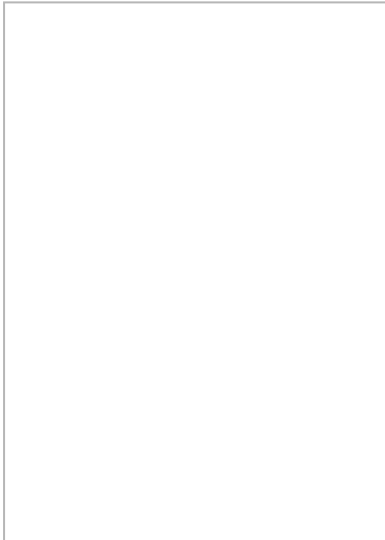
- Z/2
 - 140°
 - 30°
 - AxiCoat
AlTiN
 - DIN
6539
 - FORM HA
DIN 6535
- ød ≥ 1.50mm

A universal drill rendered with self centering & keen cutting abilities for use across different materials and applications

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

MMP Superfinishing process to ensure better coating adhesion, better chip evacuation and reduced friction of the chips

Dimensions as per DIN 338



World of mICRO Tools

| ød | l | L | Prices € | |
|------|-------|-------|----------|----------|
| | | | Coated | Uncoated |
| 0.50 | 6.00 | 22.00 | | |
| 0.55 | 7.00 | 24.00 | | |
| 0.60 | | | | |
| 0.65 | 8.00 | 26.00 | | |
| 0.70 | | | | |
| 0.75 | 9.00 | 28.00 | | |
| 0.80 | | | | |
| 0.85 | 10.00 | 30.00 | | |
| 0.90 | | | | |
| 0.95 | 11.00 | 32.00 | | |
| 1.00 | | | | |
| 1.05 | 12.00 | 34.00 | | |
| 1.10 | | | | |
| 1.15 | 14.00 | 36.00 | | |
| 1.20 | | | | |
| 1.25 | 16.00 | 38.00 | | |
| 1.30 | | | | |
| 1.35 | | | | |
| 1.40 | 18.00 | 40.00 | | |
| 1.45 | | | | |
| 1.50 | | | | |
| 1.55 | | | | |
| 1.60 | 20.00 | 43.00 | | |
| 1.65 | | | | |
| 1.70 | | | | |
| 1.75 | | | | |
| 1.80 | 22.00 | 46.00 | | |
| 1.85 | | | | |
| 1.90 | | | | |
| 1.95 | | | | |
| 2.00 | 24.00 | 49.00 | | |
| 2.05 | | | | |
| 2.10 | | | | |
| 2.15 | | | | |
| 2.20 | | | | |
| 2.25 | 27.00 | 53.00 | | |
| 2.30 | | | | |
| 2.35 | | | | |
| 2.40 | | | | |
| 2.45 | | | | |
| 2.50 | 30.00 | 57.00 | | |
| 2.55 | | | | |
| 2.60 | | | | |
| 2.65 | | | | |
| 2.70 | | | | |
| 2.75 | | | | |
| 2.80 | | | | |
| 2.85 | 33.00 | 61.00 | | |
| 2.90 | | | | |
| 2.95 | | | | |
| 3.00 | | | | |
| 3.05 | 36.00 | 65.00 | | |



T832

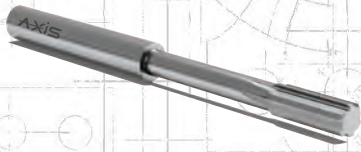
| ød | l | L | Prices € | |
|------|-------|-------|----------|----------|
| | | | Coated | Uncoated |
| 3.10 | 36.00 | 65.00 | | |
| 3.15 | | | | |
| 3.20 | | | | |
| 3.25 | | | | |
| 3.30 | | | | |
| 3.35 | | | | |
| 3.40 | | | | |
| 3.45 | 39.00 | 70.00 | | |
| 3.50 | | | | |
| 3.55 | | | | |
| 3.60 | | | | |
| 3.65 | | | | |
| 3.70 | | | | |
| 3.75 | | | | |
| 3.80 | 43.00 | 75.00 | | |
| 3.85 | | | | |
| 3.90 | | | | |
| 3.95 | | | | |
| 4.00 | | | | |
| 4.05 | | | | |
| 4.10 | | | | |
| 4.15 | | | | |
| 4.20 | | | | |
| 4.25 | | | | |
| 4.30 | 47.00 | 80.00 | | |
| 4.35 | | | | |
| 4.40 | | | | |
| 4.45 | | | | |
| 4.50 | | | | |
| 4.55 | | | | |
| 4.60 | | | | |
| 4.65 | | | | |
| 4.70 | | | | |
| 4.75 | | | | |
| 4.80 | 52.00 | 86.00 | | |
| 4.85 | | | | |
| 4.90 | | | | |
| 4.95 | | | | |
| 5.00 | | | | |
| 5.05 | | | | |
| 5.10 | | | | |
| 5.15 | | | | |
| 5.20 | | | | |
| 5.25 | | | | |
| 5.30 | | | | |
| 5.35 | 57.00 | 93.00 | | |
| 5.40 | | | | |
| 5.45 | | | | |
| 5.50 | | | | |
| 5.55 | | | | |
| 5.60 | | | | |
| 5.65 | | | | |
| 5.70 | | | | |
| 5.75 | | | | |
| 5.80 | | | | |
| 5.85 | | | | |
| 5.90 | | | | |
| 5.95 | | | | |
| 6.00 | | | | |
| 6.10 | 63.00 | 101.0 | | |
| 6.20 | | | | |
| 6.30 | | | | |
| 6.40 | | | | |
| 6.50 | | | | |

| ød | l | L | Prices € | |
|-------|-------|-------|----------|----------|
| | | | Coated | Uncoated |
| 6.60 | 63.00 | 101.0 | | |
| 6.70 | | | | |
| 6.80 | 69.00 | 109.0 | | |
| 6.90 | | | | |
| 7.00 | | | | |
| 7.10 | | | | |
| 7.20 | | | | |
| 7.30 | | | | |
| 7.40 | | | | |
| 7.50 | | | | |
| 7.60 | 75.00 | 117.0 | | |
| 7.70 | | | | |
| 7.80 | | | | |
| 7.90 | | | | |
| 8.00 | | | | |
| 8.10 | | | | |
| 8.20 | | | | |
| 8.30 | | | | |
| 8.40 | | | | |
| 8.50 | | | | |
| 8.60 | 81.00 | 125.0 | | |
| 8.70 | | | | |
| 8.80 | | | | |
| 8.90 | | | | |
| 9.00 | | | | |
| 9.10 | | | | |
| 9.20 | | | | |
| 9.30 | | | | |
| 9.40 | | | | |
| 9.50 | | | | |
| 9.60 | 87.00 | 133.0 | | |
| 9.70 | | | | |
| 9.80 | | | | |
| 9.90 | | | | |
| 10.00 | | | | |
| 10.10 | | | | |
| 10.20 | | | | |
| 10.30 | | | | |
| 10.40 | | | | |
| 10.50 | | | | |
| 10.60 | | | | |
| 10.70 | 94.00 | 142.0 | | |
| 10.80 | | | | |
| 10.90 | | | | |
| 11.00 | | | | |
| 11.10 | | | | |
| 11.20 | | | | |
| 11.30 | | | | |
| 11.40 | | | | |
| 11.50 | | | | |
| 11.60 | | | | |
| 11.70 | | | | |
| 11.80 | | | | |
| 11.90 | | | | |
| 12.00 | 101.0 | 151.0 | | |
| 12.50 | | | | |
| 13.00 | | | | |
| 13.50 | 108.0 | 160.0 | | |
| 14.00 | | | | |
| 14.50 | 114.0 | 169.0 | | |
| 15.00 | | | | |
| 15.50 | 120.0 | 178.0 | | |
| 16.00 | | | | |

* Non Stockable

High Precision Reamers

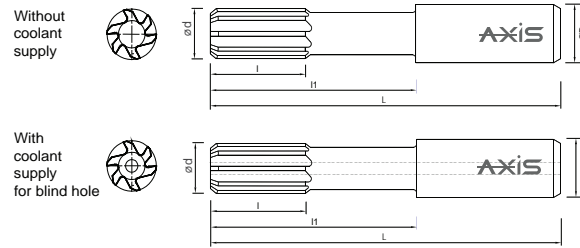
R90X
H90X



Dia Tolerance

Standard ±0.002mm
On Request ±0.001mm

- Steel
- SS
- Cast Iron
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- AxiCoat
AITiN
- FORM HA
DIN 6535

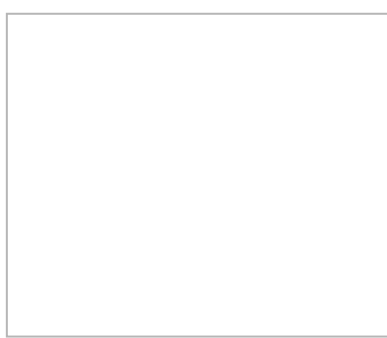
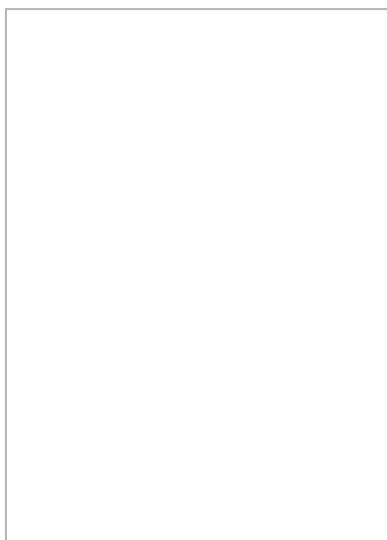
A versatile reamer crafted to ream high Alloy Steels, Stainless Steels, Aluminium and other Non-ferrous material

Precisely controlled diameter and runout to meet high precision hole making requirements

For blind holes, availability of centre coolant holes ensures sufficient coolant pressure and volume. Thereby ensuring faster chip evacuation, heat dissipation leading to longer tool life with better dimensional control

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

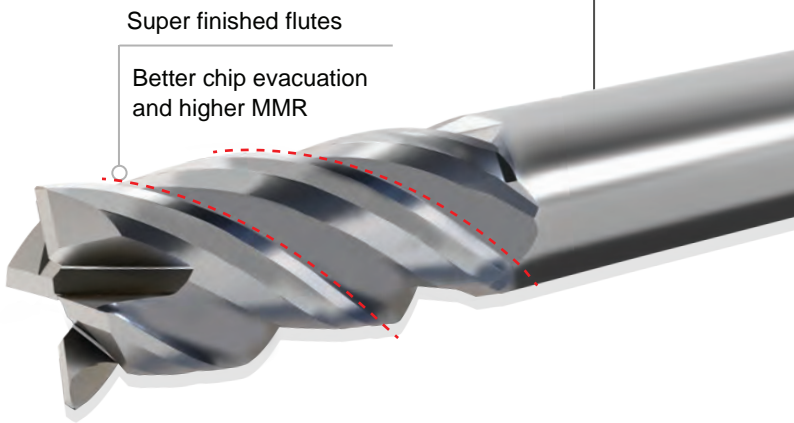
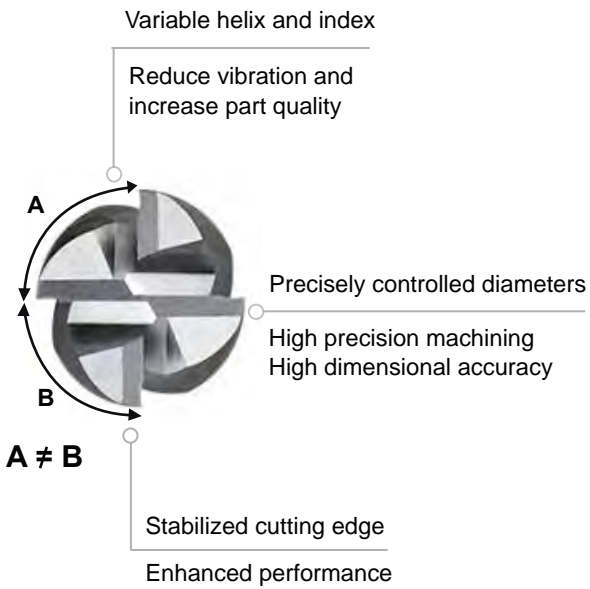
MMP Superfinishing to ensure better coating adhesion, better chip evacuation, reduced chip friction and better hole surface



| Article | | ød | l | l1 | L | ØD h6 | Flute Z | Prices € | |
|------------------------|---------------------|---------------|------|------|-----|-------|---------|----------|----------|
| | | | | | | | | Coated | Uncoated |
| R9011 | N.A | 0.900 - 1.069 | 6.0 | 20.0 | 48 | 3.0 | 3 | | |
| R9011 | N.A | 1.070 - 1.569 | 6.0 | 20.0 | 48 | 3.0 | 3 | | |
| R9011 | N.A | 1.570 - 2.069 | 6.0 | 20.0 | 48 | 3.0 | 3 | | |
| R9011 | N.A | 2.070 - 2.569 | 6.0 | 20.0 | 48 | 3.0 | 6 | | |
| R9001 | N.A | 2.570 - 3.069 | 6.0 | 20.0 | 48 | 3.0 | 3 | | |
| R9001 | H9001 | 3.070 - 3.569 | 8.0 | 26.0 | 54 | 4.0 | 4 | | |
| R9001 | H9001 | 3.570 - 4.069 | 8.0 | 26.0 | 54 | 4.0 | 4 | | |
| R9041 | H9041 | 4.070 - 4.569 | 12.0 | 38.0 | 74 | 6.0 | 4 | | |
| R9041 | H9041 | 4.570 - 5.069 | 12.0 | 38.0 | 74 | 6.0 | 6 | | |
| R9041 | H9041 | 5.070 - 6.150 | 12.0 | 38.0 | 74 | 6.0 | 6 | | |
| R9041 | H9041 | 6.160 - 6.790 | 12.0 | 55.0 | 91 | 8.0 | 6 | | |
| R9041 | H9041 | 6.800 - 7.150 | 16.0 | 55.0 | 91 | 8.0 | 6 | | |
| R9041 | H9041 | 7.160 - 8.150 | 16.0 | 55.0 | 91 | 8.0 | 6 | | |
| R9041 | H9041 | 8.160 - 8.690 | 16.0 | 63.0 | 103 | 10.0 | 6 | | |
| R9041 | H9041 | 8.700 - 10.15 | 20.0 | 63.0 | 103 | 10.0 | 6 | | |
| R9041 | H9041 | 10.16 - 10.59 | 20.0 | 73.0 | 118 | 12.0 | 6 | | |
| R9041 | H9041 | 10.60 - 12.15 | 24.0 | 73.0 | 118 | 12.0 | 6 | | |
| without coolant supply | with coolant supply | | | | | | | | |

* Non Stockable

High Performance Endmills



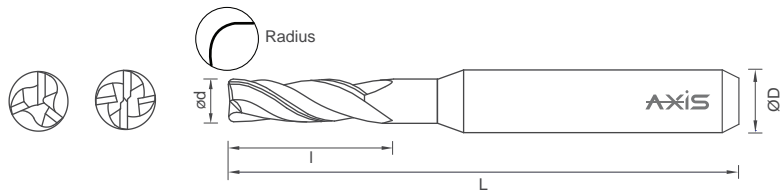
High Performance Endmills E305



Dia Tolerance

$\varnothing d \leq 6.00$ - 0.020mm
 $\varnothing d > 6.00$ - 0.030mm

- Steel High Alloyed
- Steel Low/Unalloyed
- SS
- Titanium Alloy
- Nickel Alloy



- Z 3,4
- 42°
- 38°/40°
- AxiCoat AITiN
- AXIS+
- Edge Prep

Geometry designed for milling of Steel, Stainless Steel, Titanium and Nickel Alloys

Precisely controlled tool features for high precision machining requirements

Variable helix and indexing ensure vibration free machining and smooth surface at higher feed

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

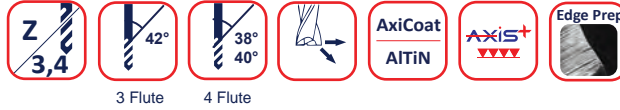
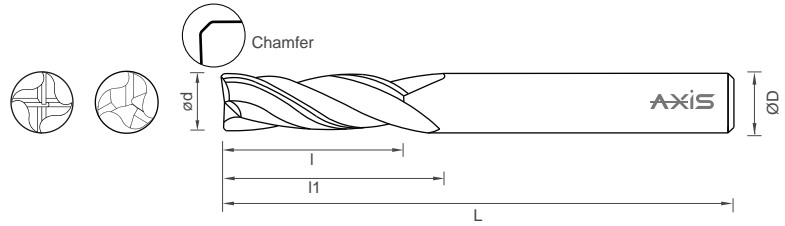
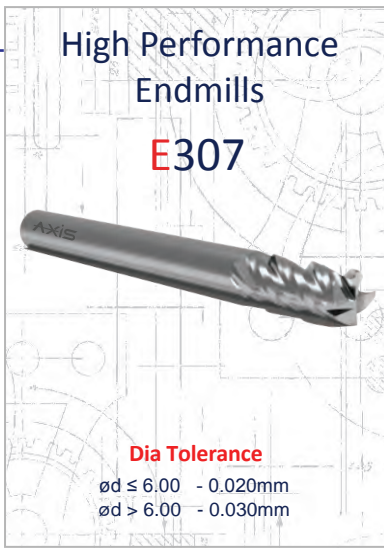
Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process for superior edge strength, chip evacuation, better coating adhesion and longer tool life

| ød | l | l1 | L | ØD h6 | Z | R | Prices € |
|-------|-------|-------|-------|-------|---|------|----------|
| | | | | | | | Coated |
| 1.00 | 3.00 | - | 45.00 | 6.00 | 3 | 0.20 | |
| 2.00 | 5.00 | - | | | | | |
| 3.00 | 8.00 | - | 50.00 | 6.00 | 4 | 0.20 | |
| 3.00 | | | | | | 0.30 | |
| 4.00 | 10.00 | - | 50.00 | 6.00 | 4 | 0.20 | |
| 4.00 | | | | | | 0.30 | |
| 5.00 | 13.00 | - | 60.00 | 6.00 | 4 | 0.50 | |
| 5.00 | | | | | | 1.00 | |
| 6.00 | 15.00 | - | 60.00 | 6.00 | 4 | 0.50 | |
| 6.00 | | | | | | 1.00 | |
| 8.00 | 19.00 | 22.00 | 65.00 | 8.00 | 4 | 0.50 | |
| 8.00 | | | | | | 1.00 | |
| 8.00 | | | | | | 2.00 | |
| 10.00 | 24.00 | 27.00 | 72.00 | 10.00 | 4 | 0.50 | |
| 10.00 | | | | | | 1.00 | |
| 10.00 | | | | | | 2.00 | |
| 12.00 | 28.00 | 33.00 | 83.00 | 12.00 | 4 | 0.50 | |
| 12.00 | | | | | | 1.00 | |
| 12.00 | | | | | | 2.00 | |

* Non Stockable

World of mICRO Tools





Geometry designed for milling of Stainless Steel, Titanium and Exotic materials

Precisely controlled tool features for high precision machining requirements

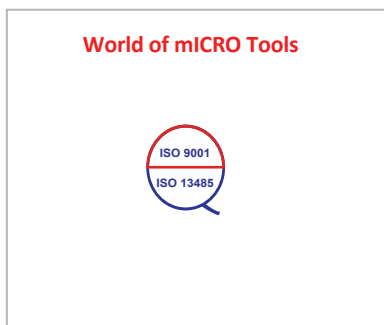
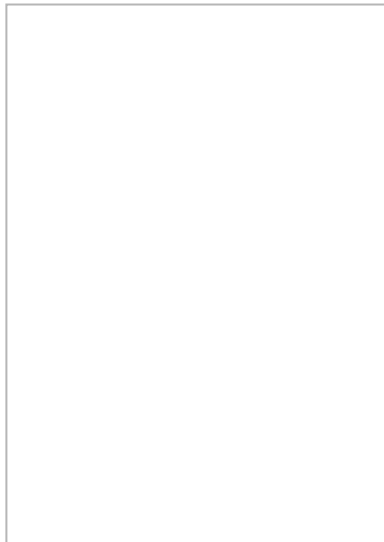
Variable helix and indexing ensure vibration free machining and smooth surface at higher feed

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Finely honed cutting edge and highly polished flutes by *MMP Superfinishing* process for superior edge strength, chip evacuation, better coating adhesion and longer tool life

| ød | l | l1 | L | ØD h5 | Z | Chamfer | Prices € |
|-------|-------|-------|-------|-------|---|---------|----------|
| | | | | | | | Coated |
| 1.00 | 3.00 | | | | | | |
| 1.50 | 4.00 | | | | | | |
| 2.00 | 5.00 | - | 45.00 | 6.00 | 3 | 0.02 | |
| 2.50 | 7.00 | | | | | | |
| 3.00 | 8.00 | | | | | | |
| 4.00 | 10.00 | - | 50.00 | 6.00 | 4 | 0.03 | |
| 5.00 | 13.00 | | | | | | |
| 6.00 | 15.00 | - | 60.00 | 6.00 | 4 | 0.05 | |
| 8.00 | 19.00 | 22.00 | 65.00 | 8.00 | | 0.10 | |
| 10.00 | 24.00 | 27.00 | 72.00 | 10.00 | 4 | 0.10 | |
| 12.00 | 28.00 | 33.00 | 83.00 | 12.00 | | | |

* Non Stockable



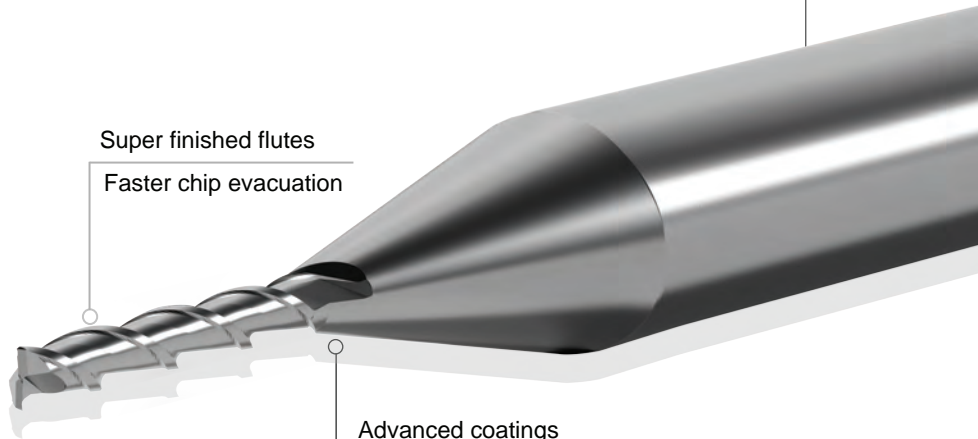
High Performance Endmills



Versatile geometry
Universal use / application



Super finished flutes
Faster chip evacuation



Advanced coatings
Enhanced coating
productivity
and better tool life

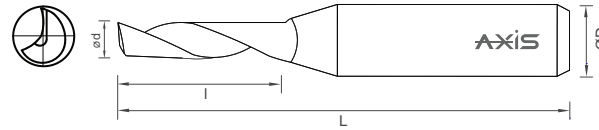
Advanced tool features

- Reduce chatter
- increase part quality



Single Flute Endmills

E923



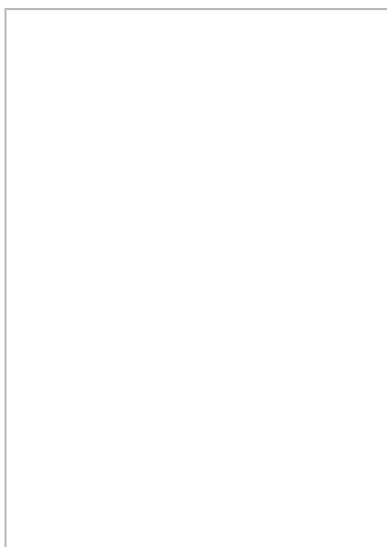
Design and geometry tailored for Non ferrous materials such as Aluminium and Plastic

High rake angles with sharp cutting edges for better and smooth cutting

Highly polished flutes for better and faster chip evacuation

Design to enable wider flute space for improved chip evacuation

High performance ultra fine carbide substrate developed specifically for mICRO machining applications



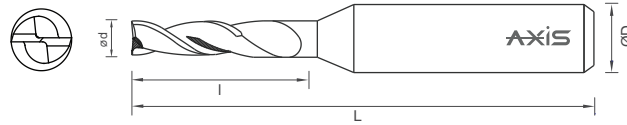
World of mICRO Tools

| ød | l | L | ØD h6 | Prices € |
|------|-------|-------|-------|----------|
| 0.10 | 0.30 | | | |
| 0.20 | 0.60 | | | |
| 0.30 | 1.00 | | | |
| 0.40 | 1.00 | 38.00 | 3.00 | |
| 0.50 | 1.50 | | | |
| 0.60 | 3.00 | | | |
| 0.70 | 4.00 | | | |
| 0.80 | | | | |
| 1.00 | 5.00 | 38.00 | 3.00 | |
| 1.00 | 5.00 | 40.00 | 6.00 | |
| 1.20 | | | | |
| 1.50 | 5.00 | 38.00 | 3.00 | |
| 1.50 | 5.00 | 40.00 | 6.00 | |
| 2.00 | 5.00 | 40.00 | 3.00 | |
| 2.00 | 6.00 | 38.00 | 4.00 | |
| | | 50.00 | 6.00 | |
| 2.00 | 10.00 | 38.00 | 3.00 | |
| | 11.00 | | | |
| 3.00 | 5.00 | 38.00 | 3.00 | |
| 3.00 | 10.00 | 38.00 | 3.00 | |
| | 11.00 | | | |
| 3.00 | 11.00 | | 6.00 | |
| | 12.00 | 50.00 | | |
| | 22.00 | | 3.00 | |
| 4.00 | 6.00 | 40.00 | 4.00 | |
| | | | 6.00 | |
| 4.00 | 12.00 | 50.00 | 6.00 | |
| 4.00 | 14.00 | 50.00 | 4.00 | |
| | | | 6.00 | |
| 4.00 | 22.00 | 50.00 | 6.00 | |
| 4.00 | 22.00 | | | |
| | 25.00 | 60.00 | 4.00 | |
| 4.00 | 32.00 | 64.00 | 4.00 | |
| 5.00 | 16.00 | 60.00 | 5.00 | |
| 5.00 | 22.00 | 50.00 | 6.00 | |
| 6.00 | 12.00 | 50.00 | 6.00 | |
| 6.00 | 16.00 | | | |
| | 20.00 | 60.00 | 6.00 | |
| 6.00 | 22.00 | 50.00 | 6.00 | |
| 6.00 | 25.00 | 60.00 | 6.00 | |
| 6.00 | 32.00 | 64.00 | 6.00 | |

* Non Stockable

2 Flute Endmills

E966



Versatile geometry for side, slot and surface milling of variety of materials such as Cast Iron, Steel, Non-ferrous and Titanium

Centre cutting geometry with advanced features for extended tool life, reduced chatter and improved part quality

Broad portfolio starting from Ø0.050mm and available in 2D and 3D cutting lengths

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Next Gen coatings suitable for the application material

Proprietary pre and post coating *MMP Superfinishing* for enhanced coating productivity

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.05 | 0.10 | 38.00 | 3.00 | | |
| | 0.15 | | | | |
| 0.08 | 0.15 | 38.00 | 3.00 | | |
| | 0.25 | | | | |
| 0.10 | 0.20 | 38.00 | 3.00 | | |
| | 0.30 | | | | |
| 0.20 | 0.40 | 38.00 | 3.00 | | |
| | 0.60 | | | | |
| 0.30 | 0.60 | 38.00 | 3.00 | | |
| | 0.90 | | | | |
| 0.40 | 0.80 | 38.00 | 3.00 | | |
| | 1.20 | | | | |
| 0.50 | 1.00 | 38.00 | 3.00 | | |
| | 1.50 | | | | |
| 0.60 | 1.20 | 38.00 | 3.00 | | |
| | 1.80 | | | | |
| 0.70 | 1.40 | 38.00 | 3.00 | | |
| | 2.10 | | | | |
| 0.80 | 1.60 | 38.00 | 3.00 | | |
| | 2.40 | | | | |
| 0.90 | 1.80 | 38.00 | 3.00 | | |
| | 2.70 | | | | |
| 1.00 | 2.00 | 38.00 | 3.00 | | |
| | 3.00 | | | | |
| 1.20 | 2.40 | 38.00 | 3.00 | | |
| | 3.60 | | | | |
| 1.40 | 2.80 | 38.00 | 3.00 | | |
| | 4.20 | | | | |
| 1.50 | 3.00 | 38.00 | 3.00 | | |
| | 4.50 | | | | |
| 1.60 | 3.20 | 38.00 | 3.00 | | |
| | 4.80 | | | | |
| 1.80 | 3.60 | 38.00 | 3.00 | | |
| | 5.40 | | | | |
| 2.00 | 4.00 | 38.00 | 3.00 | | |
| | 6.00 | | | | |
| 2.50 | 5.00 | 38.00 | 3.00 | | |
| | 7.50 | | | | |
| 3.00 | 6.00 | 50.00 | 6.00 | | |
| | 9.00 | | | | |
| 4.00 | 8.00 | 50.00 | 6.00 | | |
| | 12.00 | | | | |
| 5.00 | 10.00 | 50.00 | 6.00 | | |
| | 15.00 | | | | |
| 6.00 | 12.00 | 50.00 | 6.00 | | |
| | 18.00 | | | | |

World of mICRO Tools

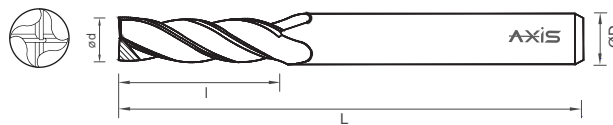


4 Flute Endmill

E967



- Steel Low/Unalloyed
- Steel High Alloyed
- SS
- Cast Iron
- Titanium Alloy
- Nickel Alloy



- Z 4
- 30°
- AxiCoat
AlTiN
- AXIS+
- Edge Prep
- Form HA
DIN 6535

Versatile geometry for side, slot and surface milling of variety of materials such as Stainless Steel, Titanium and its Alloys

Centre cutting geometry with advanced features for extended tool life, reduced chatter and improved part quality

Broad portfolio starting from Ø0.20mm and available in 2D to 5D Cutting lengths

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Next Gen PVD coatings suitable for the application material

Proprietary pre and post coating *MMP Superfinishing* for enhanced coating productivity

| ød | l | L | ØD h6 | Prices € | |
|------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 0.20 | 0.40 | 38.00 | 3.00 | | |
| | 0.60 | | | | |
| 0.30 | 0.60 | 38.00 | 3.00 | | |
| | 0.90 | | | | |
| 0.40 | 0.80 | 38.00 | 3.00 | | |
| | 1.20 | | | | |
| 0.50 | 1.00 | 38.00 | 3.00 | | |
| | 1.50 | | | | |
| 0.60 | 1.20 | 38.00 | 3.00 | | |
| | 1.80 | | | | |
| 0.70 | 1.40 | 38.00 | 3.00 | | |
| | 2.10 | | | | |
| 0.80 | 1.60 | 38.00 | 3.00 | | |
| | 2.40 | | | | |
| 0.90 | 1.80 | 38.00 | 3.00 | | |
| | 2.70 | | | | |
| 1.00 | 3.00 | 38.00 | 3.00 | | |
| | 5.00 | | | | |
| 1.20 | 3.60 | 38.00 | 3.00 | | |
| | 6.00 | | | | |
| 1.40 | 4.20 | 38.00 | 3.00 | | |
| | 7.00 | | | | |
| 1.50 | 4.50 | 38.00 | 3.00 | | |
| | 7.50 | | | | |
| 1.60 | 4.80 | 38.00 | 3.00 | | |
| | 8.00 | | | | |
| 1.80 | 5.40 | 38.00 | 3.00 | | |
| | 9.00 | | | | |
| 2.00 | 6.00 | 38.00 | 3.00 | | |
| | 10.00 | | | | |
| 2.50 | 7.50 | 38.00 | 3.00 | | |
| | 10.00 | | | | |
| 3.00 | 9.00 | 50.00 | 6.00 | | |
| | 12.00 | | | | |
| 4.00 | 12.00 | 50.00 | 6.00 | | |
| | 16.00 | | | | |
| 5.00 | 10.00 | 50.00 | 6.00 | | |
| | 15.00 | | | | |
| 6.00 | 12.00 | 50.00 | 6.00 | | |
| | 18.00 | | | | |

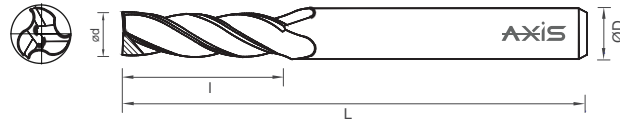
* Non Stockable

World of mICRO Tools



3 Flute Endmills

E968



Versatile geometry for side, slot and surface milling of variety of materials such as Cast Iron, Steel, Non-ferrous and Titanium

Centre cutting geometry with advanced features for extended tool life, reduced chatter and improved part quality

Broad portfolio starting from Ø1.00mm and available in 2D to 5D cutting lengths

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Next Gen coatings suitable for the application material

Proprietary pre and post coating MMP Superfinishing for enhanced coating productivity

| ød h10 | l | L | ØD h6 | Prices € | |
|-----------|-------|-------|----------|----------|----------|
| | | | | Coated | Uncoated |
| 1.00 | 3.00 | 38.00 | 3.00 | | |
| | 5.00 | | | | |
| 1.20 | 3.60 | 38.00 | 3.00 | | |
| | 6.00 | | | | |
| 1.40 | 4.20 | 38.00 | 3.00 | | |
| | 7.00 | | | | |
| 1.50 | 4.50 | 38.00 | 3.00 | | |
| | 7.50 | | | | |
| 1.60 | 4.80 | 38.00 | 3.00 | | |
| | 8.00 | | | | |
| 1.80 | 5.40 | 38.00 | 3.00 | | |
| | 9.00 | | | | |
| 2.00 | 6.00 | 38.00 | 3.00 | | |
| | 10.00 | | | | |
| 2.50 | 7.50 | 38.00 | 3.00 | | |
| | 10.00 | | | | |
| 3.00 | 9.00 | 50.00 | 6.00 | | |
| | 12.00 | | | | |
| 4.00 | 12.00 | 50.00 | 6.00 | | |
| | 16.00 | | | | |
| 5.00 | 10.00 | 50.00 | 6.00 | | |
| | 15.00 | | | | |
| 6.00 | 12.00 | 50.00 | 6.00 | | |
| | 18.00 | | | | |

* Non Stockable

World of mICRO Tools



High Precision Ballnose Endmills



Precise Ball Radii
and
Line form

Profile and
dimensional accuracy



Super finished flutes

Efficient chip evacuation
and higher MMR

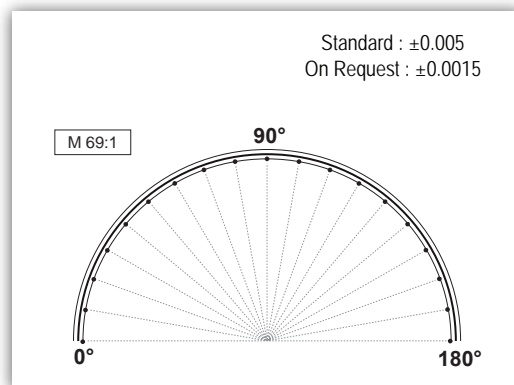


Contemporary Coatings

Enhanced Coating productivity

Advanced tool features

- Reduce chatter
- increase part quality



**2 Flute
Ballnose Endmills**

B970
B870

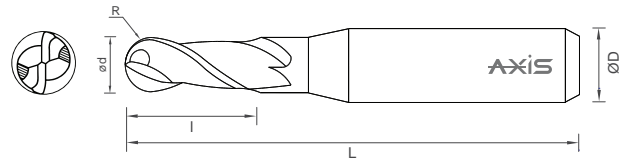


Ball Radius Tolerance

B970 : ± 0.005 (R 0.10 - R 1.50)
± 0.010 (R 2.00 - R 3.00)

B870 : ± 0.003 (R 0.10 - R 1.50)
± 0.005 (R 2.00 - R 3.00)

- STEEL
- SS
- CAST IRON
- Non-Ferrous
- Titanium Alloy
- Nickel Alloy



- Z 2
- 30°
- AxiCoat
AITIN
- Polished Flute
- FORM HA
DIN 6535

B870

Geometry suitable for profile milling of variety of materials like Cast Iron, Steel, Stainless Steel, Non-ferrous, Titanium and Nickel Alloys

Precisely controlled tool features for high precision machining requirements

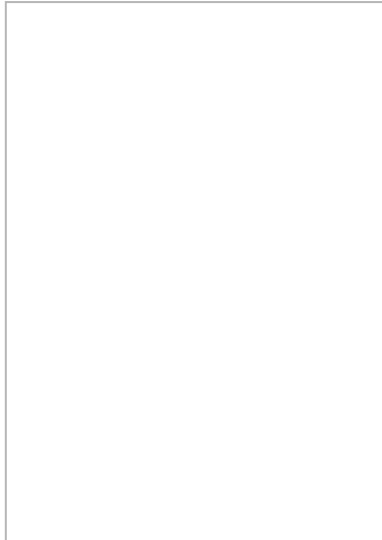
Centre cutting geometry with advanced features for extended tool life, reduced chatter and improved part quality

Precisely controlled ball radii and line form

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Next Gen coatings suitable for the application material

Proprietary pre and post coating *MMP Superfinishing* for enhanced coating productivity



World of mICRO Tools



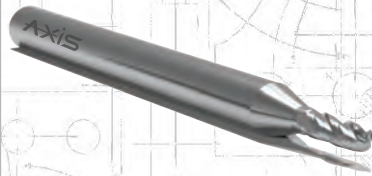
| R | ød h10 | l | L | ØD h6 | Prices € | |
|------|-----------|-------|-------|----------|----------|----------|
| | | | | | Coated | Uncoated |
| 0.10 | 0.20 | 0.20 | 38.00 | 3.00 | | |
| | | 0.40 | | | | |
| 0.15 | 0.30 | 0.30 | 38.00 | 3.00 | | |
| | | 0.60 | | | | |
| 0.20 | 0.40 | 0.40 | 38.00 | 3.00 | | |
| | | 0.80 | | | | |
| 0.25 | 0.50 | 0.50 | 38.00 | 3.00 | | |
| | | 1.00 | | | | |
| 0.30 | 0.60 | 0.60 | 38.00 | 3.00 | | |
| | | 1.20 | | | | |
| 0.35 | 0.70 | 0.70 | 38.00 | 3.00 | | |
| | | 1.40 | | | | |
| 0.40 | 0.80 | 0.80 | 38.00 | 3.00 | | |
| | | 1.60 | | | | |
| 0.45 | 0.90 | 0.90 | 38.00 | 3.00 | | |
| | | 1.80 | | | | |
| 0.50 | 1.00 | 1.00 | 38.00 | 3.00 | | |
| | | 2.00 | | | | |
| 0.60 | 1.20 | 2.40 | 38.00 | 3.00 | | |
| | | 3.60 | | | | |
| 0.70 | 1.40 | 2.80 | 38.00 | 3.00 | | |
| | | 4.20 | | | | |
| 0.75 | 1.50 | 3.00 | 38.00 | 3.00 | | |
| | | 4.50 | | | | |
| 0.80 | 1.60 | 3.20 | 38.00 | 3.00 | | |
| | | 4.80 | | | | |
| 0.90 | 1.80 | 3.60 | 38.00 | 3.00 | | |
| | | 5.40 | | | | |
| 1.00 | 2.00 | 4.00 | 38.00 | 3.00 | | |
| | | 6.00 | | | | |
| 1.25 | 2.50 | 5.00 | 38.00 | 3.00 | | |
| | | 7.50 | | | | |
| 1.50 | 3.00 | 6.00 | 50.00 | 6.00 | | |
| | | 9.00 | | | | |
| 2.00 | 4.00 | 8.00 | 50.00 | 6.00 | | |
| | | 12.00 | | | | |
| 2.50 | 5.00 | 10.00 | 50.00 | 6.00 | | |
| | | 15.00 | | | | |
| 3.00 | 6.00 | 12.00 | 50.00 | 6.00 | | |
| | | 18.00 | | | | |

* Non Stockable



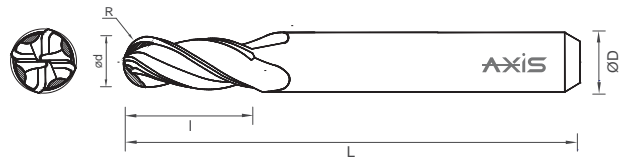
4 Flute Ballnose Endmills

B972



Ball Radius Tolerance

± 0.005 (R 0.10 - R 1.50)
± 0.010 (R 2.00 - R 6.00)



Geometry suitable for profile milling of variety of materials like Non-ferrous, Cast Iron, Steel and Stainless Steel

Centre cutting geometry with advanced features for extended tool life, reduced chatter and improved part quality

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Broad portfolio starting from Ø0.10mm and available in 2D to 3D cutting lengths

Next Gen coatings suitable for the application material

Proprietary pre and post coating *MMP Superfinishing* for enhanced coating productivity

| R | ød h10 | l | L | ØD h6 | Prices € | |
|------|-----------|-------|-------|----------|----------|----------|
| | | | | | Coated | Uncoated |
| 0.10 | 0.20 | 0.20 | 38.00 | 3.00 | | |
| | | 0.60 | | | | |
| 0.15 | 0.30 | 0.30 | 38.00 | 3.00 | | |
| | | 0.90 | | | | |
| 0.20 | 0.40 | 0.80 | 38.00 | 3.00 | | |
| | | 1.20 | | | | |
| 0.25 | 0.50 | 1.00 | 38.00 | 3.00 | | |
| | | 1.50 | | | | |
| 0.30 | 0.60 | 1.20 | 38.00 | 3.00 | | |
| | | 1.80 | | | | |
| 0.35 | 0.70 | 1.40 | 38.00 | 3.00 | | |
| | | 2.10 | | | | |
| 0.40 | 0.80 | 1.60 | 38.00 | 3.00 | | |
| | | 2.40 | | | | |
| 0.45 | 0.90 | 1.80 | 38.00 | 3.00 | | |
| | | 2.70 | | | | |
| 0.50 | 1.00 | 3.00 | 38.00 | 3.00 | | |
| | | 5.00 | | | | |
| 0.60 | 1.20 | 3.60 | 38.00 | 3.00 | | |
| | | 6.00 | | | | |
| 0.70 | 1.40 | 4.20 | 38.00 | 3.00 | | |
| | | 7.00 | | | | |
| 0.75 | 1.50 | 4.50 | 38.00 | 3.00 | | |
| | | 7.50 | | | | |
| 0.80 | 1.60 | 4.80 | 38.00 | 3.00 | | |
| | | 8.00 | | | | |
| 0.90 | 1.80 | 5.40 | 38.00 | 3.00 | | |
| | | 9.00 | | | | |
| 1.00 | 2.00 | 6.00 | 38.00 | 3.00 | | |
| | | 10.00 | | | | |
| 1.25 | 2.50 | 7.50 | 38.00 | 3.00 | | |
| | | 10.00 | | | | |
| 1.50 | 3.00 | 9.00 | 50.00 | 6.00 | | |
| | | 12.00 | | | | |
| 2.00 | 4.00 | 12.00 | 50.00 | 6.00 | | |
| | | 16.00 | | | | |
| 2.50 | 5.00 | 10.00 | 50.00 | 6.00 | | |
| | | 15.00 | | | | |
| 3.00 | 6.00 | 12.00 | 50.00 | 6.00 | | |
| | | 18.00 | | | | |

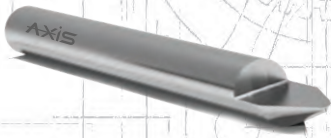
* Non Stockable

World of mICRO Tools



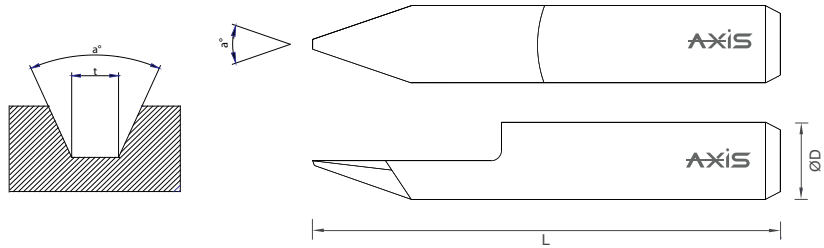
Engravers

G847



On Request

ultra mICRO tip dia $\geq 0.020\text{mm}$
Customised tip radius



Precisely controlled tip angles and tip diameters for high precision machining requirements

Sharp cutting edges to ensure burr free engraving

High performance ultra fine carbide substrate developed specifically for mICRO tooling applications

Next Gen coatings suitable for the application material

| Ød | L | ØD h6 | Angle a | | | | Prices € | |
|------|-------|----------|------------|-----|-----|-----|----------|----------|
| | | | 30° | 45° | 60° | 90° | Coated | Uncoated |
| 0.05 | 38.00 | 2.00 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |
| 0.05 | 38.00 | 3.00 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |
| 0.05 | 38.00 | 3.175 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |
| 0.05 | 50.00 | 4.00 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |
| 0.05 | 50.00 | 5.00 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |
| 0.05 | 50.00 | 6.00 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |
| 0.05 | 50.00 | 8.00 | 30° | 45° | 60° | 90° | | |
| 0.10 | | | | | | | | |
| 0.20 | | | | | | | | |

* Non Stockable

Chamfering Cutter

C676



- Steel
- SS
- Cast Iron
- Non-Ferrous
- Plastics
- Titanium Alloy
- Nickel Alloy



- AxiCoat
AlTiN
- FORM HA
DIN 6535

Precisely crafted tool for chamfering, deburring and counter-sinking application on variety of material like Cast Iron, Alloy Steels, Stainless Steels, Aluminium and Super Alloys

Made from ultra fine grade carbide with a balanced mix of high toughness and excellent hardness

MMP Superfinishing to ensure better coating adhesion, better chip evacuation, reduced chip friction and better chamfered surface

| ød | Angle a | L | Flutes Z | Prices € | |
|-------|------------|-------|-------------|----------|----------|
| | | | | Coated | Uncoated |
| 3.00 | 60° | 38.00 | 4 | | |
| | 90° | | | | |
| | 120° | | | | |
| 3.175 | 60° | 38.00 | 4 | | |
| | 90° | | | | |
| | 120° | | | | |
| 4.00 | 60° | 50.00 | 4 | | |
| | 90° | | | | |
| | 120° | | | | |
| 6.00 | 60° | 50.00 | 4 | | |
| | 90° | | | | |
| | 120° | | | | |
| 6.35 | 60° | 63.00 | 4 | | |
| | 90° | | | | |
| | 120° | | | | |
| 8.00 | 60° | 63.00 | 6 | | |
| | 90° | | | | |
| | 120° | | | | |
| 10.00 | 60° | 72.00 | 6 | | |
| | 90° | | | | |
| | 120° | | | | |
| 12.00 | 60° | 83.00 | 6 | | |
| | 90° | | | | |
| | 120° | | | | |

Other diameter and angles on request

Application

Application



Each product page contains our machining guide providing you with information on the materials for which our respective product is suitable. In case of any questions refer to our website or contact our application experts.



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● Optimal

◐ Suitable

Icons

Icons

No of Flutes
No of Flutes



Coating
Coating



Point Angle
Point Angle



Polished Flute
Polished Flute



Helix Angle
Helix Angle



AXIS+ / Edge Prep
AXIS+ / Edge Prep



Machining Direction
Machining Direction



DIN Norm
DIN Norm



Web Thinning
Web Thinning



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