

# Stepped drill bit

10840

## Stepped drill bit



HARTNER

### Design

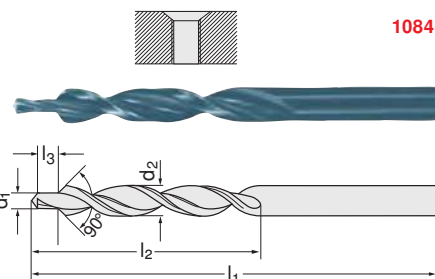
- Countersink angle 90°
- With straight shank
- Cone-shaped section finish
- Thinned chisel edge and surface treatment

### Applications

For making threaded core holes and counterbores in accordance with DIN 336 Part 1. Free countersinks for through-bores in accordance with DIN EN 20273.

### Quality

HSS ground for steel up to 900 N/mm², aluminium alloys, bronze, brass.



10840

| For thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | 10840 | ... |
|------------|---------------------------------------|----------------------|----------------------|----------------------|-------|-----|
| M 3        | 2.5 x 3.4                             | 8.8                  | 39                   | 70                   |       | 101 |
| M 4        | 3.3 x 4.5                             | 11.4                 | 47                   | 80                   |       | 102 |
| M 5        | 4.2 x 5.5                             | 13.6                 | 57                   | 93                   |       | 103 |

| For thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | 10840 | ... |
|------------|---------------------------------------|----------------------|----------------------|----------------------|-------|-----|
| M 6        | 5.0 x 6.6                             | 16.5                 | 63                   | 101                  |       | 104 |
| M 8        | 6.8 x 9.0                             | 21.0                 | 81                   | 125                  |       | 105 |
| M 10       | 8.5 x 11.0                            | 25.5                 | 94                   | 142                  |       | 106 |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti alloy | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----------|-------|---------|
| 50-60    | 40-50    | 30-60 | 25-28   | 22-25   | 20-22   | -        | -        | -        | -      | -      | -      | -      | -       | -       | -        | 20-28 | 30-40   |

10850

## Stepped drill bit



HARTNER

### Design

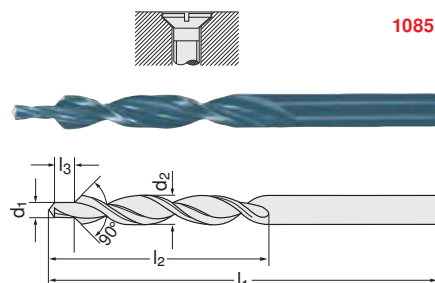
- Countersink angle 90°
- With straight shank
- Cone-shaped section finish
- Thinned chisel edge and surface treatment

### Applications

For making screw through-bores DIN EN 20273, screw head countersinking shape A medium DIN 74 Part 1. Screw countersinks DIN 963 to 966.

### Quality

HSS ground for steel up to 900 N/mm², aluminium alloys, bronze, brass.



10850

| For thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | 10850 | ... |
|------------|---------------------------------------|----------------------|----------------------|----------------------|-------|-----|
| M 3        | 3.4 x 6.6                             | 9                    | 63                   | 101                  |       | 101 |
| M 4        | 4.5 x 9.0                             | 11                   | 81                   | 125                  |       | 102 |
| M 5        | 5.5 x 11.0                            | 13                   | 94                   | 142                  |       | 103 |
| M 6        | 6.6 x 13.0                            | 15                   | 101                  | 151                  |       | 105 |
| M 8        | 9.0 x 17.2                            | 19                   | 130                  | 191                  |       | 107 |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti alloy | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----------|-------|---------|
| 50-60    | 40-50    | 30-60 | 25-28   | 22-25   | 20-22   | -        | -        | -        | -      | -      | -      | -      | -       | -       | -        | 20-28 | 30-40   |

10861 - 10862

## Stepped drill bit



HARTNER

### Design

- Countersink angle 180°
- Cone-shaped section finish
- Thinned chisel edge and surface treatment

### Applications

For making screw through-bores and countersinks DIN EN 20273, screw head countersinking shape H, J and K. Medium design in accordance with DIN 74 Part 2. Cylinder screws in accordance with DIN 84, DIN 912, DIN 6912, DIN 7513, DIN 7984.

### Quality

HSS ground for steel up to 900 N/mm², cast iron, aluminium alloys, brass, bronze.

### 10861

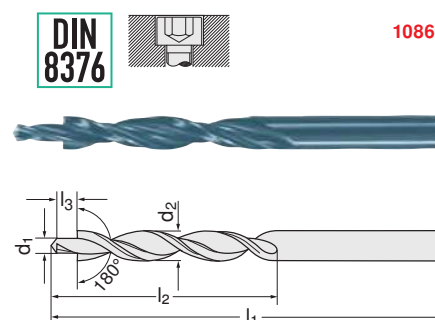
### Design

With straight shank.

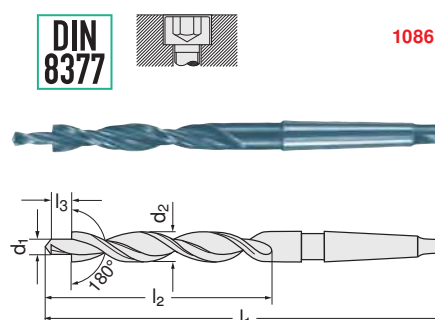
### 10862

### Design

With Morse taper shank.



10861



10862

| For thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | Straight shank |       | Morse taper shank |       |
|------------|---------------------------------------|----------------------|----------------------|----------------------|----------------|-------|-------------------|-------|
|            |                                       |                      |                      |                      | Shank MT       | 10861 | ...               | 10862 |
| M 3        | 3.4 x 6.0                             | 9                    | 57                   | 93                   | -              |       | 101               |       |
| M 4        | 4.5 x 8.0                             | 11                   | 75                   | 117                  | -              |       | 102               |       |
| M 5        | 5.5 x 10.0                            | 13                   | 87                   | 133                  | -              |       | 103               |       |
| M 6        | 6.6 x 11.0                            | 15                   | 94                   | 142                  | -              |       | 104               |       |
| M 8        | 9.0 x 15.0                            | 19                   | 114                  | 169                  | -              |       | 105               |       |
| M 8        | 9.0 x 15.0                            | 19                   | 114                  | 212                  | 2              |       |                   | 105   |
| M 10       | 11.0 x 18.0                           | 23                   | 130                  | 191                  | -              |       | 106               |       |
| M 10       | 11.0 x 18.0                           | 23                   | 130                  | 228                  | 2              |       |                   | 106   |
| M 12       | 13.5 x 20.0                           | 27                   | 140                  | 238                  | 2              |       |                   | 107   |
| M 16       | 17.5 x 26.0                           | 35                   | 165                  | 286                  | 3              |       |                   | 109   |
| M 20       | 22.0 x 33.0                           | 43                   | 185                  | 334                  | 4              |       |                   | 111   |



HARTNER

**Design**

- With straight shank
- Cone-shaped section finish
- Thinned chisel edge

**Quality**

HSS ground for steel up to 900 N/mm<sup>2</sup>, cast iron, aluminium alloys, brass, bronze.

**10866****Design**

**Countersink angle 90°.** For thread core hole bores DIN 336 Part 1. Free countersinks for through-bores DIN EN 20273 medium.

**10867****Design**

**Countersink angle 90°.** For screw through-bores DIN EN 20273. Screw head countersinks shape H, J, K Part 2 medium. Cheese head screws DIN EN ISO 2009 and 2010.

**10868****Design**

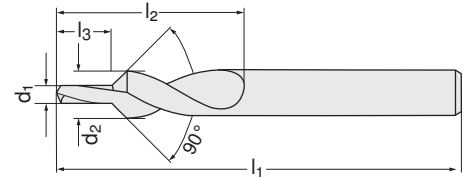
**Countersink angle 180°.** For screw through-bores DIN EN 20273. Screw head countersinks shape H, J, K Part 2 medium. Cheese head screws DIN EN ISO 4762, DIN EN ISO 1207, DIN 6912, DIN 7513, DIN 7984.



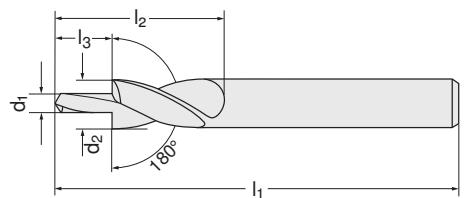
10866



10867



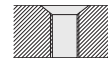
10868



10866

10867

10868



| For thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | HSS   |     | HSS   |     | HSS   |     |
|------------|---------------------------------------|----------------------|----------------------|----------------------|-------|-----|-------|-----|-------|-----|
|            |                                       |                      |                      |                      | 10866 | ... | 10867 | ... | 10868 | ... |
| M 3        | 2.5 x 3.4                             | 8.8                  | 20                   | 52                   |       |     | 101   |     |       |     |
| M 4        | 3.3 x 4.5                             | 11.4                 | 24                   | 58                   |       |     | 102   |     |       |     |
| M 5        | 4.2 x 5.5                             | 13.6                 | 28                   | 66                   |       |     | 103   |     |       |     |
| M 6        | 5.0 x 6.6                             | 16.5                 | 31                   | 70                   |       |     | 104   |     |       |     |
| M 8        | 6.8 x 9.0                             | 21.0                 | 40                   | 84                   |       |     | 105   |     |       |     |
| M 10       | 8.5 x 11.0                            | 25.5                 | 47                   | 95                   |       |     | 106   |     |       |     |
| M 12       | 10.2 x 13.5                           | 30.0                 | 54                   | 107                  |       |     | 107   |     |       |     |
| M 3        | 3.2 x 6.0                             | 9.0                  | 28                   | 66                   |       |     |       |     | 101   |     |
| M 4        | 4.3 x 8.0                             | 11.0                 | 37                   | 79                   |       |     |       |     | 102   |     |
| M 5        | 5.3 x 10.0                            | 13.0                 | 43                   | 89                   |       |     |       |     | 103   |     |
| M 6        | 6.4 x 11.5                            | 15.0                 | 47                   | 95                   |       |     |       |     | 104   |     |
| M 8        | 8.4 x 15.0                            | 19.0                 | 56                   | 111                  |       |     |       |     | 105   |     |
| M 10       | 10.5 x 19.0                           | 23.0                 | 64                   | 127                  |       |     |       |     | 106   |     |
| M 3        | 3.4 x 6.0                             | 9.0                  | 28                   | 66                   |       |     |       |     |       | 101 |
| M 4        | 4.5 x 8.0                             | 11.0                 | 37                   | 79                   |       |     |       |     |       | 102 |
| M 5        | 5.5 x 10.0                            | 13.0                 | 43                   | 89                   |       |     |       |     |       | 103 |
| M 6        | 6.6 x 11.0                            | 15.0                 | 47                   | 95                   |       |     |       |     |       | 104 |
| M 8        | 9.0 x 15.0                            | 19.0                 | 56                   | 111                  |       |     |       |     |       | 105 |
| M 10       | 11.0 x 18.0                           | 23.0                 | 62                   | 123                  |       |     |       |     |       | 106 |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti alloy | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----------|-------|---------|
| 50-60    | 40-50    | 30-60 | 25-28   | 22-25   | 20-22   | -        | -        | -        | -      | -      | -      | -      | -       | -       | -        | 20-28 | 30-40   |

# Stepped drill bits | Centre drills

10863 - 10864

## Solid carbide stub length stepped drill bit

VHM  
TiAlN

**ATORN®**

### Design

- With straight shank
- Right cutting
- Diameter tolerance h8

### Applications

For thread core holes. For economic manufacture of hole and countersink in a single action.

### Quality

Solid carbide/TiAlN-coated.

### 10863

#### Design

#### Countersink angle 90°.

For thread core hole bores DIN 336 Part 1. Free countersinks for through-bores DIN EN 20273 medium.

### 10864

#### Design

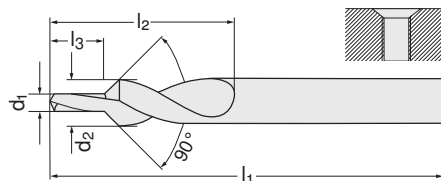
#### Countersink angle 180°.

For screw through-bores DIN EN 20273. Screw head countersinks shape H, J, K Part 2 medium. Cheese head screws DIN EN ISO 4762, DIN EN ISO 1207, DIN 6912, DIN 7513, DIN 7984.



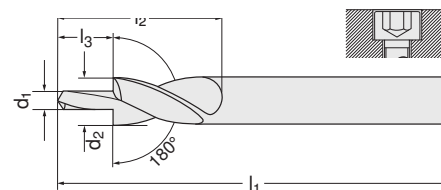
90°

10863



180°

10864



| For<br>thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | Shank Ø<br>mm | 90°   |     |
|---------------|---------------------------------------|----------------------|----------------------|----------------------|---------------|-------|-----|
|               |                                       |                      |                      |                      |               | 10863 | ... |
| M 3           | 2.5 x 3.4                             | 8.8                  | 28                   | 66                   | 6.0           |       | 101 |
| M 4           | 3.3 x 4.5                             | 11.4                 | 28                   | 66                   | 6.0           |       | 102 |
| M 5           | 4.2 x 5.5                             | 13.6                 | 28                   | 66                   | 6.0           |       | 103 |
| M 6           | 5.0 x 6.6                             | 16.5                 | 41                   | 79                   | 8.0           |       | 104 |
| M 8           | 6.8 x 9.0                             | 21.0                 | 47                   | 89                   | 10.0          |       | 105 |
| M 10          | 8.5 x 11.0                            | 25.5                 | 55                   | 102                  | 12.0          |       | 106 |
| M 12          | 10.2 x 13.5                           | 30.0                 | 60                   | 107                  | 14.0          |       | 107 |

| For<br>thread | d <sub>1</sub> x d <sub>2</sub><br>mm | l <sub>3</sub><br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | Shank Ø<br>mm | 180°  |     |
|---------------|---------------------------------------|----------------------|----------------------|----------------------|---------------|-------|-----|
|               |                                       |                      |                      |                      |               | 10864 | ... |
| M 3           | 3.4 x 6.0                             | 9                    | 28                   | 64                   | 6.0           |       | 101 |
| M 4           | 4.5 x 8.0                             | 11                   | 37                   | 79                   | 8.0           |       | 102 |
| M 5           | 5.5 x 10.0                            | 13                   | 43                   | 89                   | 10.0          |       | 103 |
| M 6           | 6.6 x 11.0                            | 15                   | 55                   | 102                  | 12.0          |       | 104 |
| M 8           | 9.0 x 15.0                            | 19                   | 60                   | 115                  | 16.0          |       | 105 |
| M 10          | 11.0 x 18.0                           | 23                   | 62                   | 123                  | 18.0          |       | 106 |

| Al<10%Si | Al>10%Si | Cu      | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti alloy | GG(G) | Plastic |
|----------|----------|---------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----------|-------|---------|
| 190-200  | 180-190  | 100-120 | 80-100  | 70-90   | 65-85   | 60-80    | 55-75    | 35-55    | -      | -      | -      | -      | 35-40   | 25-30   | 25-35    | 65-90 | 35-60   |

## 12105 - 12107

## Conical countersink (countersink)

HSS

**HW****Design**

- Multi-flute
- Right cutting
- Straight shank (shape A)

**Applications**

For deburring, edge breaking and countersinking holes in normal machinable materials, such as: Steel, cast iron, non-ferrous metals and light alloys.

**Quality**

HSS.

12105

**Design**

DIN 335, countersink angle 90°.

12107

**Design**

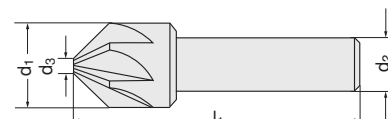
DIN 347, countersink angle 120°.



12105



12107



| d <sub>1</sub><br>mm | d <sub>2</sub> h9<br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | 90°<br>12105 | ... |
|----------------------|-------------------------|----------------------|----------------------|--------------|-----|
| 8                    | 8                       | 48                   | 1.5                  |              | 102 |
| 10                   | 8                       | 48                   | 1.8                  |              | 103 |
| 12.5                 | 8                       | 48                   | 2.0                  |              | 104 |
| 16                   | 10                      | 56                   | 3.2                  |              | 105 |
| 20                   | 10                      | 60                   | 5.0                  |              | 106 |
| 25                   | 12                      | 70                   | 7.0                  |              | 107 |
| 31.5                 | 16                      | 75                   | 9.0                  |              | 108 |

| d <sub>1</sub><br>mm | d <sub>2</sub> h9<br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | 120°<br>12107 | ... |
|----------------------|-------------------------|----------------------|----------------------|---------------|-----|
| 16                   | 10                      | 53                   | 3.2                  |               | 101 |

## 12115

## Conical countersink and countersink deburring tools



HSS-E

**HW****Design**

Countersink angle 90°, single edged, clockwise-cutting, straight shank (shape A).

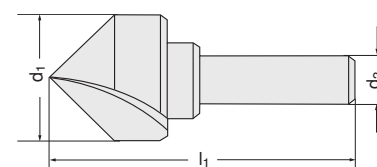
Quality

HSS-E.

| Countersink range<br>mm | d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | HSS-E<br>12115 | ... |
|-------------------------|----------------------|----------------------|----------------------|----------------|-----|
| 1 - 8                   | 8                    | 6                    | 50                   |                | 102 |
| 1 - 10                  | 10                   | 8                    | 50                   |                | 103 |
| 2 - 12                  | 12                   | 8                    | 56                   |                | 104 |
| 2 - 16                  | 16                   | 10                   | 60                   |                | 105 |
| 2 - 20                  | 20                   | 10                   | 63                   |                | 106 |
| 2 - 25                  | 25                   | 12                   | 67                   |                | 107 |
| 3 - 30                  | 30                   | 12                   | 70                   |                | 108 |
| 4 - 40                  | 40                   | 15                   | 92                   |                | 109 |
| 5 - 50                  | 50                   | 15                   | 100                  |                | 110 |



12115



## 12205 - 12207

## Countersinking and deburring tools

**ATORN®****Design**

Countersink angle 90°, clockwise-cutting, straight shank.

**Applications**

For burr-free and chatter-free countersinking and deburring of holes in almost all materials.

12205

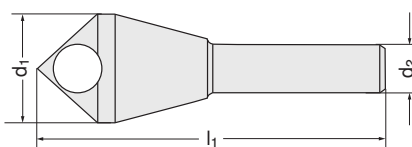
**Quality**

HSS.

12207

**Quality**

HSS/TiN coated.



| Countersink range<br>mm | d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | HSS<br>12205 | ... | HSS/TiN<br>12207 | ... |
|-------------------------|----------------------|----------------------|----------------------|--------------|-----|------------------|-----|
| 1 - 4                   | 6.35                 | 6.35                 | 45                   |              | 101 |                  |     |
| 2-5                     | 10                   | 6                    | 46                   |              | 102 |                  | 102 |
| 5-10                    | 14                   | 8                    | 65                   |              | 103 |                  | 103 |
| 10-15                   | 20                   | 10                   | 65                   |              | 104 |                  | 104 |
| 15-20                   | 28                   | 12                   | 85                   |              | 105 |                  | 105 |
| 20 - 25                 | 30                   | 15                   | 95                   |              | 106 |                  |     |

HSS

12205 101



HSS

12205 102-106

HSS  
TiN

12207



| Al<10%Si | Al>10%Si | Cu     | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti   | GG(G) | Plastic |
|----------|----------|--------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|------|-------|---------|
| 12205    |          |        |         |         |         |          |          |          |        |        |        |        |         |         |      |       |         |
| 25-40    | 10-30    | 25-80  | 26-30   | 25-28   | 18-25   | 6-10     | 5-8      | 2-5      | -      | -      | -      | -      | 4-10    | 4-10    | 4-10 | 9-15  | 10-60   |
| 12207    |          |        |         |         |         |          |          |          |        |        |        |        |         |         |      |       |         |
| 30-80    | 30-50    | 30-100 | 32-36   | 30-34   | 22-30   | 7-12     | 6-10     | 3-6      | -      | -      | -      | -      | 5-12    | 5-12    | 5-12 | 10-25 | 10-60   |

# Conical countersink and countersink deburring tools

12240 - 12241

## Conical countersink and countersink deburring tools

DIN  
334

60°


**ATORN®**

### Design

- Countersink angle 60°
- 3 cutting edges
- Right cutting
- Straight shank (shape C)

### Applications

For burr-free and chatter-free countersinking and deburring of steel, cast iron, non-ferrous metals and light metals.

### Note:

Best results at low cutting speeds and higher feed rates.

12240

Quality  
HSS.

12241

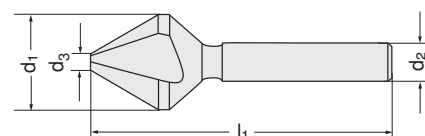
Quality  
HSS/TiN coated.

HSS

12240

HSS  
TiN

12241



| d <sub>1</sub><br>mm | d <sub>2</sub> h9<br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | HSS<br>12240 | ... | HSS/TiN<br>12241 | ... |
|----------------------|-------------------------|----------------------|----------------------|--------------|-----|------------------|-----|
| 6.3                  | 5                       | 45                   | 1.6                  |              | 101 | 101              |     |
| 8.0                  | 6                       | 50                   | 2.0                  |              | 102 | 102              |     |
| 10.0                 | 6                       | 53                   | 2.5                  |              | 103 | 103              |     |
| 12.5                 | 8                       | 56                   | 3.2                  |              | 104 | 104              |     |
| 16.0                 | 10                      | 63                   | 4.0                  |              | 105 | 105              |     |
| 20.0                 | 10                      | 67                   | 5.0                  |              | 106 | 106              |     |
| 25.0                 | 10                      | 71                   | 6.3                  |              | 107 | 107              |     |
| 31.5                 | 12                      | 76                   | 10.0                 |              | 108 | 108              |     |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 25-40    | 10-30    | 25-80 | 26-30   | 25-28   | 18-25   | 6-10     | -        | -        | -      | -      | -      | -      | -       | -       | -  | 9-15  | 10-60   |

12242

## Conical countersink and countersink deburring tools

DIN  
334

75°

HSS


**ATORN®**

### Design

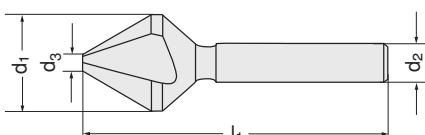
- Countersink angle 75°
- 3 cutting edges
- Right cutting
- Straight shank (shape C)

### Applications

For burr-free and chatter-free countersinking and deburring of steel, cast iron, non-ferrous metals and light metals.

Quality  
HSS.

12242



| d <sub>1</sub><br>mm | d <sub>2</sub> h9<br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | HSS<br>12242 | ... |
|----------------------|-------------------------|----------------------|----------------------|--------------|-----|
| 6.3                  | 5                       | 45                   | 1.5                  |              | 101 |
| 8.3                  | 6                       | 50                   | 2.0                  |              | 102 |
| 10.4                 | 6                       | 51                   | 2.5                  |              | 103 |
| 12.4                 | 8                       | 55                   | 3.0                  |              | 104 |
| 16.5                 | 10                      | 61                   | 3.5                  |              | 105 |
| 20.5                 | 10                      | 65                   | 4.0                  |              | 106 |
| 25.0                 | 10                      | 69                   | 5.0                  |              | 107 |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 25-40    | 10-30    | 25-80 | 26-30   | 25-28   | 18-25   | 6-10     | -        | -        | -      | -      | -      | -      | -       | -       | -  | 9-15  | 10-60   |

## Info

## Conical countersink and countersink deburring tools DIN 335 C and D

### Design

Countersink angle 90°, 3 cutting edges, clockwise-cutting.

### Applications

For burr-free and chatter-free countersinking and deburring of steel, cast iron, non-ferrous metals and light metals.

For conical countersinks in accordance with DIN 74 and 75 sheet 1, quality grade fine.

- A For countersunk head screws DIN 963 and DIN 965, raised countersunk head screws DIN 964 and DIN 966, thread-cutting screws DIN 7513 and DIN 7516
- B For countersunk head screws DIN 7991

### Note:

Best results at low cutting speeds and higher feed rates.




**ATORN®**

12249 + 12254

**Design**

Clockwise-cutting with straight shank.

**Applications**

For countersinking and deburring.

| Contents | Quality | Set includes                                                         | 12204 | ... |
|----------|---------|----------------------------------------------------------------------|-------|-----|
| 4 pieces | HSS     | 1 piece each of diam. 2-5/5-10/<br>10-15/15-20 mm<br>In plastic case | 201   |     |

| Contents | Quality | Set includes                                                                   | 12249 | ... |
|----------|---------|--------------------------------------------------------------------------------|-------|-----|
| 6 pieces | HSS     | 1 piece each of diam. 6.3/8.3/10.4/<br>12.4/16.5/20.5 mm<br>In ABS plastic box | 101   |     |

| Contents | Quality | Set includes                                                                | 12250 | ... |
|----------|---------|-----------------------------------------------------------------------------|-------|-----|
| 6 pieces | HSS     | 1 piece each of diam. 6.3/8.3/10.4/<br>12.4/16.5/20.5 mm<br>In plastic case | 201   |     |

| Contents | Quality    | Set includes                                                                | 12251 | ... |
|----------|------------|-----------------------------------------------------------------------------|-------|-----|
| 6 pieces | HSS<br>TiN | 1 piece each of diam. 6.3/8.3/10.4/<br>12.4/16.5/20.5 mm<br>In plastic case | 101   |     |

| Contents | Quality                 | Set includes                                                              | 12252 | ... |
|----------|-------------------------|---------------------------------------------------------------------------|-------|-----|
| 6 pieces | HSS extra<br>Long shank | 1 piece each of diam. 6.3/8.3/10.4/<br>12.4/16.5/20.5 mm<br>In metal case | 101   |     |

| Contents | Quality                                        | Set includes                                                                | 12254 | ... |
|----------|------------------------------------------------|-----------------------------------------------------------------------------|-------|-----|
| 6 pieces | HSS<br>1/4 inch<br>Hexagonal shank<br>DIN 3126 | 1 piece each of diam. 6.3/8.3/10.4/<br>12.4/16.5/20.5 mm<br>In plastic case | 101   |     |

| Contents | Quality | Set includes                                                              | 12255 | ... |
|----------|---------|---------------------------------------------------------------------------|-------|-----|
| 6 pieces | HSS-E   | 1 piece each of diam. 6.3/8.3/10.4/<br>12.4/16.5/20.5 mm<br>In metal case | 101   |     |

| Contents  | Quality | Set includes                                                                                                                | 12259 | ... |
|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------|-------|-----|
| 17 pieces | HSS     | 1 piece each of diam. 4.3/5.0/6.0/6.3/<br>7.0/8.0/8.3/10.0/10.4/11.5/12.4/<br>15.0/16.5/19.0/20.5/23/25 mm<br>In metal case | 101   |     |

12204

HSS



12249

HSS



12250

HSS



12251

HSS  
TiN

12252

HSS



12254

HSS



12255

HSS-E



12259

HSS



# Conical countersink and countersink deburring tools | Precision countersinks

12264

## Conical countersink and countersink deburring tools



### Design

- Countersink angle 90°
- 3 cutting edges
- Right cutting
- Straight shank

### Applications

For burr-free and chatter-free deburring and countersinking in a single action.

**Quality**  
HSS.



12264

| d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | For screws | 12264 | ... |
|----------------------|----------------------|------------|-------|-----|
| 6.3                  | 5                    | M 3        |       | 104 |
| 8.3                  | 6                    | M 4        |       | 108 |
| 10.4                 | 6                    | M 5        |       | 111 |
| 12.4                 | 8                    | M 6        |       | 113 |
| 16.5                 | 10                   | M 8        |       | 115 |
| 20.5                 | 10                   | M 10       |       | 117 |

12265 - 12270

## Conical countersink and countersink deburring tools



**ATORN®**

### Design

Countersink angle 90°, 3 cutting edges, straight shank (shape C).

### Applications

For conical countersink cuts DIN 74 and DIN 75, sheet 1, quality grade fine.

12265

**Quality**  
HSS.

12266

**Quality**  
HSS-E.

12267

**Quality**  
HSS/TiN coated.

12269

### Applications

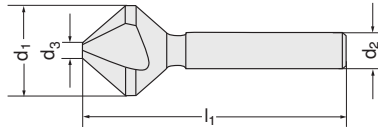
For VA steels.

**Quality**  
HSS powder steel, ASP 30.

12270

**Design**  
6.3–8.3 mm solid carbide  
carbide-tipped.

**Quality**  
Carbide grade K 20.



12265 - 12266



12267



12269



12270

| 12265-12269          |                      |                      | 12270                |                      | HSS   |     | HSS-E |     | HSS/TiN |     | HSS/ASP30 |     | Carbide/K 20 |     |
|----------------------|----------------------|----------------------|----------------------|----------------------|-------|-----|-------|-----|---------|-----|-----------|-----|--------------|-----|
| d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | d <sub>3</sub><br>mm | 12265 | ... | 12266 | ... | 12267   | ... | 12269     | ... | 12270        | ... |
| 4.3                  | 4                    | 40                   | 1.3                  | -                    |       | 101 |       |     |         |     |           |     |              |     |
| 5.0                  | 4                    | 40                   | 1.5                  | -                    |       | 102 |       |     |         | 102 |           |     |              |     |
| 6.0                  | 5                    | 45                   | 1.5                  | -                    |       | 103 |       |     |         | 103 |           |     |              |     |
| 6.3                  | 5                    | 45                   | 1.5                  | 2.2                  |       | 104 |       | 104 |         | 104 |           | 104 |              | 104 |
| 7.0                  | 6                    | 50                   | 1.8                  | -                    |       | 105 |       |     |         |     |           |     |              |     |
| 7.3                  | 6                    | 50                   | 1.8                  | -                    |       | 106 |       |     |         | 106 |           |     |              |     |
| 8.0                  | 6                    | 50                   | 2.0                  | -                    |       | 107 |       |     |         | 107 |           |     |              |     |
| 8.3                  | 6                    | 50                   | 2.0                  | 2.8                  |       | 108 |       | 108 |         | 108 |           | 108 |              | 108 |
| 9.4                  | 6                    | 50                   | 2.2                  | -                    |       | 109 |       |     |         |     |           |     |              |     |
| 10.0                 | 6                    | 50                   | 2.5                  | -                    |       | 110 |       |     |         | 110 |           |     |              |     |
| 10.4                 | 6                    | 50                   | 2.5                  | 3.5                  |       | 111 |       | 111 |         | 111 |           | 111 |              | 111 |
| 11.5                 | 8                    | 56                   | 2.8                  | -                    |       | 112 |       |     |         | 112 |           |     |              |     |
| 12.4                 | 8                    | 56                   | 2.8                  | 4.0                  |       | 113 |       | 113 |         | 113 |           | 113 |              | 113 |
| 15.0                 | 10                   | 60                   | 3.2                  | -                    |       | 114 |       | 114 |         | 114 |           |     |              |     |
| 16.5                 | 10                   | 60                   | 3.2                  | 5.0                  |       | 115 |       | 115 |         | 115 |           | 115 |              | 115 |
| 19.0                 | 10                   | 63                   | 3.5                  | -                    |       | 116 |       |     |         | 116 |           |     |              |     |
| 20.5                 | 10                   | 63                   | 3.5                  | 7.0                  |       | 117 |       | 117 |         | 117 |           | 117 |              | 117 |
| 23.0                 | 10                   | 67                   | 3.8                  | -                    |       | 118 |       |     |         | 118 |           |     |              |     |
| 25.0                 | 10                   | 67                   | 3.8                  | 9.0                  |       | 119 |       | 119 |         | 119 |           | 119 |              | 119 |
| 31.0                 | 12                   | 71                   | 4.2                  | 10.0                 |       | 120 |       | 120 |         | 120 |           |     |              | 120 |
| 40.0                 | 15                   | 80                   | 10.0                 | -                    |       | 121 |       | 121 |         | 121 |           |     |              |     |

| Al<10%Si      | Al>10%Si | Cu     | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti    | GG(G) | Plastic |
|---------------|----------|--------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|-------|-------|---------|
| 12265 + 12266 |          |        |         |         |         |          |          |          |        |        |        |        |         |         |       |       |         |
| 25-40         | 10-30    | 25-80  | 26-30   | 25-28   | 18-25   | 6-10     | 5-8      | 2-5      | -      | -      | -      | -      | 4-10    | 4-10    | 4-10  | 9-15  | 10-60   |
| 12267 + 12269 |          |        |         |         |         |          |          |          |        |        |        |        |         |         |       |       |         |
| 30-80         | 30-50    | 30-100 | 32-36   | 30-34   | 22-30   | 7-12     | 6-10     | 3-6      | -      | -      | -      | -      | 5-12    | 5-12    | 5-12  | 10-25 | 10-60   |
| 12270         |          |        |         |         |         |          |          |          |        |        |        |        |         |         |       |       |         |
| 55-180        | 25-70    | 60-140 | 55-75   | 50-65   | 40-55   | 13-22    | 10-18    | 8-15     | 6-14   | 6-14   | -      | -      | 10-22   | 10-22   | 10-22 | 20-45 | 20-65   |

12263

## Precision countersink with variable pitch

DIN  
335HSS-E  
Alunit

H+W

## Design

- Countersink angle 90°
- Countersink with 3 cutting edges
- Special geometry with **variable pitch**
- Extremely smooth **multi-layer Alunit coating** for a long service life

## Advantage:

- Maximum smoothness
- Chatter-free running and optimum tool life

## Applications

For exact deburring and conical countersink cuts.

## 12263 192-207+210

## Design

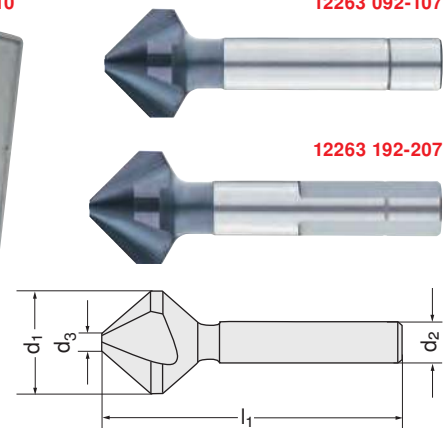
- Precision tool with tight manufacturing tolerances on the shaft and clamping surfaces for use in 3-jaw drill chucks.

12263 110

12263 210

12263 092-107

12263 192-207



Three clamping surfaces

| d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | Smallest countersink diam. for<br>mm holes from | 12263 | ... | 12263 | ... |
|----------------------|----------------------|----------------------|----------------------|-------------------------------------------------|-------|-----|-------|-----|
| 4.3                  | 4                    | 40                   | 1.3                  | 1.3                                             |       | 092 |       | 192 |
| 6.0                  | 5                    | 45                   | 1.5                  | 1.5                                             |       | 093 |       | 193 |
| 6.3                  | 5                    | 45                   | 1.5                  | 1.5                                             |       | 101 |       | 201 |
| 8.0                  | 6                    | 50                   | 2.0                  | 2.0                                             |       | 094 |       | 194 |
| 8.3                  | 6                    | 50                   | 2.0                  | 2.0                                             |       | 095 |       | 195 |
| 10.0                 | 6                    | 50                   | 2.5                  | 2.5                                             |       | 096 |       | 196 |
| 10.4                 | 6                    | 50                   | 2.5                  | 2.5                                             |       | 102 |       | 202 |
| 11.5                 | 8                    | 56                   | 2.8                  | 2.8                                             |       | 097 |       | 197 |
| 12.4                 | 8                    | 56                   | 2.8                  | 2.8                                             |       | 103 |       | 203 |
| 15.0                 | 10                   | 60                   | 3.2                  | 3.2                                             |       | 098 |       | 198 |
| 16.5                 | 10                   | 60                   | 3.2                  | 3.2                                             |       | 104 |       | 204 |
| 19.0                 | 10                   | 63                   | 3.5                  | 3.5                                             |       | 099 |       | 199 |
| 20.5                 | 10                   | 63                   | 3.5                  | 3.5                                             |       | 105 |       | 205 |
| 23.0                 | 10                   | 67                   | 3.8                  | 3.8                                             |       | 100 |       | 200 |
| 25.0                 | 10                   | 67                   | 3.8                  | 3.8                                             |       | 106 |       | 206 |
| 31.0                 | 12                   | 71                   | 4.2                  | 4.2                                             |       | 107 |       | 207 |

| Contents | Set contents                                                           | Version | 12263 | ... |
|----------|------------------------------------------------------------------------|---------|-------|-----|
| 5 pieces | 1 piece each of diam. 6.3/10.4/16.5/20.5/25.0                          | In case |       | 110 |
| 5 pieces | 1 piece each of diam. 6.3/10.4/16.5/20.5/25.0 with 3 clamping surfaces | In case |       | 210 |

| Al<8%Si | Al>8%Si | Cu | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <50HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|---------|---------|----|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 75      | 50      | 80 | 65      | 60      | 30      | 18       | 12       | 8        | -      | -      | -      | -      | 16      | 10      | 12 | 25    | 90      |

12273

## Precision countersink with variable pitch

DIN  
335VHM  
Alunit

H+W

## Design

- Countersink with 3 cutting edges
- Special geometry with **variable pitch**
- Extremely smooth **multi-layer Alunit coating** for a long service life

## Advantage:

- Maximum smoothness
- Chatter-free running and optimum tool life

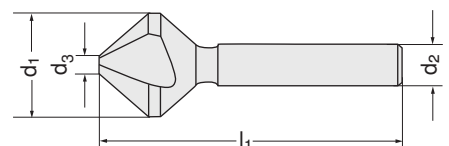
## Applications

For exact deburring and conical countersink cuts.



12273

| d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | Smallest countersink diam. for<br>holes from mm | 12273 | ... |
|----------------------|----------------------|----------------------|----------------------|-------------------------------------------------|-------|-----|
| 6.3                  | 5                    | 45                   | 1.5                  | 1.5                                             |       | 103 |
| 8.3                  | 6                    | 50                   | 2.0                  | 2.0                                             |       | 105 |
| 10.4                 | 6                    | 50                   | 2.5                  | 2.5                                             |       | 107 |
| 12.4                 | 8                    | 56                   | 2.8                  | 2.8                                             |       | 109 |
| 16.5                 | 10                   | 60                   | 3.2                  | 3.2                                             |       | 111 |
| 20.5                 | 10                   | 63                   | 3.5                  | 3.5                                             |       | 113 |
| 25.0                 | 10                   | 67                   | 3.8                  | 3.8                                             |       | 115 |
| 31.0                 | 12                   | 71                   | 4.2                  | 4.2                                             |       | 116 |



| Al<8%Si | Al>8%Si | Cu  | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <50HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|---------|---------|-----|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 75      | 45      | 110 | 65      | 60      | 50      | 45       | 18       | 8        | 12     | 10     | 8      | -      | 16      | 14      | 15 | 45    | 30      |

# Conical countersink and countersink deburring tools | Conical countersinks for indexable inserts | Conical countersinks

12260

## Conical countersink and countersink deburring tools



HSS



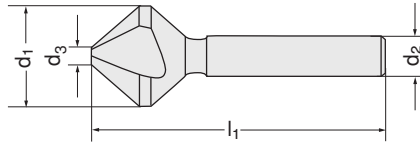
**HHW**

### Design

Extended straight shank (shape C), 100 mm long.  
3 cutting edges.

### Applications

For conical countersink cuts DIN 74 and DIN 75,  
sheet 1, quality grade fine.



12260

| d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | HSS<br>12260 | ... |
|----------------------|----------------------|----------------------|----------------------|--------------|-----|
| 6.3                  | 5                    | 100                  | 1.5                  | 100          |     |
| 8.3                  | 6                    | 112                  | 2.0                  | 101          |     |
| 10.4                 | 8                    | 112                  | 2.5                  | 102          |     |
| 12.4                 | 8                    | 113                  | 2.8                  | 103          |     |

| d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>3</sub><br>mm | HSS<br>12260 | ... |
|----------------------|----------------------|----------------------|----------------------|--------------|-----|
| 16.5                 | 10                   | 115                  | 3.2                  | 104          |     |
| 20.5                 | 10                   | 119                  | 3.5                  | 105          |     |
| 25.0                 | 10                   | 122                  | 3.8                  | 106          |     |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti   | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|------|-------|---------|
| 25-40    | 10-30    | 25-80 | 26-30   | 25-28   | 18-25   | 6-10     | 5-8      | 2-5      | -      | -      | -      | -      | 4-10    | 4-10    | 4-10 | 9-15  | 10-60   |

12271

## Conical countersink and countersink deburring tool bits

DIN  
335C



HSS

### Design

Countersink angle 90°, 3 cutting edges, ground,  
countersink head in accordance with DIN 335 C,  
with 1/4-inch hex shank, ground, in accordance with  
DIN 3126.

### Quality

HSS.



| Nominal<br>diameter mm | Total<br>length mm | For counter-<br>sink cuts | HSS<br>12271 | ... |
|------------------------|--------------------|---------------------------|--------------|-----|
| 6.3                    | 31                 | M 3                       | 101          |     |
| 8.3                    | 31                 | M 4                       | 102          |     |
| 10.4                   | 34                 | M 5                       | 103          |     |

| Nominal<br>diameter mm | Total<br>length mm | For counter-<br>sink cuts | HSS<br>12271 | ... |
|------------------------|--------------------|---------------------------|--------------|-----|
| 12.4                   | 35                 | M 6                       | 104          |     |
| 16.5                   | 40                 | M 8                       | 105          |     |
| 20.5                   | 41                 | M 10                      | 106          |     |



12271

12272

## Conical countersink and countersink deburring tools

DIN  
335D



HSS



**ATORN®**

### Design

- Countersink angle 90°
- With 3 cutting edges
- Morse taper shank (shape D)

### Quality

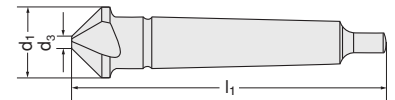
HSS.

### Note:

Other dimensions available on request.



12272



| d <sub>1</sub><br>mm | d <sub>3</sub><br>mm | l <sub>1</sub><br>mm | MT | HSS<br>12272 | ... |
|----------------------|----------------------|----------------------|----|--------------|-----|
| 15.0                 | 3.2                  | 85                   | 1  | 101          |     |
| 20.5                 | 3.5                  | 100                  | 2  | 102          |     |
| 25.0                 | 3.8                  | 106                  | 2  | 103          |     |
| 30.0                 | 4.2                  | 112                  | 2  | 104          |     |
| 31.0                 | 4.2                  | 112                  | 2  | 105          |     |
| 34.0                 | 4.5                  | 118                  | 2  | 106          |     |

| d <sub>1</sub><br>mm | d <sub>3</sub><br>mm | l <sub>1</sub><br>mm | MT | HSS<br>12272 | ... |
|----------------------|----------------------|----------------------|----|--------------|-----|
| 37.0                 | 4.8                  | 118                  | 2  | 107          |     |
| 40.0                 | 10.0                 | 140                  | 3  | 108          |     |
| 50.0                 | 14.0                 | 150                  | 3  | 109          |     |
| 63.0                 | 16.0                 | 155                  | 4  | 110          |     |
| 80.0                 | 22.0                 | 190                  | 4  | 111          |     |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti   | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|------|-------|---------|
| 25-40    | 10-30    | 25-80 | 26-30   | 25-28   | 18-25   | 6-10     | 5-8      | 2-5      | -      | -      | -      | -      | 4-10    | 4-10    | 4-10 | 9-15  | 10-60   |

12274

## Conical countersink and countersink deburring tools



HSS



**HHW**

### Design

- Plastic handle
- Countersink angle 90°
- 3 cutting edges
- Clockwise-cutting

### Quality

HSS.

| Ø<br>mm | HSS<br>12274 | ... |
|---------|--------------|-----|
| 12.5    | 101          |     |
| 15.0    | 110          |     |
| 16.5    | 102          |     |

| Ø<br>mm | HSS<br>12274 | ... |
|---------|--------------|-----|
| 20.5    | 103          |     |
| 25.0    | 104          |     |



12274



## 12310 - 12313

## Conical countersinks for indexable inserts



## KOMET®

12310

## Design

## - Countersink angle 90°

- Right cutting
- Straight shank
- For mounting 2 cemented carbide indexable inserts, each with 3 cutting edges, clearance angle 8°

## Scope of delivery:

- Including clamping screws
- Without indexable inserts

## Applications

For screw-head countersink cuts (conical countersink cuts in line with DIN 74 Sheet 1, shape A, fine).

12312

## Replacement clamping screw

## Applications

For conical countersink for indexable inserts art. no. 12310.

12313

## Cemented carbide indexable inserts

## Design

3 cutting edges, clearance angle 8°.

## Applications

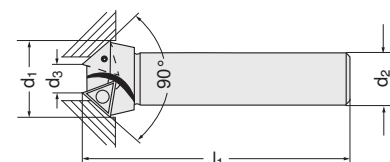
For conical countersink for indexable inserts art. no. 12310.

## Quality

PVD coating (P25).



12310

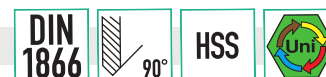


12313

| Type     | d <sub>1</sub><br>mm | d <sub>2</sub><br>mm | d <sub>3</sub> H13<br>mm | Insert size      | TORX®-Plus screw          | Countersink |     | Replacement screw |     | Carbide indexable insert |     |
|----------|----------------------|----------------------|--------------------------|------------------|---------------------------|-------------|-----|-------------------|-----|--------------------------|-----|
|          |                      |                      |                          |                  |                           | 12310       | ... | 12312             | ... | 12313                    | ... |
| KWS-M 10 | 19                   | 16                   | 7.0                      | W30 14660.338425 | S/M 2.6 x 6.2 - 8 IP/T8   |             | 101 |                   | 101 |                          | 101 |
| KWS-M 14 | 26                   | 16                   | 11.0                     | W30 14720.048425 | S/M 2.6 x 6.2 - 8 IP/T8   |             | 103 |                   | 101 |                          | 103 |
| KWS-M 16 | 30                   | 20                   | 12.0                     | W30 26720.0560   | S/M 3.5 x 7.3 - 10 IP/T10 |             | 104 |                   | 102 |                          | 105 |
| KWS-M 18 | 34                   | 20                   | 16.0                     | W30 26720.0560   | S/M 3.5 x 7.3 - 10 IP/T10 |             | 105 |                   | 102 |                          | 105 |

## 12405

## Conical countersink (screw head, piloted counterbore)



## HHW

## Design

Countersink angle 90°, clockwise-cutting, clockwise spiral. Straight shank and fixed pilot.

## Applications

For countersink cuts in accordance with DIN 74, Sheet 1.

For the production of tapered countersink cuts for countersunk head screws DIN 963 and DIN 965, raised countersunk head screws DIN 964 and DIN 966, self-tapping screws F and G in accordance with DIN 7513, thread-cutting screws D and E in accordance with DIN 7516.

## Quality

HSS.

## Note:

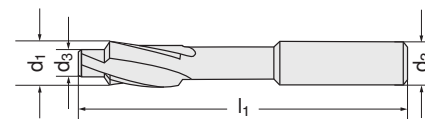
Pilot: D = Through-bore.

Countersink cut: m = medium quality grade,

f = fine quality grade.



12405



| HSS        |                           |                         |                         |                      |                         |           | HSS        |                           |                         |                         |                      |                         |           |
|------------|---------------------------|-------------------------|-------------------------|----------------------|-------------------------|-----------|------------|---------------------------|-------------------------|-------------------------|----------------------|-------------------------|-----------|
| For thread | Countersink quality level | d <sub>1</sub> z9<br>mm | d <sub>3</sub> e8<br>mm | l <sub>1</sub><br>mm | d <sub>2</sub> h9<br>mm | 12405 ... | For thread | Countersink quality level | d <sub>1</sub> z9<br>mm | d <sub>3</sub> e8<br>mm | l <sub>1</sub><br>mm | d <sub>2</sub> h9<br>mm | 12405 ... |
| M 3        | Df                        | 6.0                     | 3.2                     | 71                   | 5.0                     | 211       | M 6        | Dm                        | 13.0                    | 6.6                     | 100                  | 12.5                    | 221       |
| M 4        | Dm                        | 9.0                     | 4.5                     | 80                   | 8.0                     | 213       | M 6        | Df                        | 11.5                    | 6.4                     | 80                   | 8.0                     | 223       |
| M 4        | Df                        | 8.0                     | 4.3                     | 80                   | 8.0                     | 215       | M 8        | Dm                        | 17.2                    | 9.0                     | 100                  | 12.5                    | 225       |
| M 5        | Dm                        | 11.0                    | 5.5                     | 80                   | 8.0                     | 217       | M 8        | Df                        | 15.0                    | 8.4                     | 100                  | 12.5                    | 227       |
| M 5        | Df                        | 10.0                    | 5.3                     | 80                   | 8.0                     | 219       |            |                           |                         |                         |                      |                         |           |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 20-30    | 15-25    | 15-30 | 15-20   | 12-18   | 8-15    | -        | -        | -        | -      | -      | -      | -      | -       | -       | -  | 10-18 | 20-30   |

12410

## Counterbore sets

HSS



12410

**ATORN®**

## Design

6 pieces. Including 1 countersink each for M 3/M 4/M 5/M 6/M 8 and M 10, in plastic case. Clockwise-cutting, clockwise spiral, straight shank and fixed pilot.

## Applications

For making countersink cuts in accordance with DIN 74, Sheet 2. Countersink cuts for cheese head screws DIN 84 and hexagon socket screws DIN 912 and DIN 6912.

## Quality

HSS.

12410 201

Type KM-6

## Applications

For core drilling tasks.

12410 202

Type DM-6

## Applications

For through-bore drilling tasks, medium quality grade.

12410 203

Type DF-6

## Applications

For through-hole drilling tasks, fine quality grade.

| Type | HSS<br>12410 | ... |
|------|--------------|-----|
| KM-6 |              | 201 |
| DM-6 |              | 202 |
| DF-6 |              | 203 |



12411

## Counterbore

HSS



12411

**ATORN®**

## Design

Similar to DIN 373, clockwise-cutting, clockwise spiral, straight shank and fixed pilot.

## Applications

For making countersink cuts in accordance with DIN 74, Sheet 2. Countersink cuts for cheese head screws DIN 84 and hexagon socket screws DIN 912 and DIN 6912.

Quality  
HSS.

## Note:

Pilot:  $D$  = through-bore,  $K$  = core hole.

Countersink cut:  $m$  = medium quality grade,  $f$  = fine quality grade.

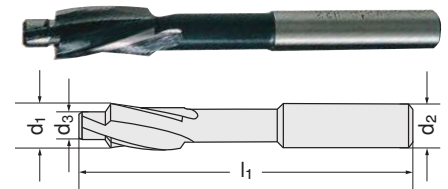
| For Thread | Countersink Quality grade | $d_1$ z9 mm | $d_3$ e8 mm | $l_1$ mm | $d_2$ h9 mm | HSS<br>12411 | ... |
|------------|---------------------------|-------------|-------------|----------|-------------|--------------|-----|
| M 3        | Dm                        | 6.5         | 3.4         | 71       | 5.0         |              | 099 |
| M 3        | Df                        | 6.5         | 3.2         | 71       | 5.0         |              | 100 |
| M 3        | Dm                        | 6.0         | 3.4         | 71       | 5.0         |              | 101 |
| M 3        | Df                        | 6.0         | 3.2         | 71       | 5.0         |              | 102 |
| M 3        | K                         | 6.0         | 2.5         | 71       | 5.0         |              | 103 |
| M 4        | Dm                        | 8.0         | 4.5         | 71       | 5.0         |              | 107 |
| M 4        | Df                        | 8.0         | 4.3         | 71       | 5.0         |              | 108 |
| M 4        | K                         | 8.0         | 3.3         | 71       | 5.0         |              | 109 |
| M 5        | Dm                        | 10.0        | 5.5         | 80       | 8.0         |              | 110 |
| M 5        | Df                        | 10.0        | 5.3         | 80       | 8.0         |              | 111 |
| M 5        | K                         | 10.0        | 4.2         | 80       | 8.0         |              | 112 |
| M 6        | Dm                        | 11.0        | 6.6         | 80       | 8.0         |              | 113 |

| For Thread | Countersink Quality grade | $d_1$ z9 mm | $d_3$ e8 mm | $l_1$ mm | $d_2$ h9 mm | HSS<br>12411 | ... |
|------------|---------------------------|-------------|-------------|----------|-------------|--------------|-----|
| M 6        | Df                        | 11.0        | 6.4         | 80       | 8.0         |              | 114 |
| M 6        | K                         | 11.0        | 5.0         | 80       | 8.0         |              | 115 |
| M 8        | Dm                        | 15.0        | 9.0         | 100      | 12.5        |              | 116 |
| M 8        | Df                        | 15.0        | 8.4         | 100      | 12.5        |              | 117 |
| M 8        | K                         | 15.0        | 6.8         | 100      | 12.5        |              | 118 |
| M 10       | Dm                        | 18.0        | 11.0        | 100      | 12.5        |              | 119 |
| M 10       | Df                        | 18.0        | 10.5        | 100      | 12.5        |              | 120 |
| M 10       | K                         | 18.0        | 8.5         | 100      | 12.5        |              | 121 |
| M 12       | Dm                        | 20.0        | 13.5        | 100      | 12.5        |              | 122 |
| M 12       | Df                        | 20.0        | 13.0        | 100      | 12.5        |              | 123 |
| M 12       | K                         | 20.0        | 10.2        | 100      | 12.5        |              | 124 |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 20-30    | 15-25    | 15-30 | 15-20   | 12-18   | 8-15    | -        | -        | -        | -      | -      | -      | -      | -       | -       | -  | 10-18 | 20-30   |



12421

## Counterbore

HSS


**HHW**

## Design

Similar to DIN 373, clockwise-cutting, clockwise spiral, Morse taper and fixed pilot.

## Applications

For making countersink cuts in accordance with DIN 74, Sheet 2. Countersink cuts for cheese head screws DIN 84 and hexagon socket screws DIN 912 and DIN 6912.

Quality  
HSS.

## Note:

Pilot:

$D$  = Through-bore. Countersink cut:

$m$  = medium quality grade,  $f$  = fine quality grade.

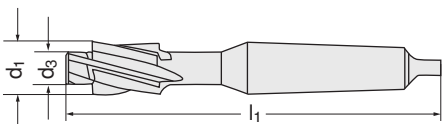
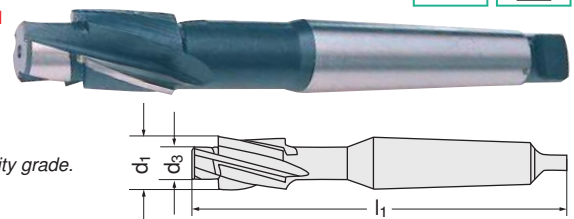
| For thread | Countersink Quality grade | $d_1$ z9 mm | $l_1$ mm | $d_3$ e8 mm | MT | HSS<br>12421 | ... |
|------------|---------------------------|-------------|----------|-------------|----|--------------|-----|
| M 10       | Dm                        | 18.0        | 150      | 11.0        | 2  |              | 101 |
| M 10       | Df                        | 18.0        | 150      | 10.5        | 2  |              | 102 |
| M 12       | Dm                        | 20.0        | 150      | 13.5        | 2  |              | 104 |
| M 12       | Df                        | 20.0        | 150      | 13.0        | 2  |              | 105 |
| M 14       | Dm                        | 24.0        | 160      | 15.5        | 2  |              | 107 |
| M 14       | Df                        | 24.0        | 160      | 15.0        | 2  |              | 108 |

| For thread | Countersink Quality grade | $d_1$ z9 mm | $l_1$ mm | $d_3$ e8 mm | MT | HSS<br>12421 | ... |
|------------|---------------------------|-------------|----------|-------------|----|--------------|-----|
| M 16       | Dm                        | 26.0        | 190      | 17.5        | 3  |              | 110 |
| M 16       | Df                        | 26.0        | 190      | 17.0        | 3  |              | 111 |
| M 18       | Dm                        | 30.0        | 190      | 20.0        | 3  |              | 113 |
| M 18       | Df                        | 30.0        | 190      | 19.0        | 3  |              | 114 |
| M 20       | Df                        | 33.0        | 190      | 21.0        | 3  |              | 117 |

| Al<10%Si | Al>10%Si | Cu    | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|----------|----------|-------|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| 20-30    | 15-25    | 15-30 | 15-20   | 12-18   | 8-15    | -        | -        | -        | -      | -      | -      | -      | -       | -       | -  | 10-18 | 20-30   |




**H. BILZ**
**Design**
**- 3 cutting edges**

- Short taper mounting for mounting in holder with art. no. 12540–12541
- For replaceable pilots no. 12506–12507, type A

**Applications**

For machinery steels, soft grey cast iron, medium-hard non-ferrous metals etc.

**Note:**

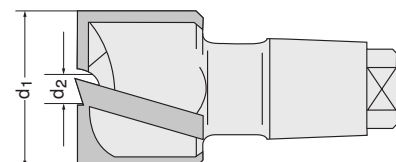
Piloted counterbores can be individually combined thanks to the replaceable pilot. Therefore suitable for countersink cuts in accordance with DIN 74 and in accordance with the old standard DIN 75.

12503  
Quality  
HSS.

12504  
Quality  
Cemented-carbide soldered (K10–K35)

**HSS**

**12503**
**HM  
K10/K35**

**12504**


| d <sub>1</sub><br>mm | Size | d <sub>2</sub><br>mm | For holder<br>size | HSS   |     | Carbide |     |
|----------------------|------|----------------------|--------------------|-------|-----|---------|-----|
|                      |      |                      |                    | 12503 | ... | 12504   | ... |
| 5.0                  | A 00 | 1.7                  | H 0                |       | 203 |         |     |
| 6.0                  | A 01 | 2.0                  | H 0                |       | 207 |         |     |
| 6.5                  | A 01 | 2.0                  | H 0                |       | 210 |         |     |
| 7.0                  | A 02 | 2.5                  | H 0                |       | 212 |         |     |
| 7.4                  | A 02 | 2.5                  | H 0                |       | 213 |         |     |
| 7.5                  | A 02 | 2.5                  | H 0                |       | 214 |         |     |
| 8.0                  | A 02 | 2.5                  | H 0                |       | 215 |         |     |
| 8.5                  | A 02 | 2.5                  | H 0                |       | 218 |         |     |
| 9.0                  | A 1  | 3.0                  | H, HB 1            |       | 219 |         | 219 |
| 9.5                  | A 1  | 3.0                  | H, HB 1            |       | 221 |         |     |
| 10.0                 | A 1  | 3.0                  | H, HB 1            |       | 222 |         | 222 |
| 10.4                 | A 1  | 3.0                  | H, HB 1            |       | 223 |         |     |
| 10.5                 | A 1  | 3.0                  | H, HB 1            |       | 224 |         | 224 |
| 11.0                 | A 1  | 3.0                  | H, HB 1            |       | 225 |         | 225 |
| 11.5                 | A 1  | 3.0                  | H, HB 1            |       | 226 |         | 226 |
| 12.0                 | A 1  | 3.0                  | H, HB 1            |       | 227 |         | 227 |
| 12.5                 | A 1  | 3.0                  | H, HB 1            |       | 228 |         | 228 |
| 13.0                 | A 1  | 3.0                  | H, HB 1            |       | 290 |         | 229 |
| 15.0                 | A 1  | 3.0                  | H, HB 1            |       | 291 |         | 291 |
| 16.0                 | A 2  | 4.0                  | H, HB 2            |       | 235 |         | 235 |
| 16.5                 | A 2  | 4.0                  | H, HB 2            |       | 236 |         |     |
| 17.0                 | A 2  | 4.0                  | H, HB 2            |       | 237 |         | 237 |
| 17.5                 | A 2  | 4.0                  | H, HB 2            |       | 238 |         | 238 |
| 18.0                 | A 3  | 5.0                  | H, HB 3            |       | 239 |         | 239 |
| 18.5                 | A 3  | 5.0                  | H, HB 3            |       | 240 |         |     |

| d <sub>1</sub><br>mm | Size | d <sub>2</sub><br>mm | For holder<br>size | HSS   |     | Carbide |     |
|----------------------|------|----------------------|--------------------|-------|-----|---------|-----|
|                      |      |                      |                    | 12503 | ... | 12504   | ... |
| 19.0                 | A 3  | 5.0                  | H, HB 3            |       | 241 |         | 241 |
| 20.0                 | A 3  | 5.0                  | H, HB 3            |       | 243 |         | 243 |
| 20.5                 | A 3  | 5.0                  | H, HB 3            |       |     |         | 244 |
| 21.0                 | A 3  | 5.0                  | H, HB 3            |       | 245 |         | 245 |
| 22.0                 | A 3  | 5.0                  | H, HB 3            |       | 247 |         | 247 |
| 22.5                 | A 3  | 5.0                  | H, HB 3            |       | 248 |         |     |
| 23.0                 | A 4  | 6.0                  | H, HB 4            |       | 249 |         | 249 |
| 24.0                 | A 4  | 6.0                  | H, HB 4            |       | 251 |         | 251 |
| 25.0                 | A 4  | 6.0                  | H, HB 4            |       | 252 |         | 252 |
| 26.0                 | A 4  | 6.0                  | H, HB 4            |       | 254 |         | 254 |
| 27.0                 | A 4  | 6.0                  | H, HB 4            |       | 255 |         |     |
| 28.0                 | A 4  | 6.0                  | H, HB 4            |       | 256 |         | 256 |
| 29.0                 | A 4  | 6.0                  | H, HB 4            |       | 257 |         |     |
| 30.0                 | A 4  | 6.0                  | H, HB 4            |       | 259 |         | 259 |
| 32.0                 | A 4  | 6.0                  | H, HB 4            |       | 261 |         | 261 |
| 33.0                 | A 4  | 6.0                  | H, HB 4            |       | 262 |         | 262 |
| 34.0                 | A 5  | 8.0                  | H, HB 5            |       | 263 |         | 263 |
| 35.0                 | A 5  | 8.0                  | H, HB 5            |       | 264 |         | 264 |
| 36.0                 | A 5  | 8.0                  | H, HB 5            |       | 265 |         | 265 |
| 38.0                 | A 5  | 8.0                  | H, HB 5            |       | 267 |         |     |
| 40.0                 | A 5  | 8.0                  | H, HB 5            |       | 269 |         | 269 |
| 41.0                 | A 5  | 8.0                  | H, HB 5            |       |     |         | 270 |
| 42.0                 | A 5  | 8.0                  | H, HB 5            |       | 271 |         | 271 |
| 45.0                 | A 5  | 8.0                  | H, HB 5            |       | 274 |         | 274 |

| Al<10%Si     | Al>10%Si | Cu | St<520N | St<750N | St<900N | St<1100N | St<1200N | St<1400N | <45HRC | <55HRC | <60HRC | <67HRC | VA<900N | VA>900N | Ti | GG(G) | Plastic |
|--------------|----------|----|---------|---------|---------|----------|----------|----------|--------|--------|--------|--------|---------|---------|----|-------|---------|
| <b>12503</b> |          |    |         |         |         |          |          |          |        |        |        |        |         |         |    |       |         |
| 70–100       | 50–70    | -  | 23–27   | 20–23   | 17–20   | 12–17    | 12–15    | 8–12     | -      | -      | -      | -      | 12–14   | 10–12   | -  | -     | -       |
| <b>12504</b> |          |    |         |         |         |          |          |          |        |        |        |        |         |         |    |       |         |
| 100–150      | 60–110   | -  | 60–90   | 50–60   | 30–50   | 22–30    | 20–25    | 15–22    | -      | -      | -      | -      | 30–50   | 20–40   | -  | 10–18 | -       |



17526

**ATORN®**
**Design**

- Adjustable from 10–80°
- Straight shank with driving surface according to DIN 1835 B
- Includes one replaceable cassette for indexable inserts TCMT16T3... and SCMT1204...

**Scope of delivery:**

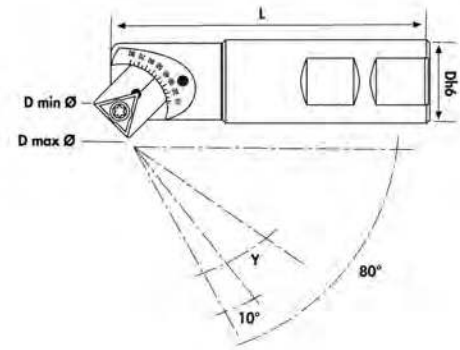
Counter sink milling cutter with clamping screw and wrench, **without** indexable inserts.

**Applications**

For chamfering, deburring and countersinking.  
Stable, smooth running.

**Note:**

For indexable inserts SCMT  
see art. no. 18578–18582.  
For replacement cassette for TCMT,  
see art. no. 17526 201.  
For replacement cassette for SCMT,  
see art. no. 17526 202.



| Y   | TCMT<br>D min. Ø<br>mm | TCMT<br>D max. Ø<br>mm | SCMT<br>D min. Ø<br>mm | SCMT<br>D max. Ø<br>mm |
|-----|------------------------|------------------------|------------------------|------------------------|
| 10° | 5                      | 32                     | 7.5                    | 30.0                   |
| 20° | 6                      | 33                     | 10.0                   | 32.0                   |
| 30° | 7                      | 34                     | 13.0                   | 32.5                   |
| 40° | 10                     | 33                     | 16.5                   | 33.5                   |
| 45° | 11                     | 33                     | 17.5                   | 33.5                   |
| 50° | 13                     | 32                     | 19.0                   | 33.5                   |
| 60° | 16                     | 31                     | 22.0                   | 33.5                   |
| 70° | 19                     | 29                     | 24.5                   | 33.5                   |
| 80° | 23                     | 27                     | 27.0                   | 31.0                   |

| D h6<br>mm | L<br>mm | 17526 | ... |
|------------|---------|-------|-----|
| 20         | 100     |       | 100 |
| 25         | 100     |       | 101 |
| 25         | 150     |       | 102 |
| 25         | 200     |       | 103 |



17530

**HHW**
**Design**

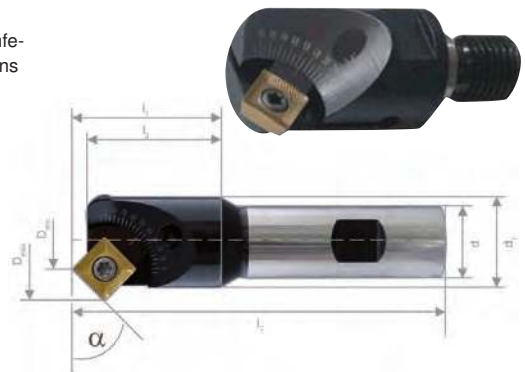
- Continuously adjustable angle range from 0° to 90°
- Stable structure enables minimal machining times due to high cutting values
- For standard indexable inserts SD...
- All four cutting edges can be used
- Clearance of two indexable insert edges enables forward and reverse chamfering
- Deep engraved scale for extra-long service life
- Straight shank with driving surface according to DIN 1835 B
- No need for special tools, complex 5-axis programming or additional clamping of the sine bar or angle table

**Applications**

For chamfering, deburring and countersinking to the full cutting edge length. For face milling, profile groove milling, pocket milling and circular chamfering of larger countersinks at all angular positions from 0° to 90°, and for oblique plunge milling.

**Quality**

Made of high-quality, heat-treated steel.



| Ø D <sub>2</sub><br>mm | d <sub>1</sub><br>mm | l <sub>2</sub><br>mm | l <sub>3</sub><br>mm | D max.<br>mm | D min.<br>mm | L min.–max.<br>mm | AF<br>mm | Indexable inserts | 17530 | ... |
|------------------------|----------------------|----------------------|----------------------|--------------|--------------|-------------------|----------|-------------------|-------|-----|
| 16                     | 18.65                | 32                   | 89.0                 | 20.54–23.99  | 2.94–20.79   | 33.0–35.0         | -        | SD... 09T3        |       | 201 |
| 20                     | 25.00                | 37                   | 101.5                | 27.00–31.60  | 3.20–27.00   | 35.9–40.5         | -        | SD... 1205        |       | 301 |
| M 16                   | 28.50                | 46                   | 73.5                 | 27.00–31.60  | 3.20–27.00   | 44.9–49.5         | 24       | SD... 1205        |       | 302 |

**Applications**  
Cemented carbide type  
Coating

**P**

CTCP230  
coated

17530

**M**

CTPM240  
coated

17530

**NK**

H216T  
coated

17530

| ISO designation   | r<br>mm | 500 | 501 | 502 | 510 | 511 | 512 |
|-------------------|---------|-----|-----|-----|-----|-----|-----|
| SDHT 09T308SR-29  | 10.75   |     |     |     |     |     |     |
| SDHT 09T308SR-33  | 10.75   |     |     |     |     |     |     |
| SDHT 09T308FR-27P | 10.75   |     |     |     |     |     |     |
| SDMT 1205ZZSN-29  | 14.60   |     |     |     |     |     |     |
| SDMT 1205ZZSN-29  | 14.60   |     |     |     |     |     |     |
| SDHT 120508FR-27P | 14.60   |     |     |     |     |     |     |

**Spare parts**
**Clamping screw**
**Adjustable angle**

| Indexable insert | 17530 | ... | 17530 | ... |
|------------------|-------|-----|-------|-----|
| SD... 09T3       |       | 210 |       | 211 |
| SD... 1205       |       | 310 |       | 311 |

17527

Chamfer cutters, 30°/45°/60°


**ATORN®**

#### Design

Countersink angles 30°, 45°, 60°, straight shank in accordance with DIN 1835 B, right-hand cutting.

Without indexable inserts.

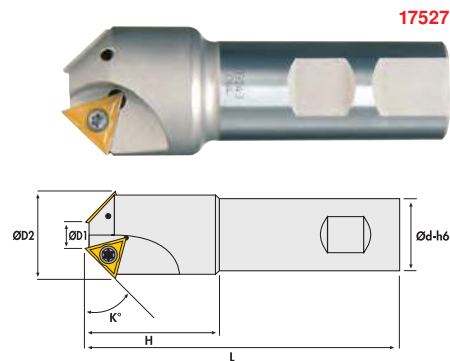
#### Applications

For countersinking screw heads and deburring bores and slots.

#### Note:

For indexable inserts see art. no. 17856.

| K° | Ø D2<br>mm | Ø D1<br>mm | Ø d h6<br>mm | H<br>mm | Z | L<br>mm | Indexable<br>inserts | 17527 | ... |
|----|------------|------------|--------------|---------|---|---------|----------------------|-------|-----|
| 30 | 32.0       | 6.0        | 25           | 38      | 2 | 95      | TCMT 16T3            |       | 100 |
| 45 | 16.0       | 1.2        | 12           | 20      | 1 | 70      | TCMT 1102            |       | 101 |
| 45 | 21.0       | 6.2        | 20           | 35      | 2 | 90      | TCMT 1102            |       | 102 |
| 45 | 32.5       | 10.4       | 25           | 42      | 2 | 95      | TCMT 16T3            |       | 103 |
| 60 | 16.0       | 5.4        | 12           | 20      | 1 | 70      | TCMT 1102            |       | 104 |
| 60 | 26.0       | 15.8       | 20           | 35      | 2 | 90      | TCMT 1102            |       | 105 |
| 60 | 35.0       | 20.0       | 25           | 39      | 2 | 95      | TCMT 16T3            |       | 106 |



#### Spare parts

| For indexable inserts<br>size | Clamping screw | L<br>mm | TX size<br>IP | Clamping screws | Wrench |
|-------------------------------|----------------|---------|---------------|-----------------|--------|
| TCMT 1102                     | M 2.5 x 0.45   | 6.3     | 8             | 17528           | 51932  |
| TCMT 16T3                     | M 4.0 x 0.7    | 8.0     | 15            | 101             | 404    |
|                               |                |         |               | 102             | 407    |

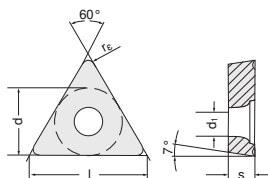
17856

Indexable milling inserts, TCMT

**HHW**

#### Design

- Triangular
- Positive 7°
- With sintered chip breaker



17856

#### Applications

Cemented carbide grade  
Coating

| ISO<br>designation | l<br>mm | d<br>mm | d <sub>1</sub><br>mm | s<br>mm | r    |         | 17856 | ... |
|--------------------|---------|---------|----------------------|---------|------|---------|-------|-----|
| TCMT 110202        | 11.0    | 6.35    | 2.80                 | 2.38    | 0.20 | 10 pcs. |       | 101 |
| TCMT 16T304        | 16.5    | 9.52    | 4.40                 | 3.97    | 0.40 | 10 pcs. |       | 102 |

**P M**  
H 42  
TiN

17529

Chamfer cutters, 45°


**ATORN®**

#### Design

Chamfer cutters, 45° with Weldon shank.

#### Applications

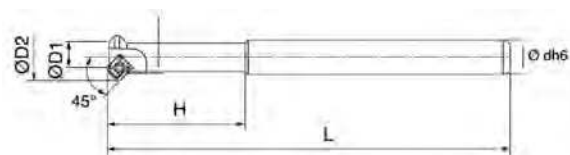
For chamfer cutting from Ø 4 mm.

#### Note:

For indexable inserts see  
art. no. 18578 ff.



17529 (Z2 + 3)



| 45°        |            |         |         |             |         |                   |       |     |     |
|------------|------------|---------|---------|-------------|---------|-------------------|-------|-----|-----|
| Ø D2<br>mm | Ø D1<br>mm | L<br>mm | H<br>mm | Ød h6<br>mm | Z<br>mm | Indexable inserts | 17529 | ... |     |
| 10.0       | 4          | 80      | 28      | 12          | 1       | SCMT 0602         |       |     | 101 |
| 20.0       | 11         | 80      | 33      | 12          | 2       | SCMT 0602         |       |     | 102 |
| 23.7       | 12         | 100     | 37      | 20          | 1       | SCMT 09T3         |       |     | 103 |
| 28.8       | 16         | 100     | 31      | 16          | 2       | SCMT 09T3         |       |     | 104 |
| 42.3       | 30         | 100     | 32      | 20          | 3       | SCMT 09T3         |       |     | 105 |
| 23.7       | 12 L       | 200     | 37      | 20          | 1       | SCMT 09T3         |       |     | 106 |
| 28.8       | 16 L       | 200     | 32      | 16          | 2       | SCMT 09T3         |       |     | 107 |
| 42.3       | 30 L       | 200     | 32      | 20          | 3       | SCMT 09T3         |       |     | 108 |

#### Spare parts

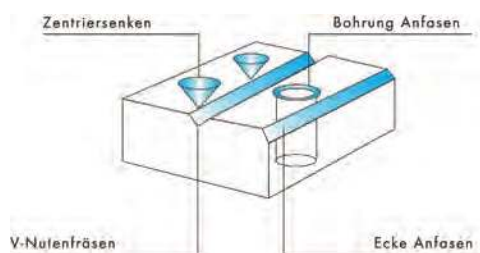
| For indexable inserts<br>size | Clamping screw | L<br>mm | TX size<br>IP | Clamping screws | Wrench |
|-------------------------------|----------------|---------|---------------|-----------------|--------|
| SCMT 0602                     | M 2.5 x 0.45   | 6.3     | 8             | 17528           | 51932  |
| SCMT 09T3                     | M 4.0 x 0.7    | 8.0     | 15            | 101             | 404    |
|                               |                |         |               | 102             | 407    |


**ATORN®**
**Design**

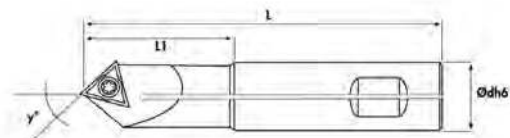
- Indexable insert holder
- Tip angle 45°
- With coolant bore
- Without indexable inserts

**Applications**

For NC spot drilling, chamfering and V-groove milling.



17536



| d1 h6<br>mm | L<br>mm | L1<br>mm | γ° | Z | D min.<br>mm | D max.<br>mm | 17536 | ... |
|-------------|---------|----------|----|---|--------------|--------------|-------|-----|
| 20          | 115     | 40       | 45 | 1 | 0.2          | 20           | 101   |     |
| 20          | 150     | 60       | 45 | 1 | 0.2          | 20           | 102   |     |
| 20          | 200     | 80       | 45 | 1 | 0.2          | 20           | 103   |     |

**Indexable inserts and spare parts**
**Applications**

Cemented carbide grade

**Coating**
**ISO**

designation



TCMX 16T3 ZR

10 pcs.



17857

**P M K**

H 42

TiN

17857

...

| Size    | TX size<br>T | Clamping screw<br>17761 | Wrench<br>52529 |
|---------|--------------|-------------------------|-----------------|
| M 4 x 8 | 15           | 101                     | 406             |

**17536**
**Chamfer and centring cutters, 30°/45°**
**ATORN®**
**Applications**

For NC spot drilling, chamfering and engraving.

**NEW**

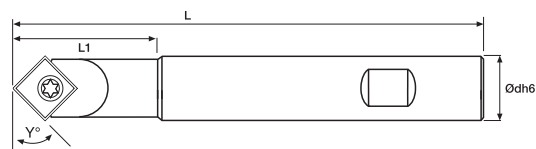
17536 201-202

**Design**

- With straight shank and clamping surface in accordance with DIN 1835 B
- Tip angles 30° and 45°
- Shaft tolerance h6
- **Without** indexable insert (art. no. 17536 201 + 202)

**Latest technology:**

- Indexable insert sits in the tool holder rotated by 180°



| d1 h6<br>mm | Ø Ds<br>mm | L<br>mm | L1<br>mm | γ°  | Z | D min.<br>mm | D max.<br>mm | 17536 | ... |
|-------------|------------|---------|----------|-----|---|--------------|--------------|-------|-----|
| 16          | 0.8        | 120     | 40       | 30° | 1 | 0.8          | 17           | 201   |     |
| 16          | 0.8        | 120     | 40       | 45° | 1 | 0.8          | 21           | 202   |     |

**17536 203-204**
**Design**

Set comprises a chamfer cutter and engraver's milling cutter 30° or 45° including five indexable inserts SEEX 12T408, 1 clamping screw, 1 wrench. In a practical tool box.

| Set | 17536 | ... |
|-----|-------|-----|
| 30° | 203   |     |
| 45° | 204   |     |



17536 203-204

17536 205


**P M K**

TiN/PVD

17536

...

**Applications**
**Coating**
**ISO**

designation

l

s

r



SEEX 12T408

12.25

5.25

0.8

10 pcs.

**Spare parts**

| Size       | TX size<br>T | Clamping screw<br>17536 | Wrench<br>52529 |
|------------|--------------|-------------------------|-----------------|
| M 4 x 11.0 | 15           | 206                     | 406             |