# BLUE HITS

VALID UNTIL
31/10/2025

**THREAD EXPERTISE:**
FROM MANUFACTURE
TO MEASUREMENT

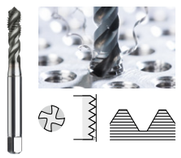
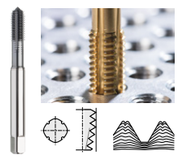
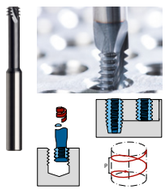
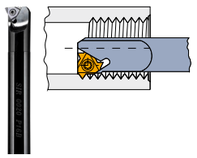
Discover EXCITING PRODUCTS
at unbeatably LOW PRICES.

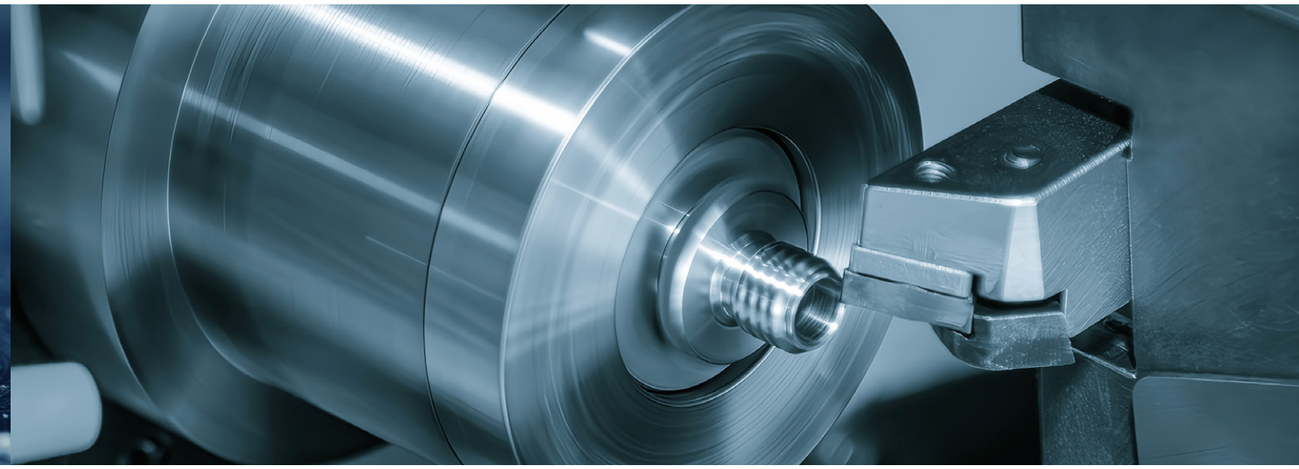
HAHN+KOLB GROUP
LET'S WORK TOGETHER.

## YOUR EXPERT PARTNER IN THREAD PRODUCTION - INTERNAL THREADS

HAHN+KOLB covers all manufacturing processes for internal thread cutting. More than 13,000 products are involved in the manufacture and testing of threads. With our innovative tools we can manufacture, measure and test threads in all material groups and in accordance with different standards. High-performance thread cutting with universal screw tapping, drill thread cutting in hardened steel 67 HRC, thread forming with allowance and thread cutting of round profiles in titanium are typical requirements of our customers.

The following diagram shows the different procedures and assesses them with regard to the most important criteria.

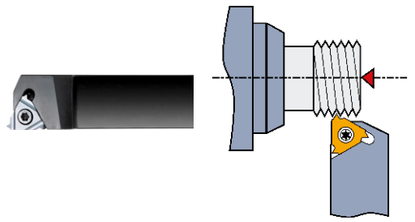
| | Thread cutting | Thread forming | Milling cutter | Thread-cutting |
|---|---|---|---|---|
| |  |  |  |  |
| Advantages | | | | |
| Speed | ++ | +++ | + | + |
| Service life | + | ++ | ++ | ++ |
| Surface quality | + | +++ | ++ | ++ |
| Variability | + | ++ | +++ | +++ |
| Process stability | + | + | +++ | +++ |
| Materials | ● ● ● ● ● ● | ● ● ● | ● ● ● ● ● ● | ● ● ● ● ● ● |



## YOUR EXPERT PARTNER IN THREAD PRODUCTION - EXTERNAL THREADS

HAHN+KOLB covers all manufacturing processes for external thread production. More than 4,000 products are involved in the manufacture and testing of threads. With our innovative tools, we can manufacture, measure and test external threads in all material groups and in accordance with all standards.

The following diagram shows the different procedures and assesses them with regard to the most important criteria.

| | Thread-cutting | Threading die |
|---|---|---|
| |  |   |
| Speed | ++ | +++ |
| Service life | +++ | + |
| Surface quality | +++ | + |
| Variability | +++ | + |
| Process stability | +++ | ++ |
| Materials | ● ● ● ● ● ● | ● ● ● ● ● |

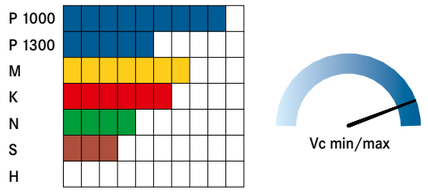
# YOUR VALUABLE PARTNER IN THREAD PRODUCTION FOR ALL APPLICATIONS


## THE NEW UNIVERSAL HIGH-PERFORMANCE SCREW TAP

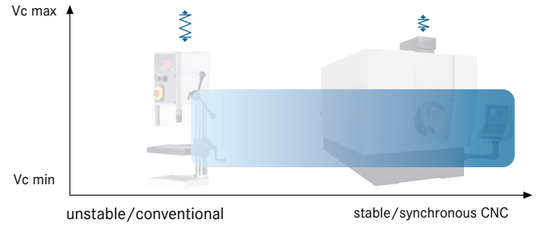
UNI MAX 45TICN screw tap range for universal use up to 1,200 N/mm²
High performance screw taps in HSSE-PM design developed for a wide range of materials on all machine and thread cutting types, with excellent value for money due to the TiCN coating.

### UNI MAX 45TICN CONTROL SCREW TAP
for universal use up to 1200 N/mm²


**Performance:**




**Conditions of use:**



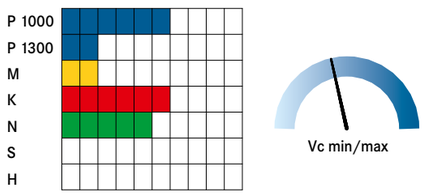

UNI MAX 45TICN Control — Vc min/max

## THE BESTSELLER

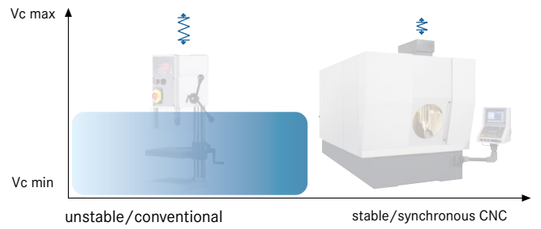
Our bestseller in the HSSE version developed for a wide range of materials on all machine and thread cutting types, with excellent value for money.

### UNI 40 CONTROL SCREW TAP, BLACK RING
for universal use up to 1,000 N/mm²


**Performance:**




**Conditions of use:**




UNI 40 Control — Vc min/max

## ATORN UNI TYPE MAX45° HSSE-PM TICN SCREW TAP

Universal use up to 1,200N/mm²

M | ≤3xd | ≤2,5xd | HSSE-PM | TiCN | E (1,5-2) | B (3,5-5) | C (2-3) | CNC/conv.

UNI MAX 45TICN Control — Vc min/max

### THE INNOVATIVE PRODUCT FOR YOUR RANGE

**Application:** For producing metric threads on CNC or conventional machines in steel, stainless steel, non-ferrous metals, cast iron and special alloys up to 1,200 N/mm².

**Advantage:**
- Innovative universal geometry for a wide range of materials ensures maximum flexibility during production
- Extremely high level of process reliability and long service life due to the high-performance cutting material HSSE-PM and coating


No. 13000


No. 13001


No. 13003

| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| | 20 | 14 | 10 | 8 | 9 | 22 | 22 | 17 | 19 | 17 | 18 | 13 | | 18 | 7 | 6 | 6 | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cutting material | HSSE PM | | HSSE PM | | HSSE PM | |
| | | | | | | | Surface | TiCN | | TiCN | | TiCN | |
| | | | | | | | Tol. | 6HX | | 6HX | | 6HX | |
| | | | | | | | Notch shape | B | | C | | E | |
| | | | | | | | Helix angle | 0° | | 45° | | 0° | |
| | | | | | | | Coolant supply | External | | External | | External | |
| | | | | | | | DIN | CI 13000... Ref. no. | | CI 13001... Ref. no. | | CI 13003... Ref. no. | |
| mm | mm | mm | mm | mm | mm | | | | | | | | |
| M1 | 0.25 | 0.75 | 40 | 2.5 | 2.1 | 371 | 010 | 24.10 | 010 | 26.80 | - | - | |
| M1.1 | 0.25 | 0.85 | 40 | 2.5 | 2.1 | 371 | 011 | 24.10 | 011 | 26.80 | - | - | |
| M1.2 | 0.25 | 0.95 | 40 | 2.5 | 2.1 | 371 | 012 | 24.10 | 012 | 26.80 | - | - | |
| M1.4 | 0.3 | 1.1 | 40 | 2.5 | 2.1 | 371 | 014 | 22.20 | 014 | 23.40 | - | - | |
| M1.6 | 0.35 | 1.25 | 40 | 2.5 | 2.1 | 371 | 016 | 22.20 | 016 | 23.40 | - | - | |
| M1.7 | 0.35 | 1.35 | 40 | 2.5 | 2.1 | 371 | 017 | 20.90 | 017 | 22.20 | - | - | |
| M1.8 | 0.35 | 1.45 | 40 | 2.5 | 2.1 | 371 | 018 | 20.90 | 018 | 22.20 | - | - | |
| M2 | 0.4 | 1.6 | 45 | 2.8 | 2.1 | 371 | 020 | 20.00 | 020 | 20.50 | 102 | 20.60 | |
| M2.2 | 0.45 | 1.75 | 45 | 2.8 | 2.1 | 371 | 022 | 18.30 | 022 | 20.50 | - | - | |
| M2.3 | 0.4 | 1.9 | 45 | 2.8 | 2.1 | 371 | 023 | 18.30 | 023 | 20.50 | - | - | |
| M2.5 | 0.45 | 2.05 | 50 | 2.8 | 2.1 | 371 | 025 | 17.90 | 025 | 20.30 | - | - | |
| M2.6 | 0.45 | 2.15 | 50 | 2.8 | 2.1 | 371 | 026 | 17.90 | 026 | 19.10 | - | - | |
| M3 | 0.5 | 2.5 | 56 | 3.5 | 2.7 | 371 | 030 | 15.50 | 030 | 17.20 | 103 | 17.80 | |
| M3.5 | 0.6 | 2.9 | 56 | 4 | 3 | 371 | 035 | 24.50 | 035 | 24.20 | - | - | |
| M4 | 0.7 | 3.3 | 63 | 4.5 | 3.4 | 371 | 040 | 16.20 | 040 | 17.80 | 104 | 18.50 | |
| M4.5 | 0.75 | 3.75 | 70 | 6 | 4.9 | 371 | 045 | 20.80 | 045 | 22.90 | - | - | |
| M5 | 0.8 | 4.2 | 70 | 6 | 4.9 | 371 | 050 | 16.80 | 050 | 18.00 | 105 | 18.90 | |
| M6 | 1 | 5 | 80 | 6 | 4.9 | 371 | 060 | 18.60 | 060 | 19.10 | 106 | 19.10 | |
| M7 | 1 | 6 | 80 | 7 | 5.5 | 371 | 070 | 23.40 | 070 | 24.00 | - | - | |
| M8 | 1.25 | 6.8 | 90 | 8 | 6.2 | 371 | 080 | 21.50 | 080 | 22.70 | 108 | 22.70 | |
| M10 | 1.5 | 8.5 | 100 | 10 | 8 | 371 | 082 | 27.00 | 082 | 27.60 | 110 | 27.60 | |
| M12 | 1.75 | 10.2 | 110 | 9 | 7 | 376 | 100 | 34.20 | 100 | 34.80 | 112 | 34.80 | |
| M14 | 2 | 12 | 110 | 11 | 9 | 376 | 120 | 41.00 | 120 | 41.60 | 114 | 41.60 | |
| M16 | 2 | 14 | 110 | 12 | 9 | 376 | 160 | 46.60 | 160 | 48.40 | 116 | 48.40 | |
| M18 | 2.5 | 15.5 | 125 | 14 | 11 | 376 | 180 | 61.00 | 180 | 66.00 | - | - | |
| M20 | 2.5 | 17.5 | 140 | 16 | 12 | 376 | 200 | 76.00 | 200 | 79.00 | 120 | 79.00 | |
| M22 | 2.5 | 19.5 | 140 | 18 | 14.5 | 376 | 220 | 84.00 | 220 | 84.00 | - | - | |
| M24 | 3 | 21 | 160 | 18 | 14.5 | 376 | 240 | 102.00 | 240 | 106.00 | 124 | 106.00 | |
| M27 | 3 | 24 | 160 | 20 | 16 | 376 | 270 | 128.00 | 270 | 132.00 | - | - | |
| M30 | 3.5 | 26.5 | 180 | 22 | 18 | 376 | 300 | 152.00 | 300 | 158.00 | - | - | |
| | | | | | | | | Unit price, € | | | | | |

THE ENTIRE RANGE CAN BE FOUND ONLINE AT WWW.HAHN-KOLB.COM

## ATORN UNI TYPE 40° CONTROL HSSE SCREW TAP, BLACK RING

Universal use up to 1,000 N/mm²

M | ≤3xd | ≤2,5xd | HSSE | ISO 2 | B (3,5-5) | C (2-3) | CNC/conv.

UNI 40 Control — Vc min/max

### THE BESTSELLER

**Application:** For producing metric threads on CNC machines or conventional machines in steel, stainless steel, non-ferrous metals and cast iron up to a strength of 1,000 N/mm².

**Advantage:**
- universal use for maximum flexibility
- innovative cutting edge geometry ensures high process reliability even under difficult machining conditions


No. 13121


No. 13125

| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| | 18 | 12 | 8 | 8 | 8 | | 18 | | 19 | | 18 | 15 | | 15 | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Cutting material | HSSE | | HSSE | | | |
| | | | | | | | Surface | Vaporised | | Vaporised | | | |
| | | | | | | | Tol. | ISO 2 (6H) | | ISO 2 (6H) | | | |
| | | | | | | | Notch shape | B | | C | | | |
| | | | | | | | Helix angle | 0° | | 40° (right) | | | |
| | | | | | | | Coolant supply | External | | External | | | |
| | | | | | | | DIN | CI 13121... Ref. no. | | CI 13125... Ref. no. | | | |
| mm | mm | mm | mm | mm | mm | | | | | | | | |
| M3 | 0.5 | 2.5 | 56 | 3.5 | 2.7 | 371 | 030 | 8.25 | 030 | 8.75 | | | |
| M4 | 0.7 | 3.3 | 63 | 4.5 | 3.4 | 371 | 040 | 8.25 | 040 | 8.75 | | | |
| M5 | 0.8 | 4.2 | 70 | 6 | 4.9 | 371 | 050 | 8.95 | 050 | 8.95 | | | |
| M6 | 1 | 5.0 | 80 | 6 | 4.9 | 371 | 060 | 8.95 | 060 | 8.95 | | | |
| M8 | 1.25 | 6.8 | 90 | 8 | 6.2 | 371 | 080 | 10.70 | 080 | 11.20 | | | |
| M10 | 1.5 | 8.5 | 100 | 10 | 8 | 371 | 100 | 12.60 | 100 | 13.00 | | | |
| M12 | 1.75 | 10.2 | 110 | 9 | 7 | 376 | 120 | 18.40 | 120 | 18.80 | | | |
| M14 | 2 | 12.0 | 110 | 11 | 9 | 376 | 140 | 26.80 | 140 | 26.80 | | | |
| M16 | 2 | 14.0 | 110 | 12 | 9 | 376 | 160 | 28.00 | 160 | 28.00 | | | |
| M18 | 2.5 | 15.5 | 125 | 14 | 11 | 376 | 180 | 45.40 | 180 | 44.80 | | | |
| M20 | 2.5 | 17.5 | 140 | 16 | 12 | 376 | 200 | 46.00 | 200 | 48.40 | | | |
| M22 | 2.5 | 19.5 | 140 | 18 | 14.5 | 376 | 220 | 72.00 | 220 | 66.00 | | | |
| M24 | 3 | 21.0 | 160 | 18 | 14.5 | 376 | 240 | 74.00 | 240 | 77.00 | | | |
| M27 | 3 | 24.0 | 160 | 20 | 16 | 376 | 270 | 122.00 | 270 | 124.00 | | | |
| M30 | 3.5 | 26.5 | 180 | 22 | 18 | 376 | 300 | 142.00 | 300 | 146.00 | | | |
| M33 | 3.5 | 29.5 | 180 | 25 | 20 | 376 | 330 | 178.00 | 330 | 178.00 | | | |
| M36 | 4 | 32.0 | 200 | 28 | 22 | 376 | 360 | 214.00 | 360 | 216.00 | | | |
| M39 | 4 | 35.0 | 200 | 32 | 24 | 376 | 390 | 336.00 | 390 | 342.00 | | | |
| | | | | | | | | | Unit price, € | | | | |

THE ENTIRE RANGE CAN BE FOUND ONLINE AT WWW.HAHN-KOLB.COM

## ATORN UNI AND VA TYPE THREAD FORMER

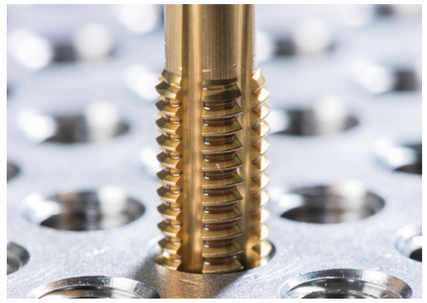
### Universal use up to 1,200N/mm²

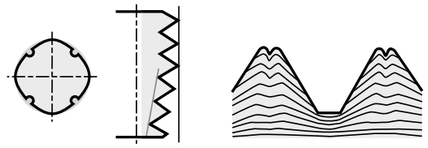
For producing metric threads on CNC or conventional machines in through holes and blind holes.

M | ≤3xd | HSSE | TiCN | CNC/conv. | TiN | C (2-3)

No. 13392

No. 13395





| Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| 28 | **12** | **10** | | | 30 | **40** | 30 | **40** | 25 | **35** | **30** | | | | | | | |
| 25 | | | **18** | 20 | 40 | **60** | 25 | **40** | 20 | **30** | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Cutting material | HSSE | | HSSE | |
| | | | | | | Surface | TiCN | | TiN | |
| | | | | | | Tolerance of screw tap | ISO 2X (6HX) | | ISO 2X (6HX) | |
| | | | | | | Notch shape | C | | C | |
| | | | | | | Application type/machine type | CNC \| conventional | | CNC \| conventional | |
| | | | | | | Coolant supply | External | | External | |
| mm | mm | mm | mm | mm | mm | DIN | CI 13392... Ref. no. | | CI 13395... Ref. no. | |
| M1 | 0.25 | 0.9 | 40 | 2.5 | 2.1 | 371 | **210** | **64.00** | - | - |
| M1.2 | 0.25 | 1.1 | 40 | 2.5 | 2.1 | 371 | **212** | **64.00** | - | - |
| M1.4 | 0.3 | 1.27 | 40 | 2.5 | 2.1 | 371 | **214** | **59.00** | - | - |
| M1.6 | 0.35 | 1.45 | 40 | 2.5 | 2.1 | 371 | **216** | **57.00** | - | - |
| M2 | 0.4 | 1.85 | 45 | 2.8 | 2.1 | 371 | **220** | **39.80** | **120** | **41.00** |
| M2.5 | 0.45 | 2.33 | 50 | 2.8 | 2.1 | 371 | **225** | **46.20** | **125** | **47.40** |
| M3 | 0.5 | 2.8 | 56 | 3.5 | 2.7 | 371 | **230** | **30.20** | **130** | **30.60** |
| M4 | 0.7 | 3.7 | 63 | 4.5 | 3.4 | 371 | **240** | **39.20** | **140** | **40.40** |
| M5 | 0.8 | 4.65 | 70 | 6 | 4.9 | 371 | **250** | **46.20** | **150** | **47.40** |
| M6 | 1 | 5.55 | 80 | 6 | 4.9 | 371 | **260** | **46.20** | **160** | **47.40** |
| M8 | 1.25 | 7.4 | 90 | 8 | 6.2 | 371 | **280** | **56.00** | **180** | **56.00** |
| M10 | 1.5 | 9.3 | 100 | 10 | 8 | 371 | **300** | **64.00** | **200** | **68.00** |
| M12 | 1.75 | 11.2 | 110 | 9 | 7 | 376 | **320** | **91.00** | **220** | **93.00** |
| M14 | 2 | 13 | 110 | 11 | 9 | 376 | **340** | **114.00** | **240** | **116.00** |
| M16 | 2 | 15 | 110 | 12 | 9 | 376 | **360** | **138.00** | **260** | **144.00** |
| M18 | 2.5 | 16.8 | 125 | 14 | 11 | 376 | **380** | **156.00** | - | - |
| M20 | 2.5 | 18.8 | 140 | 16 | 12 | 376 | **400** | **178.00** | - | - |
| M22 | 2.5 | 20.8 | 140 | 18 | 14.5 | 376 | **420** | **240.00** | - | - |
| M24 | 3 | 22.5 | 160 | 18 | 14.5 | 376 | **440** | **252.00** | - | - |
| M27 | 3 | 25.5 | 160 | 20 | 16 | 376 | **470** | **288.00** | - | - |
| M30 | 3.5 | 28.2 | 180 | 22 | 18 | 376 | **500** | **308.00** | - | - |
| | | | | | | | | Unit price, € | | |

## ATORN SC COMBINATION DRILL-AND-TAP MILLING CUTTER FOR INTERNAL THREAD

### For universal use up to 68 HRC

**Application:** Drilling and thread milling in a single step in soft and hard machining.

**Advantages:**
Very high machining speed and service life, particularly for hard machining of steels
High profitability and process stability

**Note:**
-55 HRC with emulsion for sufficient cooling and chip removal!
>55 HRC with air for sufficient cooling and chip removal!

**Process steps:**
① Tool moves to starting position, centred above thread position
② Begin with circular milling motion
③ Circular drill thread milling cutting to thread depth
④ End thread milling process with an ascending loop
⑤ Movement to starting position and end of machining procedure


## ATORN COMBINATION DRILL-AND-TAP MILLING CUTTER

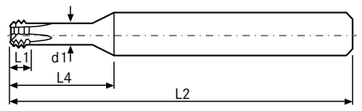
### for use in hardened steel up to 67 HRC, steel, cast iron and stainless steel

VHM | TiAlN | ≤2,5xd | IK | HA

**Application:** For producing metric right-hand and left-hand threads with countersink on CNC machines in through holes and blind holes

**Advantage:**
Extreme economy and process reliability - drilling, threading and countersinking in a single step.

**Specifications:**
- Number of cutters: 4




| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| | **120** | **100** | **80** | **50** | 40 | **80** | **100** | **80** | **100** | **60** | **80** | | | **80** | | | | 40 | 30 |

| d1 (mm) | Pitch (mm) | l2 (mm) | l4 (mm) | l1 (mm) | Shank diameter (mm) | Radius correction value (mm) | fz hardness 65 HRC ● (mm) | CI 13498... Ref. no. | |
|---|---|---|---|---|---|---|---|---|---|
| 2.4 | 0.5 | 57 | 8.2 | 1.8 | 6 | 1.2 | 0.01 | **703** | **108.00** |
| 3.1 | 0.7 | 57 | 11.2 | 2.2 | 6 | 1.53 | 0.01 | **704** | **110.00** |
| 4 | 0.8 | 57 | 13.7 | 2.56 | 6 | 1.98 | 0.02 | **705** | **112.00** |
| 4.6 | 1 | 57 | 17.6 | 2.8 | 6 | 2.27 | 0.02 | **706** | **112.00** |
| 6.2 | 1.25 | 72 | 22 | 3.5 | 10 | 3.04 | 0.03 | **708** | **122.00** |
| 7.5 | 1.5 | 72 | 27.5 | 4.5 | 10 | 3.69 | 0.04 | **710** | **124.00** |
| 9 | 1.75 | 72 | 32.8 | 4.8 | 10 | 4.44 | 0.05 | **712** | **128.00** |
| 9 | 2 | 83 | 38.2 | 6.3 | 12 | 4.43 | 0.06 | **714** | **138.00** |
| 11.7 | 2 | 83 | 43.2 | 6.3 | 12 | 5.71 | 0.07 | **716** | **160.00** |
| | | | | | | | | Unit price, € | |

# THREAD-CUTTING EXPERTISE

## 6,500 THREAD SOLUTIONS FOR YOUR APPLICATIONS

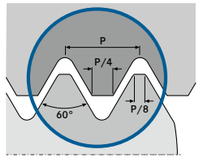
HERE YOU WILL FIND PRODUCTS AND INFORMATION FROM THE **WORLD OF LATHES**:

## ATORN THREAD CUTTING INSERTS FOR INTERNAL THREAD CUTTING

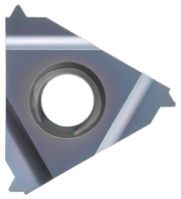
### in all material groups

**Application:**
For cutting internal threads on CNC lathes.

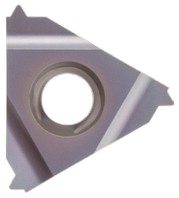
**Advantage:**
- Ground thread cutting insert with extremely sharp flute, provides good surface quality and cutting precision with exact profile rendering



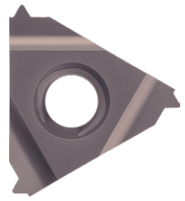

THE ENTIRE **THREAD CUTTING RANGE WITH 6,500 SOLUTIONS** IN THREAD PRODUCTION CAN BE FOUND **ONLINE: WWW.HAHN-KOLB.COM**



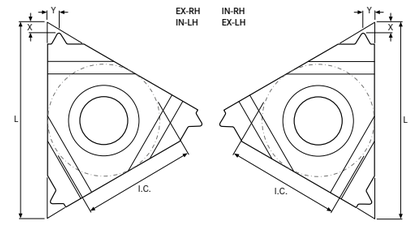
HC5630 UNI 1 choice



HC5515 ISO MS



HC 5110 hard machining



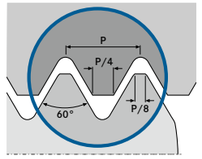

| Machining direction | | Right | | Left | | Right | | Left | | Right | | Left | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbide grade | | HC5630 | | HC5630 | | HC5515 | | HC5515 | | HC5110 | | HC5110 | |
| Min./max. Vc in steel | | 60-180 m/min | | 60-180 m/min | | 70-210 m/min | | 70-210 m/min | | | | | |
| Min./max. Vc in stainless steel | | 90-130 m/min | | 90-130 m/min | | 60-110 m/min | | 60-110 m/min | | | | | |
| Min./max. Vc in cast iron | | 100-130 m/min | | 100-130 m/min | | 120-150 m/min | | 120-150 m/min | | | | | |
| Min./max. Vc in special alloys | | 25-60 m/min | | 25-60 m/min | | 50-30 m/min | | 50-30 m/min | | 20-80 m/min | | 20-80 m/min | |
| Min./max. Vc in hardened steel | | 15-45 m/min | | 15-45 m/min | | 20-50 m/min | | 20-50 m/min | | 15-60 m/min | | 15-60 m/min | |
| Size of indexable insert | Pitch (mm) | CI 17743... Ref. no. | | CI 17743... Ref. no. | | CI 17744... Ref. no. | | CI 17744... Ref. no. | | CI 17736... Ref. no. | | CI 17736... Ref. no. | |
| 06 | 0.5 | 096 | 16.10 | 002 | 19.50 | - | - | - | - | - | - | - | - |
| 06 | 0.75 | 097 | 16.10 | - | - | - | - | - | - | - | - | - | - |
| 06 | 1.0 | 098 | 16.10 | 003 | 19.50 | - | - | - | - | - | - | - | - |
| 06 | 1.25 | 099 | 16.10 | 004 | 19.50 | - | - | - | - | - | - | - | - |
| 06 | 0.25 | 095 | 16.10 | 001 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 1.0 | 113 | 16.10 | 007 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 1.25 | 116 | 16.10 | 552 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 1.5 | 123 | 16.10 | 008 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 0.5 | 108 | 16.10 | 005 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 0.75 | 109 | 16.10 | 006 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 1.75 | 126 | 16.10 | 009 | 19.50 | - | - | - | - | - | - | - | - |
| 08 | 0.25 | 107 | 16.10 | - | - | - | - | - | - | - | - | - | - |
| 11 | 0.5 | 017 | 17.10 | 380 | 17.20 | 442 | 16.50 | - | - | 135 | 18.80 | - | - |
| 11 | 0.7 | 376 | 17.20 | 322 | 17.20 | 445 | 16.50 | - | - | - | - | - | - |
| 11 | 0.75 | 027 | 17.10 | 323 | 17.20 | 444 | 14.40 | 333 | 16.50 | 137 | 18.80 | - | - |
| 11 | 0.8 | 305 | 17.10 | 382 | 17.20 | 446 | 16.50 | - | - | - | - | - | - |
| 11 | 1.0 | 037 | 17.10 | 325 | 17.20 | 447 | 14.40 | 334 | 14.40 | 138 | 14.40 | 117 | 17.10 |
| 11 | 1.25 | 306 | 17.10 | 326 | 17.20 | 449 | 14.40 | 335 | 14.40 | - | - | - | - |
| 11 | 1.5 | 047 | 16.70 | 327 | 17.20 | 450 | 14.40 | 336 | 14.40 | 139 | 14.40 | 119 | 17.10 |
| 11 | 1.75 | 307 | 17.10 | 328 | 17.20 | 451 | 14.40 | - | - | - | - | - | - |
| 11 | 2.0 | 308 | 17.10 | 329 | 17.20 | 466 | 14.40 | 339 | 14.40 | 148 | 14.40 | - | - |
| 11 | 2.5 | 156 | 14.20 | 043 | 15.90 | 467 | 15.80 | - | - | 149 | 17.10 | - | - |
| 11 | 0.35 | 298 | 17.10 | 317 | 17.20 | 440 | 16.50 | - | - | - | - | - | - |
| 11 | 0.40 | 299 | 17.10 | 318 | 17.20 | 441 | 16.50 | - | - | - | - | - | - |
| 11 | 0.45 | 302 | 17.10 | 023 | 16.50 | - | - | - | - | - | - | - | - |
| 11 | 0.6 | 303 | 17.10 | 026 | 16.50 | 443 | 16.50 | - | - | - | - | - | - |
| 16 | 0.35 | 233 | 16.20 | 063 | 16.50 | 480 | 16.50 | - | - | - | - | - | - |
| 16 | 0.4 | 236 | 16.20 | 066 | 16.50 | 482 | 16.50 | - | - | - | - | - | - |
| 16 | 0.45 | 235 | 16.20 | 065 | 16.50 | 481 | 16.50 | - | - | - | - | - | - |
| 16 | 0.5 | 117 | 16.20 | 383 | 16.20 | 483 | 16.50 | 341 | 16.50 | 153 | 19.50 | - | - |
| 16 | 0.6 | 237 | 16.20 | 067 | 16.50 | 484 | 16.50 | 342 | 16.50 | - | - | - | - |
| 16 | 0.7 | 238 | 16.20 | 068 | 16.50 | 486 | 16.50 | 344 | 16.50 | - | - | 120 | 19.50 |
| 16 | 0.75 | 127 | 16.20 | 384 | 16.20 | 485 | 16.50 | 343 | 16.50 | 154 | 19.50 | - | - |
| 16 | 0.8 | 309 | 16.20 | 332 | 16.20 | 487 | 16.50 | 345 | 16.50 | - | - | - | - |
| 16 | 1.0 | 137 | 15.90 | 333 | 16.20 | 489 | 14.40 | 346 | 14.40 | 155 | 14.40 | 121 | 17.10 |
| 16 | 1.25 | 147 | 16.20 | 385 | 16.20 | 491 | 14.40 | 347 | 14.40 | 156 | 14.40 | - | - |
| 16 | 1.5 | 157 | 15.80 | 335 | 16.20 | 494 | 14.40 | 348 | 14.40 | 157 | 14.40 | 122 | 17.10 |
| 16 | 1.75 | 167 | 16.20 | 336 | 16.20 | 496 | 14.40 | 349 | 14.40 | 159 | 14.40 | - | - |
| 16 | 2.0 | 177 | 15.80 | 337 | 16.10 | 557 | 14.40 | 384 | 14.40 | 176 | 14.40 | 123 | 17.10 |
| 16 | 2.5 | 187 | 15.80 | 338 | 16.10 | 559 | 15.80 | 385 | 15.80 | 178 | 15.80 | 125 | 15.80 |
| 16 | 3.0 | 197 | 15.90 | 339 | 16.20 | 582 | 15.90 | 393 | 15.80 | 183 | 15.80 | - | - |
| 16 | 3.5 | 377 | 15.90 | 386 | 16.20 | 583 | 15.90 | 394 | 15.90 | 184 | 17.10 | - | - |
| | | Unit price, € | | | | | | | | | | | |

# ATORN THREAD CUTTING INSERTS FOR EXTERNAL THREAD CUTTING

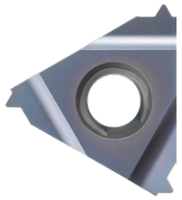
## in all material groups

**Application:** For cutting external threads on CNC lathes.

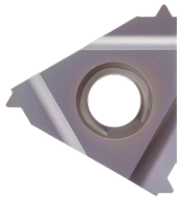
**Advantage:** polished thread cutting insert with extremely sharp cutting edge, ensures good surface quality and cutting precision with precise profile replication



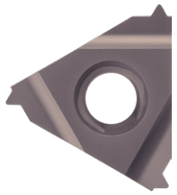

THE ENTIRE **THREAD CUTTING RANGE WITH 6,500 SOLUTIONS** IN THREAD PRODUCTION CAN BE FOUND **ONLINE: WWW.HAHN-KOLB.COM**



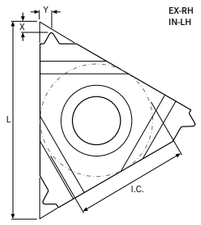
HC5630 UNI 1 choice

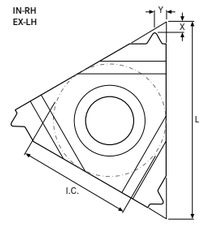


HC5515 ISO MS



HC 5110
hard machining




| Machining direction | | Right | Left | Right | Left | Right | Left |
|---|---|---|---|---|---|---|---|
| Carbide grade | | HC5630 | HC5630 | HC5515 | HC5515 | HC5110 | HC5110 |
| Min./max. Vc in steel | | 60-180 m/min | 60-180 m/min | 70-210 m/min | 70-210 m/min | | |
| Min./max. Vc in stainless steel | | 90-130 m/min | 90-130 m/min | 60-110 m/min | 60-110 m/min | | |
| Min./max. Vc in cast iron | | 100-130 m/min | 100-130 m/min | 120-150 m/min | 120-150 m/min | | |
| Min./max. Vc in special alloys | | 25-60 m/min | 25-60 m/min | 50-30 m/min | 50-30 m/min | 20-80 m/min | 20-80 m/min |
| Min./max. Vc in hardened steel | | 15-45 m/min | 15-45 m/min | 20-50 m/min | 20-50 m/min | 15-60 m/min | 15-60 m/min |
| Size of indexable insert | Pitch (mm) | **CI 17741...** Ref. no. | **CI 17741...** Ref. no. | **CI 17744...** Ref. no. | **CI 17744...** Ref. no. | **CI 17736...** Ref. no. | **CI 17736...** Ref. no. |
| 11 | 0.25 | **039** 15.90 | **000** 16.20 | - - | - - | - - | - - |
| 11 | 0.35 | **202** 17.20 | **203** 17.20 | **114** 16.50 | - - | - - | - - |
| 11 | 0.7 | **222** 17.20 | **003** 16.20 | **119** 16.50 | **003** 16.50 | - - | - - |
| 11 | 0.4 | **206** 17.20 | **001** 16.20 | **116** 16.50 | - - | - - | - - |
| 11 | 0.45 | **531** 17.20 | **372** 17.20 | **115** 16.50 | - - | - - | - - |
| 11 | 0.6 | **218** 17.20 | **002** 16.20 | - - | - - | - - | - - |
| 11 | 0.75 | **226** 17.20 | **227** 17.20 | **118** 16.50 | **002** 16.50 | - - | - - |
| 11 | 0.8 | **535** 14.80 | - - | **120** 16.50 | - - | - - | - - |
| 11 | 1.0 | **536** 14.70 | **235** 14.80 | **121** 14.40 | **004** 14.40 | - - | - - |
| 11 | 1.25 | **238** 14.80 | **239** 14.80 | **122** 14.40 | - - | - - | - - |
| 11 | 1.5 | **242** 14.80 | **243** 14.80 | **123** 14.40 | **005** 14.40 | - - | - - |
| 11 | 1.75 | **246** 14.80 | **247** 14.80 | - - | - - | - - | - - |
| 11 | 2.0 | **048** 14.00 | **006** 14.20 | **125** 14.40 | - - | **034** 17.10 | - - |
| 11 | 0.5 | **042** 15.90 | **215** 17.20 | **117** 16.50 | **001** 16.50 | - - | - - |
| 16 | 0.25 | **058** 15.90 | - - | - - | - - | - - | - - |
| 16 | 0.3 | **062** 15.90 | - - | - - | - - | - - | - - |
| 16 | 0.35 | **059** 15.90 | **008** 16.20 | **130** 16.50 | - - | **037** 16.50 | - - |
| 16 | 0.4 | **064** 15.90 | **012** 16.20 | **132** 16.50 | **008** 16.50 | - - | - - |
| 16 | 0.45 | **063** 15.90 | **009** 16.20 | **131** 16.50 | - - | - - | - - |
| 16 | 0.5 | **015** 15.80 | **011** 16.20 | **133** 16.50 | **009** 16.50 | **038** 16.50 | **022** 18.80 |
| 16 | 0.6 | **066** 15.90 | **013** 16.20 | **135** 16.50 | - - | **039** 16.50 | - - |
| 16 | 0.7 | **067** 15.90 | **014** 16.20 | **137** 16.50 | **011** 16.50 | **041** 16.50 | - - |
| 16 | 0.75 | **025** 15.90 | **021** 16.20 | **136** 16.50 | **010** 16.50 | **040** 16.50 | - - |
| 16 | 0.8 | **068** 15.90 | **016** 16.20 | **138** 16.50 | **012** 16.50 | **042** 19.50 | - - |
| 16 | 1.0 | **035** 15.80 | **031** 16.20 | **141** 14.40 | **013** 14.40 | **044** 14.40 | **023** 17.10 |
| 16 | 1.25 | **045** 15.80 | **041** 16.20 | **143** 14.40 | **014** 14.40 | **046** 14.40 | **025** 14.40 |
| 16 | 1.5 | **055** 15.80 | **051** 15.90 | **146** 14.40 | **015** 14.40 | **047** 14.40 | **027** 14.40 |
| 16 | 1.75 | **065** 15.80 | **061** 16.20 | **149** 14.40 | **017** 14.40 | **049** 14.40 | - - |
| 16 | 2.0 | **075** 15.80 | **071** 15.90 | **199** 14.40 | **058** 14.40 | **072** 14.40 | **029** 17.10 |
| 16 | 2.5 | **085** 16.30 | **081** 16.70 | **201** 15.80 | **059** 15.80 | **074** 15.80 | - - |
| 16 | 3.0 | **095** 16.30 | **091** 16.70 | **223** 15.90 | **075** 15.80 | **082** 15.80 | - - |
| 16 | 3.5 | **086** 15.30 | **019** 15.60 | **225** 15.80 | **076** 15.90 | **083** 18.70 | - - |
| | | Unit price, € | | | | | |



# ATORN STEEL TYPE AND VA TYPE DIE

M | HSS | HSSE | DIN 13 6g

**Application:**
**No. 13410:** For producing metric external threads in the steel and non-ferrous metal material groups up to a strength of 700 N/mm².
**No. 13418:** For producing metric external threads in the steel, stainless steel, non-ferrous metal and special alloy material groups up to a strength of 1,300 N/mm².

**Version:**
- **No. 13410:** right-handed thread-cutting die M1 to M1.4 = tol. 6h, M1.6 to M36 = tol. 6g with spiral point tap (from M3), pre-slotted and 1.75-thread chamfer
- **No. 13418:** right-handed thread-cutting die tol. 6g with spiral point tap (from M2) and nitrated, pre-slotted and 2.0-thread chamfer

**Advantage:**
- micro cut edge treatment and special lapping method for excellent process reliability and long service life
- **Nr. 13410:** universal use for maximum flexibility
- **Nr. 13418:** specialised application with optimised chip geometry for use in difficult-to-machine materials


No. 13410


No. 13418

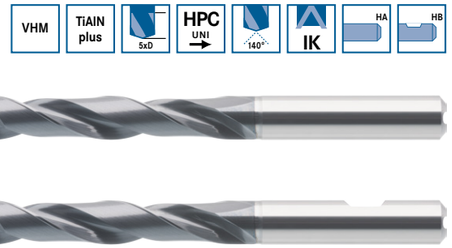
| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plas-tics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No.** | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| **13410** | ● | | | | | ● | | | | ● | ● | | | | | | | | |
| **13418** | | ● | ● | ● | ● | ● | | | | ● | | | | | ● | ● | ● | | |

| Thread type x nominal diameter | Pitch (mm) | Outside diameter (mm) | Height (mm) | Cutting direction | Right-hand cutting **CI 13410...** Ref. no. | | Right-hand cutting **CI 13418...** Ref. no. | |
|---|---|---|---|---|---|---|---|---|
| M1 | 0.25 | 16 | 5 | | **010** | 33.40 | - | - |
| M1.2 | 0.25 | 16 | 5 | | **012** | 34.80 | - | - |
| M1.4 | 0.3 | 16 | 5 | | **014** | 31.20 | - | - |
| M1.6 | 0.35 | 16 | 5 | | **016** | - | - | - |
| M1.7 | 0.35 | 16 | 5 | | **017** | 28.80 | - | - |
| M1.8 | 0.35 | 16 | 5 | | **018** | 29.80 | - | - |
| M2 | 0.4 | 16 | 5 | | **020** | 20.20 | - | - |
| M2.2 | 0.45 | 16 | 5 | | **022** | 26.40 | - | - |
| M2.3 | 0.4 | 16 | 5 | | **023** | 21.50 | - | - |
| M2.5 | 0.45 | 16 | 5 | | **025** | 21.30 | **025** | 39.80 |
| M2.6 | 0.45 | 16 | 5 | | **026** | 22.70 | **026** | 41.00 |
| M3 | 0.5 | 20 | 5 | | **030** | 14.00 | **030** | 28.00 |
| M3.5 | 0.6 | 20 | 5 | | **035** | 21.70 | **035** | 30.60 |
| M4 | 0.7 | 20 | 5 | | **040** | 14.00 | **040** | 27.20 |
| M4.5 | 0.75 | 20 | 7 | | **045** | 32.20 | - | - |
| M5 | 0.8 | 20 | 7 | | **050** | 14.00 | **050** | 25.20 |
| M6 | 1 | 20 | 7 | | **060** | 14.00 | **060** | 25.20 |
| | | | | | Unit price, € | | | |

| Thread type x nominal diameter | Pitch (mm) | Outside diameter (mm) | Height (mm) | Cutting direction | Right-hand cutting **CI 13410...** Ref. no. | | Right-hand cutting **CI 13418...** Ref. no. | |
|---|---|---|---|---|---|---|---|---|
| M7 | 1 | 25 | 9 | | **070** | 18.90 | - | - |
| M8 | 1.25 | 25 | 9 | | **080** | 15.30 | **080** | 30.00 |
| M9 | 1.25 | 25 | 9 | | **090** | 30.20 | - | - |
| M10 | 1.5 | 30 | 11 | | **100** | 19.80 | **100** | 37.20 |
| M11 | 1.5 | 30 | 11 | | **110** | 39.80 | - | - |
| M12 | 1.75 | 38 | 14 | | **120** | 24.20 | **120** | 49.80 |
| M14 | 2 | 38 | 14 | | **140** | 24.20 | **140** | 54.00 |
| M16 | 2 | 45 | 18 | | **160** | 34.20 | **160** | 63.00 |
| M18 | 2.5 | 45 | 18 | | **180** | 34.20 | **180** | 77.00 |
| M20 | 2.5 | 45 | 18 | | **200** | 34.20 | **200** | 71.00 |
| M22 | 2.5 | 55 | 22 | | **220** | 48.60 | - | - |
| M24 | 3 | 55 | 22 | | **240** | 48.60 | **240** | 110.00 |
| M27 | 3 | 65 | 25 | | **270** | 116.00 | - | - |
| M30 | 3.5 | 65 | 25 | | **300** | 116.00 | - | - |
| M33 | 3.5 | 65 | 25 | | **330** | 134.00 | - | - |
| M36 | 4 | 65 | 25 | | **360** | 132.00 | - | - |
| | | | | | Unit price, € | | | |

## ATORN HIGH-PERFORMANCE DRILL, SOLID CARBIDE TIALNPLUS HPC 5XD

The ATORN solid carbide high-performance drill bit with TiAlNplus is your product for universal HPC machining. The outstanding geometry combined with a multi-layer coating tailored to the individual drilling process significantly increases the service life. Precise cutting edge finishing reduces micro-cracks and contributes to a longer service life. In addition to the extensive range of the 5xD variant with internal cooling, you will find more of 3xD-12xD in the diameter range of 1.00-20.00 mm, with and without internal cooling, in our online shop.




| | | | | | Tool holder | HA straight shank | | HB straight shank | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Surface | TiAlN plus | | TiAlN plus | |
| | | | | | Coolant supply | Internal | | Internal | |
| | | | | | Cutting diameter tolerance | h7 | | h7 | |
| mm | mm | mm | mm | f steel 1,000 ● (mm/r) | CI11105... Ref. no. | | | CI11105... Ref. no. | |
| 1 | 4 | 8 | 55 | 0.025 | 010 | 57.00 | | - | - |
| 1.1 | 4 | 12 | 55 | 0.025 | 011 | 57.00 | | - | - |
| 1.5 | 4 | 12 | 55 | 0.033 | 015 | 57.00 | | - | - |
| 1.6 | 4 | 16 | 55 | 0.033 | 016 | 57.00 | | - | - |
| 2 | 4 | 21 | 57 | 0.045 | 020 | 57.00 | | - | - |
| 2.3 | 4 | 21 | 57 | 0.045 | 023 | 57.00 | | - | - |
| 2.5 | 4 | 21 | 57 | 0.045 | 025 | 57.00 | | - | - |
| 2.8 | 4 | 21 | 57 | 0.045 | 028 | 57.00 | | - | - |
| 2.9 | 4 | 21 | 57 | 0.045 | 029 | 57.00 | | - | - |
| 3 | 6 | 28 | 66 | 0.16 | 030 | 57.00 | | 230 | 57.00 |
| 3.25 | 6 | 28 | 66 | 0.16 | 201 | 57.00 | | 204 | 57.00 |
| 3.3 | 6 | 28 | 66 | 0.16 | 033 | 57.00 | | 233 | 57.00 |
| 3.5 | 6 | 28 | 66 | 0.16 | 035 | 57.00 | | 235 | 57.00 |
| 3.7 | 6 | 28 | 66 | 0.16 | 037 | 57.00 | | 237 | 57.00 |
| 3.85 | 6 | 36 | 74 | 0.16 | 213 | 57.00 | | 214 | 57.00 |
| 4 | 6 | 36 | 74 | 0.16 | 040 | 57.00 | | 240 | 57.00 |
| 4.2 | 6 | 36 | 74 | 0.16 | 042 | 58.00 | | 242 | 58.00 |
| 4.5 | 6 | 36 | 74 | 0.16 | 045 | 58.00 | | 245 | 58.00 |
| 4.65 | 6 | 36 | 74 | 0.16 | 202 | 58.00 | | 205 | 58.00 |
| 5 | 6 | 44 | 82 | 0.16 | 050 | 58.00 | | 250 | 58.00 |
| 5.2 | 6 | 44 | 82 | 0.16 | 052 | 58.00 | | 252 | 58.00 |
| 5.5 | 6 | 44 | 82 | 0.16 | 055 | 58.00 | | 255 | 58.00 |
| 5.55 | 6 | 44 | 82 | 0.16 | 203 | 58.00 | | 206 | 58.00 |
| 5.6 | 6 | 44 | 82 | 0.16 | 056 | 58.00 | | 256 | 58.00 |
| 5.65 | 6 | 44 | 82 | 0.16 | 207 | 58.00 | | 208 | 58.00 |
| 6 | 6 | 44 | 82 | 0.21 | 060 | 58.00 | | 260 | 58.00 |
| 6.8 | 8 | 53 | 91 | 0.21 | 068 | 64.00 | | 268 | 64.00 |
| 7 | 8 | 53 | 91 | 0.21 | 070 | 64.00 | | 270 | 64.00 |
| 7.2 | 8 | 53 | 91 | 0.21 | 072 | 64.00 | | 272 | 64.00 |
| 7.4 | 8 | 53 | 91 | 0.21 | 074 | 64.00 | | 274 | 64.00 |
| 7.5 | 8 | 53 | 91 | 0.21 | 075 | 64.00 | | 275 | 64.00 |
| 7.55 | 8 | 53 | 91 | 0.21 | 209 | 64.00 | | 210 | 64.00 |
| 7.65 | 8 | 53 | 91 | 0.21 | 211 | 64.00 | | 212 | 64.00 |
| 8 | 8 | 53 | 91 | 0.21 | 080 | 64.00 | | 280 | 64.00 |
| 8.2 | 10 | 61 | 103 | 0.21 | 082 | 77.00 | | 282 | 77.00 |
| 8.5 | 10 | 61 | 103 | 0.21 | 085 | 77.00 | | 285 | 77.00 |
| | | | | | | Unit price, € | | | |

| | | | | | Tool holder | HA straight shank | | HB straight shank | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Surface | TiAlN plus | | TiAlN plus | |
| | | | | | Coolant supply | Internal | | Internal | |
| | | | | | Cutting diameter tolerance | h7 | | h7 | |
| mm | mm | mm | mm | f steel 1,000 ● (mm/r) | CI11105... Ref. no. | | | CI11105... Ref. no. | |
| 8.8 | 10 | 61 | 103 | 0.21 | 088 | 77.00 | | 288 | 77.00 |
| 9 | 10 | 61 | 103 | 0.21 | 090 | 77.00 | | 290 | 77.00 |
| 9.2 | 10 | 61 | 103 | 0.21 | 092 | 77.00 | | 292 | 77.00 |
| 9.3 | 10 | 61 | 103 | 0.21 | 093 | 77.00 | | 293 | 77.00 |
| 9.5 | 10 | 61 | 103 | 0.21 | 095 | 77.00 | | 295 | 77.00 |
| 9.55 | 10 | 61 | 103 | 0.21 | 215 | 77.00 | | 216 | 77.00 |
| 10 | 10 | 61 | 103 | 0.28 | 100 | 77.00 | | 300 | 77.00 |
| 10.2 | 12 | 71 | 118 | 0.28 | 102 | 106.00 | | 302 | 106.00 |
| 10.5 | 12 | 71 | 118 | 0.28 | 105 | 106.00 | | 305 | 106.00 |
| 10.8 | 12 | 71 | 118 | 0.28 | 108 | 106.00 | | 308 | 106.00 |
| 11 | 12 | 71 | 118 | 0.28 | 110 | 106.00 | | 310 | 106.00 |
| 11.2 | 12 | 71 | 118 | 0.28 | 112 | 106.00 | | 312 | 106.00 |
| 11.5 | 12 | 71 | 118 | 0.28 | 115 | 106.00 | | 315 | 106.00 |
| 12 | 12 | 71 | 118 | 0.33 | 120 | 106.00 | | 320 | 106.00 |
| 12.5 | 14 | 77 | 124 | 0.33 | 125 | 142.00 | | 325 | 142.00 |
| 12.8 | 14 | 77 | 124 | 0.33 | 128 | 142.00 | | 328 | 142.00 |
| 13 | 14 | 77 | 124 | 0.33 | 130 | 142.00 | | 330 | 142.00 |
| 13.1 | 14 | 77 | 124 | 0.33 | 131 | 142.00 | | 331 | 142.00 |
| 13.5 | 14 | 77 | 124 | 0.33 | 135 | 142.00 | | 335 | 142.00 |
| 14 | 14 | 77 | 124 | 0.33 | 140 | 142.00 | | 340 | 142.00 |
| 14.5 | 16 | 83 | 133 | 0.33 | 145 | 166.00 | | 345 | 166.00 |
| 14.8 | 16 | 83 | 133 | 0.33 | 148 | 166.00 | | 348 | 166.00 |
| 15 | 16 | 83 | 133 | 0.33 | 150 | 166.00 | | 350 | 166.00 |
| 15.1 | 16 | 83 | 133 | 0.33 | 151 | 166.00 | | 351 | 166.00 |
| 15.25 | 16 | 83 | 133 | 0.33 | 217 | 166.00 | | 218 | 166.00 |
| 15.5 | 16 | 83 | 133 | 0.33 | 155 | 166.00 | | 355 | 166.00 |
| 16 | 16 | 83 | 133 | 0.33 | 160 | 166.00 | | 360 | 166.00 |
| 16.5 | 18 | 93 | 143 | 0.33 | 165 | 262.00 | | 365 | 262.00 |
| 16.9 | 18 | 93 | 143 | 0.33 | 169 | 262.00 | | 369 | 262.00 |
| 17 | 18 | 93 | 143 | 0.36 | 170 | 262.00 | | 370 | 262.00 |
| 18 | 18 | 93 | 143 | 0.36 | 180 | 262.00 | | 380 | 262.00 |
| 18.5 | 20 | 101 | 153 | 0.36 | 185 | 280.00 | | 385 | 280.00 |
| 18.9 | 20 | 101 | 153 | 0.36 | 189 | (280.00) | | 389 | 280.00 |
| 19 | 20 | 101 | 153 | 0.39 | 190 | 280.00 | | 390 | 280.00 |
| 19.5 | 20 | 101 | 153 | 0.39 | 195 | 290.00 | | 395 | 290.00 |
| 20 | 20 | 101 | 153 | 0.4 | 200 | 290.00 | | 400 | 290.00 |
| | | | | | | Unit price, € | | | |

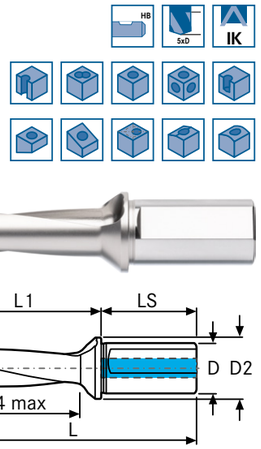
**THE ENTIRE RANGE CAN BE FOUND ONLINE AT WWW.HAHN-KOLB.COM**

## ATORN ATORN INDEXABLE INSERT DRILL BIT 5XD

### for universal use up to 1,300 N/mm²

Our indexable insert drill bit offers a wide range of applications in steel, stainless steel, cast iron, superalloys and titanium. The four usable blades per indexable insert allow you to achieve the longest possible service life. A particular advantage: The indexable inserts can be used as both centre and peripheral inserts.

Whether making cross holes, inclined inlet and outlet bores, chain bores, convex entry surfaces or bores in half cylinders - the ATORN indexable insert drill bit will master every challenge. Other tool lengths can be found in our online shop.




| | | | | | | | | ATORN indexable insert drill bit 5xD | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Tool holder | HB straight shank | |
| | | | | | | | Coolant supply | Internal | |
| | | | | | | | Max. drilling depth (D) | 5xD | |
| | | | | | | | Adjustment range (+/-) | +0.40 | |
| D1 (mm) | D (mm) | D2 (mm) | L1 (mm) | LS (mm) | L (mm) | L4 max. (mm) | Suitable for indexable insert type | CI11236... Ref. no. | |
| 14 | 20 | 30 | 83 | 50 | 133 | 70 | A | 140 | 404.00 |
| 15 | 20 | 30 | 89 | 50 | 139 | 75 | A | 150 | 404.00 |
| 16 | 20 | 30 | 96 | 50 | 146 | 80 | A | 160 | 404.00 |
| 17 | 20 | 30 | 102 | 50 | 152 | 85 | B | 170 | 418.00 |
| 18 | 25 | 30 | 107 | 56 | 163 | 90 | B | 180 | 418.00 |
| 19 | 25 | 30 | 113 | 56 | 169 | 95 | B | 190 | 432.00 |
| 20 | 25 | 30 | 118 | 56 | 174 | 100 | C | 200 | 432.00 |
| 21 | 25 | 30 | 124 | 56 | 180 | 105 | C | 210 | 432.00 |
| 22 | 25 | 30 | 129 | 56 | 185 | 110 | C | 220 | 432.00 |
| 23 | 25 | 30 | 135 | 56 | 191 | 115 | C | 230 | 432.00 |
| 24 | 32 | 39 | 140 | 60 | 200 | 125 | D | 240 | 432.00 |
| 25 | 32 | 39 | 146 | 60 | 206 | 130 | D | 250 | 432.00 |
| 26 | 32 | 39 | 151 | 60 | 211 | 135 | D | 260 | 432.00 |
| 27 | 32 | 39 | 157 | 60 | 217 | 135 | D | 270 | 432.00 |
| 28 | 32 | 39 | 162 | 60 | 222 | 140 | D | 280 | 432.00 |
| 29 | 32 | 39 | 168 | 60 | 228 | 145 | E | 290 | 432.00 |
| 30 | 32 | 39 | 173 | 60 | 233 | 150 | E | 300 | 468.00 |
| | | | | | | | | Unit price, € | |

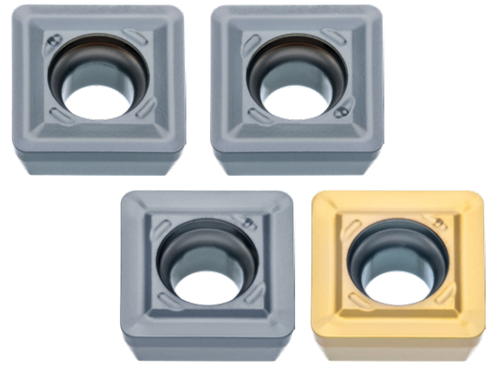
| | | | | | | | | ATORN indexable insert drill bit 5xD | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Tool holder | HB straight shank | |
| | | | | | | | Coolant supply | Internal | |
| | | | | | | | Max. drilling depth (D) | 5xD | |
| | | | | | | | Adjustment range (+/-) | +0.40 | |
| D1 (mm) | D (mm) | D2 (mm) | L1 (mm) | LS (mm) | L (mm) | L4 max. (mm) | Suitable for indexable insert type | CI11236... Ref. no. | |
| 31 | 40 | 50 | 179 | 68 | 247 | 155 | E | 310 | 468.00 |
| 32 | 40 | 50 | 184 | 68 | 252 | 160 | E | 320 | 468.00 |
| 33 | 40 | 50 | 190 | 68 | 258 | 165 | E | 330 | 468.00 |
| 34 | 40 | 50 | 195 | 68 | 263 | 170 | F | 340 | 468.00 |
| 35 | 40 | 50 | 206 | 68 | 274 | 175 | F | 350 | 468.00 |
| 36 | 40 | 50 | 212 | 68 | 280 | 180 | F | 360 | 468.00 |
| 37 | 40 | 50 | 212 | 68 | 280 | 185 | F | 370 | 540.00 |
| 38 | 40 | 50 | 217 | 68 | 285 | 190 | F | 380 | 540.00 |
| 39 | 40 | 50 | 223 | 68 | 291 | 195 | G | 390 | 540.00 |
| 40 | 40 | 50 | 228 | 68 | 296 | 200 | G | 400 | 540.00 |
| 41 | 40 | 50 | 234 | 68 | 302 | 205 | G | 410 | 540.00 |
| 42 | 40 | 50 | 239 | 68 | 307 | 210 | G | 420 | 540.00 |
| 43 | 40 | 50 | 245 | 68 | 313 | 215 | G | 430 | 540.00 |
| 44 | 40 | 50 | 250 | 68 | 318 | 220 | G | 440 | 540.00 |
| | | | | | | | | Unit price, € | |

## ATORN INDEXABLE INSERTS FOR ATORN INDEXABLE INSERT DRILL BIT

### For indexable insert drill bits no. 11234, 11235, 11236

**Application:**
**Ref. no. 010-070:** For use on steel
**Ref. no. 100-160:** For use on cast iron
**Ref. no. 200-260:** For use on stainless steel
**Ref. no. 300-360:** For use on special alloys

**Scope of delivery:**
PU 10 pieces

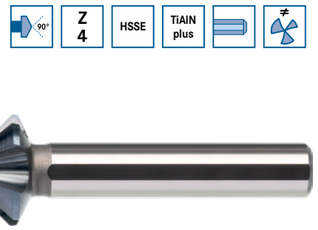


| ISO name | Carbide grade | Suitable for indexable insert type | f min. (mm/r) | f max. (mm/r) | CI11237... Ref. no. | |
|---|---|---|---|---|---|---|
| SOLX 050204 | ACP25D | A | 0.06 | 0.16 | 010 | 9.55 |
| SOLX 050204 | ACK15D | A | 0.08 | 0.18 | 100 | 9.55 |
| SOLX 050204 | ACM40D | A | 0.06 | 0.12 | 200 | 9.55 |
| SOLX 050204 | ACS40D | A | 0.04 | 0.08 | 300 | 9.55 |
| SOLX 06T206 | ACP25D | B | 0.11 | 0.16 | 020 | 9.55 |
| SOLX 06T206 | ACK15D | B | 0.12 | 0.18 | 110 | 9.55 |
| SOLX 06T206 | ACM40D | B | 0.08 | 0.12 | 210 | 9.55 |
| SOLX 06T206 | ACS40D | B | 0.04 | 0.08 | 310 | 9.55 |
| SOLX 070308 | ACP25D | C | 0.13 | 0.22 | 030 | 9.55 |
| SOLX 070308 | ACK15D | C | 0.14 | 0.25 | 120 | 9.55 |
| SOLX 070308 | ACM40D | C | 0.1 | 0.18 | 220 | 9.55 |
| SOLX 070308 | ACS40D | C | 0.05 | 0.09 | 320 | 9.55 |
| SOLX 080308 | ACP25D | D | 0.14 | 0.22 | 040 | 10.50 |
| SOLX 080308 | ACK15D | D | 0.18 | 0.3 | 130 | 10.50 |
| | | | | | Unit price, € | |

| ISO name | Carbide grade | Suitable for indexable insert type | f min. (mm/r) | f max. (mm/r) | CI11237... Ref. no. | |
|---|---|---|---|---|---|---|
| SOLX 080308 | ACM40D | D | 0.12 | 0.18 | 230 | 10.50 |
| SOLX 080308 | ACS40D | D | 0.06 | 0.1 | 330 | 10.50 |
| SOLX 10T308 | ACP25D | E | 0.14 | 0.22 | 050 | 10.50 |
| SOLX 10T308 | ACK15D | E | 0.2 | 0.3 | 140 | 10.50 |
| SOLX 10T308 | ACM40D | E | 0.12 | 0.18 | 240 | 10.50 |
| SOLX 10T308 | ACS40D | E | 0.07 | 0.11 | 340 | 10.50 |
| SOLX 110408 | ACP25D | F | 0.14 | 0.22 | 060 | 11.50 |
| SOLX 110408 | ACK15D | F | 0.2 | 0.3 | 150 | 11.50 |
| SOLX 110408 | ACM40D | F | 0.12 | 0.18 | 250 | 11.50 |
| SOLX 110408 | ACS40D | F | 0.07 | 0.11 | 350 | 11.50 |
| SOLX 130508 | ACP25D | G | 0.14 | 0.22 | 070 | 11.50 |
| SOLX 130508 | ACK15D | G | 0.2 | 0.3 | 160 | 11.50 |
| SOLX 130508 | ACM40D | G | 0.12 | 0.18 | 260 | 11.50 |
| SOLX 130508 | ACS40D | G | 0.08 | 0.12 | 360 | 11.50 |
| | | | | | Unit price, € | |

## ATORN COUNTERSINK 90°, HSSE, 4 FLUTE, VERY UNEVEN PITCH

### for universal use up to 1,300 N/mm²



Our countersink with 4 flutes and extreme unequal pitch is ideal for materials up to 1,300 N/mm². It enables reliable countersinking without chatter marks and ensures an optimal countersinking pattern. The innovative design reduces the infeed force and increases the countersinking speed by up to 50 %.
3-flat shank prevents spinning in the drill chuck. We offer the ATORN countersink 90° in HSS and HSSE variants, individually or as a set, available on request.

| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| | 50 | 40 | 20 | 22 | 22 | 50 | 65 | 50 | 55 | 50 | 55 | 55 | | 35 | 18 | 18 | 18 | | |

| Tool holder | | | | | Straight shank with three clamping surfaces | |
|---|---|---|---|---|---|---|
| Surface | | | | | TiAlN plus | |
| mm | mm | mm | mm | f steel 1000 ● (mm/r) | CI 11501... Ref. no. | |
| 10.4 | 2.5 | 6.0 | 50 | 0.12 | 260 | 27.20 |
| 12.4 | 2.8 | 8.0 | 56 | 0.12 | 261 | 30.40 |
| 15.0 | 2.9 | 10.0 | 60 | 0.14 | 262 | 34.00 |
| 16.5 | 3.2 | 10.0 | 60 | 0.2 | 263 | 35.40 |
| 19.0 | 3.5 | 10.0 | 63 | 0.2 | 264 | 38.20 |
| | | | | | Unit price, € | |

| Tool holder | | | | | Straight shank with three clamping surfaces | |
|---|---|---|---|---|---|---|
| Surface | | | | | TiAlN plus | |
| mm | mm | mm | mm | f steel 1000 ● (mm/r) | CI 11501... Ref. no. | |
| 20.5 | 3.5 | 10.0 | 63 | 0.2 | 265 | 42.20 |
| 23.0 | 3.8 | 10.0 | 67 | 0.22 | 266 | 49.80 |
| 25.0 | 3.8 | 10.0 | 67 | 0.24 | 267 | 53.00 |
| 31.0 | 4.2 | 12.0 | 71 | 0.24 | 268 | 64.00 |
| 40.0 | 5.3 | 12.0 | 80 | 0.27 | 269 | 110.00 |
| | | | | | Unit price, € | |

### ORDER AS A COMPLETE SET!

| | | |
|---|---|---|
| | Tool holder | Straight shank with three clamping surfaces |
| | Cutting material | HSSE |
| | Surface | TiAlN plus |
| Scope of delivery | Number of parts in assortment/set (PCS) | CI 11501... Ref. no. |
| 10.4/12.4/16.5/20.5 | 4 | 272 126.00 |
| 10.4/12.4/16.5/20.5/25 | 5 | 273 178.00 |
| | | Set price, € |



## ATORN FORWARDS AND REVERSE DEBURRING TOOL 90° SC-TIALN

### for universal use up to 1,300 N/mm²

Efficient deburring with the forwards and reverse deburring tool - time savings guaranteed!
Our deburring tool enables quick and precise deburring of bore holes, without the need for a tool change. They can be deburred linearly and circularly or chamfered at an angle of 90°. Due to the wide range of diameters, reliable deburring is possible from both sides in different materials, from steel to superalloys.
Other variants can be found in our online shop.

| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| | 65 | 45 | 35 | 40 | 30 | 115 | 160 | 100 | 80 | 70 | 60 | | | 45 | 20 | 15 | 15 | | |

| D1 | D2 | D3 | Dh6 | GL | L1 | L2 | FL | Shape | Teeth (no.) | fz steel 1000 ● | CI 11539... Ref. no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (mm) | | | | | | | | | | | | |
| 0.9 | - | 0.65 | 3 | 75 | 0.58 | 0.45 | 3 | Pointed | 2 | 0.01 | 010 | 41.60 |
| 1.4 | - | 1.0 | 3 | 75 | 0.9 | 0.7 | 4 | Pointed | 2 | 0.01 | 015 | 41.60 |
| 1.9 | - | 1.2 | 3 | 75 | 1.3 | 0.95 | 5 | Pointed | 2 | 0.01 | 020 | 41.60 |
| 2.9 | - | 1.8 | 3 | 75 | 2.0 | 1.45 | 6 | Pointed | 2 | 0.01 | 030 | 45.00 |
| 3.9 | - | 1.9 | 4 | 75 | 2.95 | 1.95 | 10 | Pointed | 4 | 0.01 | 040 | 52.00 |
| 5.8 | - | 4.0 | 6 | 100 | 3.8 | 1.9 | 18.8 | Pointed | 4 | 0.01 | 060 | 59.00 |
| | | | | | | | | | | | Unit price, € | |

| D1 | D2 | D3 | Dh6 | GL | L1 | L2 | FL | Shape | Teeth (no.) | fz steel 1000 ● | CI 11539... Ref. no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (mm) | | | | | | | | | | | | |
| 7.8 | 6 | - | 6 | 100 | 1.8 | 0.9 | - | Flat | 4 | 0.01 | 080 | 76.00 |
| 9.8 | 6 | - | 6 | 100 | 3.8 | 1.9 | - | Flat | 4 | 0.012 | 100 | 95.00 |
| 11.8 | 6 | - | 6 | 100 | 5.8 | 2.9 | - | Flat | 4 | 0.015 | 120 | 112.00 |
| 13.8 | 6 | - | 6 | 100 | 7.8 | 3.9 | - | Flat | 4 | 0.016 | 140 | 122.00 |
| 15.8 | 6 | - | 6 | 100 | 9.8 | 4.9 | - | Flat | 4 | 0.017 | 160 | 154.00 |
| | | | | | | | | | | | Unit price, € | |

## ATORN SC 90° CHAMFER MILL

### for universal use up to 1,300 N/mm²

The Atorn solid carbide 90° chamfer mill with high-performance ULTRA coating is the ideal tool for a wide range of applications. The defined cutting edge rounding significantly minimises the risk of breakouts. The extra-long version is the perfect solution for hard-to-reach areas.

Note: Shank variant HA up to dia. 4 mm.

| Application | Steel (N/mm²) | | | Stainless steel | | Aluminium | | Brass | | Bronze | | Plastics | Graphite G(C)FK | GG(G) GJMW | Titanium alloy | Nickel alloy | Super alloy | Hard materials | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | <700 | <1,000 | <1,300 | Martensitic | Austenitic | short | long | short | long | short | long | | | | | | | <55 HRC | <65 HRC |
| | 110 | 70 | 60 | 80 | 60 | 280 | 300 | 170 | 150 | 150 | 130 | | | 90 | 30 | 30 | 30 | | |

| Chamfer angle (degrees) | | | | | | | 90 | |
|---|---|---|---|---|---|---|---|---|
| Shank diameter tolerance | | | | | | | h6 | |
| Surface | | | | | | | ULTRA | |
| Type | | | | | | | N | |
| Cutting diameter (mm) | S (mm) | Length (mm) | Shank diameter (mm) | Teeth (no.) | Insert dia. min. (mm) | fz steel 1000 ● | CI 11542... Ref. no. | |
| 1 | 0.5 | 39 | 3 | 3 | 0.3 | 0.006 | 010 | 20.20 |
| 2 | 1.2 | 39 | 3 | 3 | 0.3 | 0.011 | 020 | 20.20 |
| 3 | 1.9 | 39 | 3 | 3 | 0.3 | 0.012 | 030 | 20.20 |
| 4 | 2.5 | 54 | 4 | 4 | 0.4 | 0.022 | 040 | 20.20 |
| 4 | 2.5 | 85 | 4 | 4 | 0.4 | 0.022 | 045 | 23.80 |
| 6 | 3.8 | 57 | 6 | 5 | 0.5 | 0.03 | 060 | 26.40 |
| 6 | 3.8 | 100 | 6 | 5 | 0.5 | 0.03 | 065 | 31.20 |
| | | | | | | | Unit price, € | |

| Chamfer angle (degrees) | | | | | | | 90 | |
|---|---|---|---|---|---|---|---|---|
| Shank diameter tolerance | | | | | | | h6 | |
| Surface | | | | | | | ULTRA | |
| Type | | | | | | | N | |
| Cutting diameter (mm) | S (mm) | Length (mm) | Shank diameter (mm) | Teeth (no.) | Insert dia. min. (mm) | fz steel 1000 ● | CI 11542... Ref. no. | |
| 8 | 5.0 | 63 | 8 | 5 | 0.9 | 0.04 | 080 | 31.40 |
| 8 | 5.0 | 100 | 8 | 5 | 0.9 | 0.04 | 085 | 40.00 |
| 10 | 6.3 | 72 | 10 | 5 | 1 | 0.05 | 100 | 37.00 |
| 10 | 6.3 | 100 | 10 | 5 | 1 | 0.05 | 105 | 47.80 |
| 12 | 7.6 | 83 | 12 | 5 | 1.2 | 0.06 | 120 | 57.00 |
| 12 | 7.6 | 120 | 12 | 5 | 1.2 | 0.06 | 125 | 70.00 |
| 16 | 10.4 | 92 | 16 | 5 | 1.2 | 0.08 | 160 | 100.00 |
| | | | | | | | Unit price, € | |

## ATORN METRIC THREAD PITCH GAUGES

### Made from gauge steel

Suitable thread pitch gauges are the easiest way to test threads whether directly next to the machine, at the measuring station or in the measuring room. Simple, fast, cost-effective! Plug gauges M1-M1.4 with fit 5H, from M1.6 with fit 6H. GO and NO-GO ring gauges M1-M1.4 with fit 6H, from M1.6 with fit 6G

**Specifications:**
- Material: Gauge steel

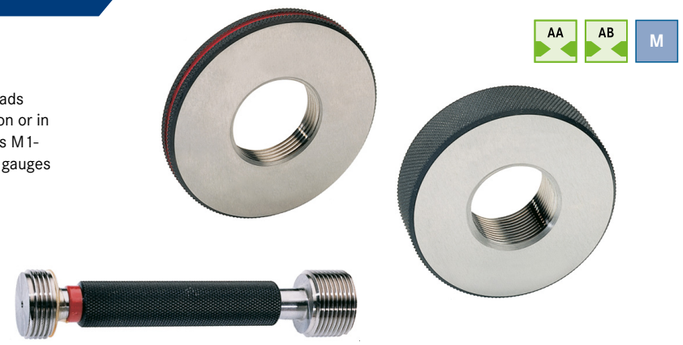


Illustration may be different!

| Thread type x nominal diameter x pitch | Thread plug gauge CI 32670... Ref. no. | | Go ring gauge CI 32675... Ref. no. | | No-go ring gauge CI 32676... Ref. no. | |
|---|---|---|---|---|---|---|
| M1 × 0.25 | 010 | 97.00 | 010 | 98.00 | 010 | 98.00 |
| M1.2 x 0.25 | 012 | 96.00 | 012 | 91.00 | 012 | 91.00 |
| M1.4 x 0.3 | 014 | 82.00 | 014 | 84.00 | 014 | 84.00 |
| M1.6 x 0.35 | 016 | 76.00 | 016 | 75.00 | 016 | 76.00 |
| M1.7 x 0.35 | 017 | 76.00 | 017 | 75.00 | 017 | 76.00 |
| M1.8 x 0.35 | 018 | 68.00 | 018 | 67.00 | 018 | 67.00 |
| M2 x 0.4 | 020 | 68.00 | 020 | 67.00 | 020 | 67.00 |
| M2.2 x 0.45 | 022 | 63.00 | 022 | 57.00 | 022 | 57.00 |
| M2.3 x 0.45 | 023 | 63.00 | 023 | 57.00 | 023 | 57.00 |
| M2.5 x 0.45 | 025 | 57.00 | 025 | 49.80 | 025 | 49.80 |
| M2.6 x 0.45 | 026 | 57.00 | 026 | 49.80 | 026 | 49.80 |
| M3 x 0.5 | 030 | 52.00 | 030 | 49.00 | 030 | 49.00 |
| M3.5 x 0.6 | 035 | 51.00 | 035 | 43.40 | 035 | 44.80 |
| M4 x 0.7 | 040 | 48.40 | 040 | 42.80 | 040 | 43.40 |
| M4.5 x 0.75 | 045 | 48.40 | 045 | 42.80 | 045 | 43.40 |
| M5 x 0.8 | 050 | 47.60 | 050 | 42.80 | 050 | 43.40 |
| M6 x 1 | 060 | 45.60 | 060 | 42.80 | 060 | 43.40 |
| Unit price, € | | | | | | |

| Thread type x nominal diameter x pitch | Thread plug gauge CI 32670... Ref. no. | | Go ring gauge CI 32675... Ref. no. | | No-go ring gauge CI 32676... Ref. no. | |
|---|---|---|---|---|---|---|
| M7 x 1 | 070 | 45.60 | 070 | 42.80 | 070 | 43.40 |
| M8 x 1.25 | 080 | 45.60 | 080 | 43.40 | 080 | 44.80 |
| M9 x 1.25 | 090 | 47.60 | 090 | 49.00 | 090 | 49.00 |
| M10 x 1.5 | 100 | 49.80 | 100 | 53.00 | 100 | 54.00 |
| M11 x 1.5 | 110 | 52.00 | 110 | 57.00 | 110 | 57.00 |
| M12 x 1.75 | 120 | 53.00 | 120 | 63.00 | 120 | 64.00 |
| M14 x 2 | 140 | 60.00 | 140 | 69.00 | 140 | 69.00 |
| M16 x 2 | 160 | 64.00 | 160 | 76.00 | 160 | 76.00 |
| M18 x 2.5 | 180 | 68.00 | 180 | 84.00 | 180 | 86.00 |
| M20 x 2.5 | 200 | 72.00 | 200 | 97.00 | 200 | 97.00 |
| M22 x 2.5 | 220 | 80.00 | 220 | 102.00 | 220 | 102.00 |
| M24 x 3 | 240 | 91.00 | 240 | 106.00 | 240 | 108.00 |
| M27 x 3 | 270 | 100.00 | 270 | 120.00 | 270 | 120.00 |
| M30 x 3.5 | 300 | 108.00 | 300 | 132.00 | 300 | 132.00 |
| M33 x 3.5 | 330 | 126.00 | 330 | 140.00 | 330 | 140.00 |
| M36 x 4 | 360 | 132.00 | 360 | 150.00 | 360 | 150.00 |
| M39 x 4 | 390 | 142.00 | 390 | 160.00 | 390 | 160.00 |
| Unit price, € | | | | | | |

## ATORN METRIC THREAD PITCH GAUGES

### TiN on GO side, gauge steel on NO-GO side


Illustration may be different

Titanium nitride coatings, or TiN for short, have an approximately 10 times higher wear resistance than pure gauge steel. A coating of TiN on the GO side, which is subject to significantly higher wear than the NO-GO side, significantly extends the service life. Gauges need to be replaced less often and calibration intervals can be extended. Sustainability and cost reduction in one.

**Specifications:**
- Material: TiN

**APPROX. 10 TIMES HIGHER WEAR RESISTANCE**

| Thread type x nominal diameter x pitch | Thread plug gauge, 6H CI 32696... Ref. no. | |
|---|---|---|
| M3 x 0.5 | 030 | 102.00 |
| M4 x 0.7 | 040 | 96.00 |
| M5 x 0.8 | 050 | 92.00 |
| M6 x 1.0 | 060 | 89.00 |
| M8 x 1.25 | 080 | 96.00 |
| M10 x 1.5 | 100 | 102.00 |
| M12 x 1.75 | 120 | 114.00 |
| M14 x 2.0 | 140 | 138.00 |
| M16 x 2.0 | 160 | 142.00 |
| M18 x 2.5 | 180 | 156.00 |
| M20 x 2.5 | 200 | 164.00 |
| Unit price, € | | |

## leitech THREAD PLUG GAUGES WITH DEPTH MEASUREMENT

Do you also need to measure the thread depth? And do you need to carry out an additional step with a depth measuring instrument? Why not combine the thread depth measurement with a simultaneous thread test? With the digital thread plug gauges, the thread depth is determined when screwing in the GO side and output via an electronic display. The threaded inserts can be easily changed. As a result, only a small part of the gauge needs to be replaced in the event of wear. A suitable adjustment tool is included in the scope of delivery of the plug gauge.

**Specifications:**
- Tolerance class: 6H

**EASY REPLACEMENT OF THE INDICATOR CONTACT POINTS**

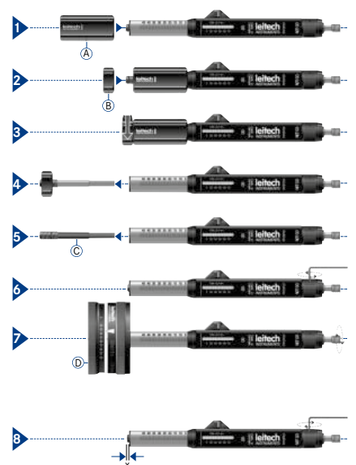
| Length gradation of measuring systems | | Digital 0.01 mm | | Go side | | No go | |
|---|---|---|---|---|---|---|---|
| Data transmission type | | RS232 opto-coupled | | | | | |
| Thread type x nominal diameter x pitch | Handle size | CI 32853... Ref. no. | | CI 32852... Ref. no. | | CI 32852... Ref. no. | |
| M2 x 0.4 | T 200 | 020 | 740.00 | 020 | 64.00 | 300 | 56.00 |
| M2.5 x 0.45 | T 200 | 040 | 730.00 | 025 | 55.00 | 310 | 48.80 |
| M3 x 0.5 | T 200 | 060 | 730.00 | 030 | 55.00 | 320 | 48.80 |
| M3.5 x 0.6 | T 200 | 080 | 730.00 | 035 | 48.80 | 330 | 43.20 |
| M4 x 0.7 | T 300 | 100 | 730.00 | 040 | 48.00 | 340 | 42.40 |
| M5 x 0.8 | T 300 | 140 | 730.00 | 050 | 45.60 | 350 | 40.80 |
| M6 x 1 | T 300 | 160 | 730.00 | 060 | 44.80 | 360 | 39.20 |
| M7 x 1 | T 400 | 180 | 820.00 | 070 | 43.20 | 370 | 38.00 |
| M8 x 1.25 | T 400 | 210 | 820.00 | 080 | 44.00 | 380 | 38.60 |
| Unit price, € | | | | | | | |

| Length gradation of measuring systems | | Digital 0.01 mm | | Go side | | No go | |
|---|---|---|---|---|---|---|---|
| Data transmission type | | RS232 opto-coupled | | | | | |
| Thread type x nominal diameter x pitch | Handle size | CI 32853... Ref. no. | | CI 32852... Ref. no. | | CI 32852... Ref. no. | |
| M9 x 1.25 | T 400 | 240 | 820.00 | 090 | 44.80 | 390 | 39.20 |
| M10 x 1.5 | T 400 | 280 | 820.00 | 100 | 45.60 | 400 | 40.80 |
| M12 x 1.75 | T 400 | 340 | 820.00 | 120 | 48.80 | 410 | 43.20 |
| M14 x 2 | T 500 | 380 | 900.00 | 140 | 52.00 | 420 | 45.60 |
| M16 x 2 | T 500 | 430 | 900.00 | 160 | 55.00 | 430 | 48.80 |
| M18 x 2.5 | T 600 | 470 | 960.00 | 180 | 59.00 | 440 | 52.00 |
| M20 x 2.5 | T 600 | 500 | 960.00 | 200 | 64.00 | 450 | 56.00 |
| M22 x 2.5 | T 600 | 540 | 960.00 | 220 | 68.00 | 460 | 60.00 |
| Unit price, € | | | | | | | |

## leitech EXTRACTOR

For changing the thread inserts of Leitech thread limit plug gauges. An appropriate hexagon nut for the thread to be changed is also required. The nut uses the extractor to pull the threaded insert out of the handle of the arbour.


| Handle size | CI 32859... Ref. no. | |
|---|---|---|
| T 200 | 200 | 26.00 |
| T 300 | 300 | 26.40 |
| T 400 | 400 | 29.00 |
| T 500 | 500 | 33.00 |
| T 600 | 600 | 39.60 |
| | Unit price, € | |



## ATORN THREAD OUTSIDE MICROMETER

### for measuring male threads

Thread measurement has advantages over simple thread testing. You get an exact measurement and can adjust your machine before you produce rejects or excess. A threaded outside micrometer is suitable for measuring external threads. You can determine all threads within the measuring range of the micrometer using the interchangeable inserts and the appropriate setting gauges. The scope of delivery of the micrometer does not include inserts or setting gauges.

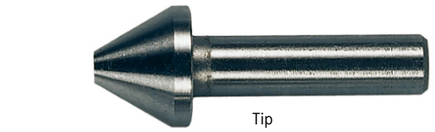
**Specifications:**
- Vernier scale: 0.01 mm
- Measuring spindle increments: 0.5 mm


| Min./max. length measuring range | CI 31579... Ref. no. | |
|---|---|---|
| 0-25 mm | 005 | 358.00 |
| 25-50 mm | 025 | 370.00 |
| 50-75 mm | 050 | 390.00 |
| 75-100 mm | 075 | 430.00 |
| 100-125 mm | 100 | 480.00 |
| 125-150 mm | 125 | 530.00 |
| 150-200 mm | 150 | 790.00 |
| | Unit price, € | |

## ATORN THREAD FLANK INDICATOR CONTACT POINTS 60°

Suitable thread flank indicator contact points 60° for metric and UNC/UNF threads, supplied in pairs. Selection is based on the thread pitch.

**Specifications:**
- Adapter diameter: 3.5 mm
- Angle: 60 degrees



Tip



Prism

| Min./max. pitch | Number of thread per inch | CI 31581... Ref. no. | |
|---|---|---|---|
| 0.35-0.5 mm | 72-48 | 001 | 142.00 |
| 0.6-0.8 mm | 44-32 | 002 | 124.00 |
| 0.9-1.25 mm | 28-18 | 003 | 124.00 |
| 1.5-2 mm | 16-11 | 004 | 124.00 |
| 2.5-3.5 mm | 10-7 | 005 | 124.00 |
| 4-6 mm | 6-4 | 006 | 142.00 |
| | | Pair price, € | |

**INDICATOR CONTACT POINTS FOR OTHER THREAD TYPES AVAILABLE ON REQUEST**

## ATORN THREAD SETTING GAUGE 60°

Suitable thread setting gauge with insulated grip.

**Specifications:**
- Angle: 60 degrees

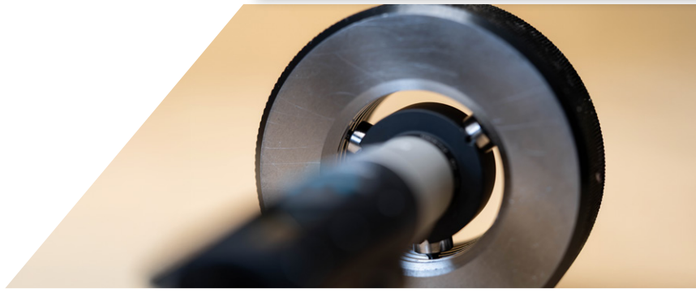

| Length (mm) | CI 31580... Ref. no. | |
|---|---|---|
| 25 | 025 | 90.00 |
| 50 | 050 | 91.00 |
| 75 | 075 | 93.00 |
| 100 | 100 | 93.00 |
| 125 | 125 | 93.00 |
| 175 | 175 | 106.00 |
| | Unit price, € | |

## 3-POINT INSIDE MICROMETERS, MODULAR MEASURING CONTACT SYSTEM

### with large measuring ranges

Measuring internal threads is much more difficult and complex than measuring external threads. The high-precision three-point inside micrometer from MICROTEST offers a solution for this. The numbered spherical indicator contact points of the modular system are placed in a polygonal holder on the measuring pins. Spherical indicator contact points suitable for the pitch to be measured can be used to measure all internal threads with this pitch within the measuring range of the micrometer.
Of course, the measuring system can also be used with other indicator contact points for many other internal measurements. The central bevel gear drive offers advantages in terms of measuring difference per device, accuracy, wear and uniform measuring pressure. With optional extensions (not included in scope of delivery) the devices can be extended to a measuring depth of up to 15 metres. The indicator contact points shown are not included in the scope of delivery.

**FLEXIBLE CONFIGURATION**



**Specifications:**
- Scale increment: 0.001 mm
- Measuring contact design: Carbide
- Measuring spindle increments: 1 mm
- IP degree of protection: IP 54
- Functions: ABS function | On/off | Preset function | With mm/inch changeover | With zero setting at any position

| | | | Type | MICROTEST Modular |
|---|---|---|---|---|
| | | | Data transmission type | RS232 opto-coupled |
| Min./max. length measuring range | Measuring depth (mm) | Error limit (mm) | CI 31801... Ref. no. | |
| 45-55 mm | 110 | 0.002 | 400 | 2,240.00 |
| 55-75 mm | 110 | 0.002 | 410 | 2,500.00 |
| 75-105 mm | 140 | 0.002 | 420 | 3,100.00 |
| 105-155 mm | 210 | 0.002 | 430 | 3,620.00 |
| 155-255 mm | 210 | 0.003 | 440 | 5,700.00 |
| 255-415 mm | 300 | 0.004 | 450 | 7,900.00 |
| | | | Unit price | |

Supplied without indicator contact points

## INTERCHANGEABLE INDICATOR CONTACT POINTS FOR MODULAR MICROTEST THREE-POINT INSIDE MICROMETERS

Interchangeable indicator contact points suitable for Microtest modular inside micrometer. A set consists of three numbered indicator contact points of your choice (e.g. spherical for 4 mm pitch). **Please state the requested version in the order.**

**SPECIAL INDICATOR CONTACT POINTS AVAILABLE ON REQUEST**

| | Type | Min./max. length of application area | | |
|---|---|---|---|---|
| CI31801... | Modular measurement attachments | 45-105 mm | Ref. no. Set price | 460 570.00 |
| CI31801... | Modular measurement attachments | 105-405 mm | Ref. no. Set price | 470 570.00 |

Image shows a sample

# QUICK AND EASY SELECTION OF THE RIGHT GAUGE

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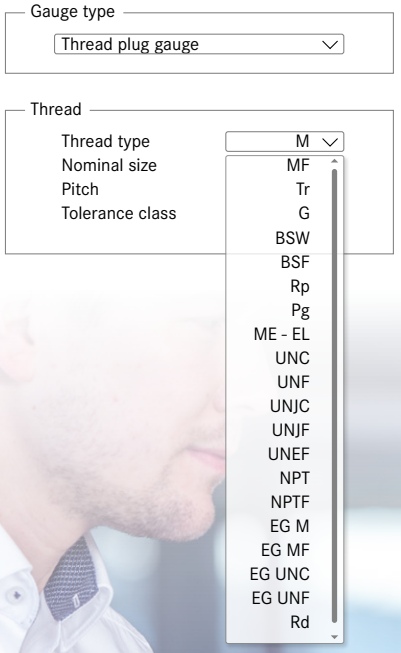
**The advantages:**

> clear specification of gauges
> quick to access and easy to use
> automatic shopping basket generation and submission of quotations







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