

Demonstration

Advantages of Spiral Mill-Thread Tools

- The spiral designed tools enable a smooth cutting operation at a high feed rate and reduced machining time.
- The tools suit a wide range of applications, from machining small components in small machining centers to heavy-duty applications in high power milling machines.
- Spiral fluted toolholders hold 1 to 9 inserts in a comparatively small cutting diameter.
- The unique clamping method enables optimal indexability.
- Spiral tools reduce vibration and chatter.
- High grade finish is achieved in all applications: threading, end milling roughing and finishing.
- Inserts are available in MT7 Sub-Micron Grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). This is a general purpose grade, which can be used with all materials.

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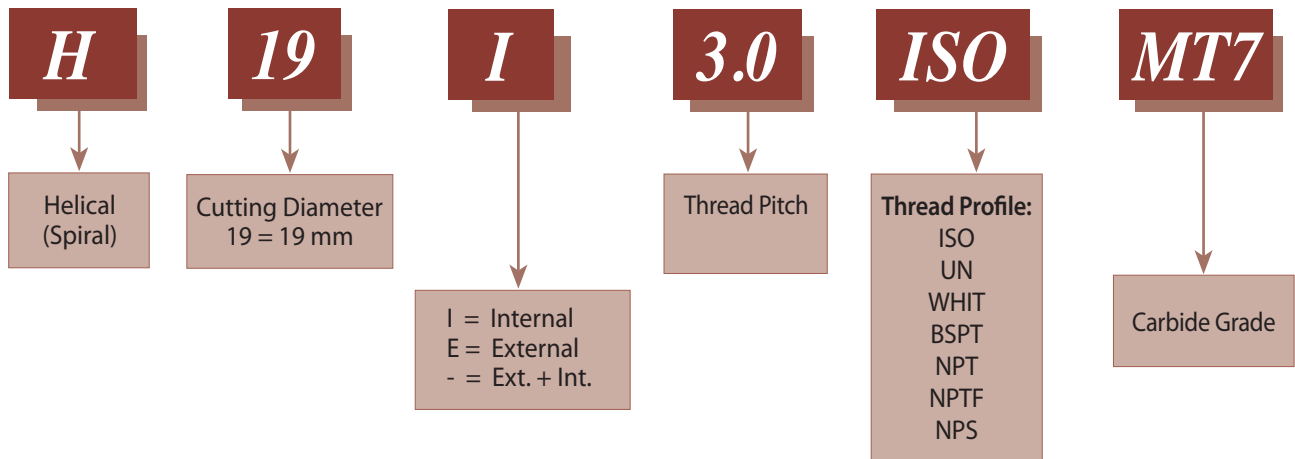
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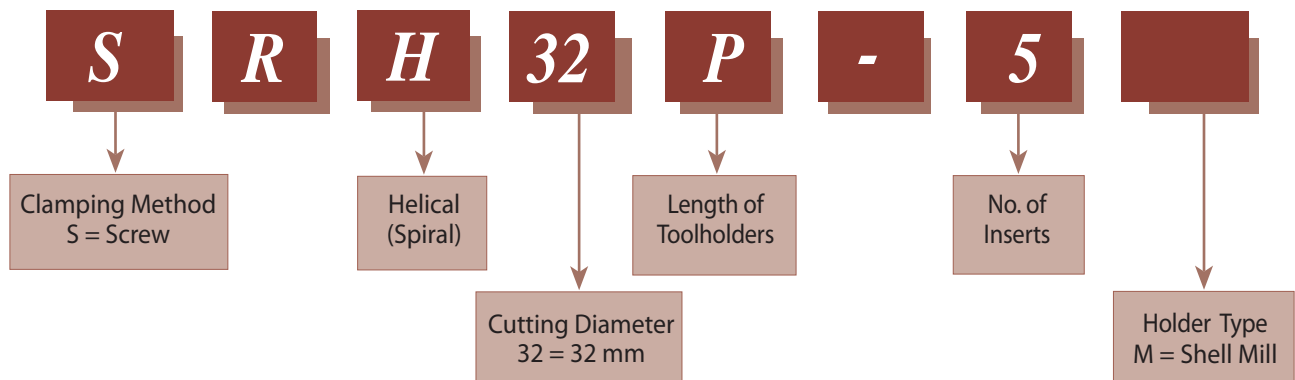
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Product Identification - Ordering Codes

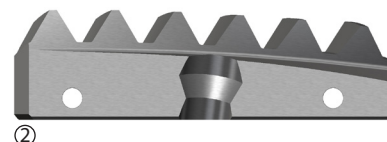
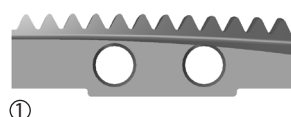
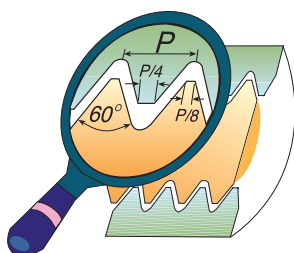
Spiral Mill - Thread Inserts



Spiral Mill - Thread Toolholders

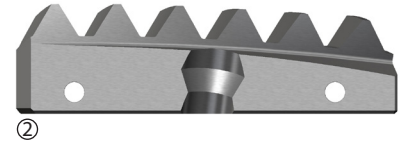
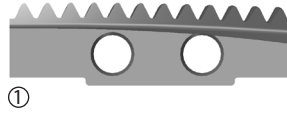
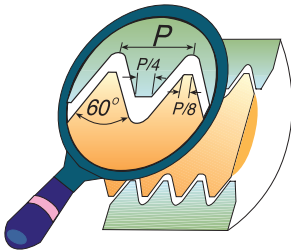


ISO



| Insert Size | Fig. | Pitch mm | Ext./ Int. | M coarse | M fine | Ordering code | Toolholder |
|-------------|------|----------|------------|----------------------|--------|----------------------|------------|
| H13 | 1 | 1.0 | Int. | | ≥ 15 | H13 I 1.0 ISO | SRH13... |
| | | 1.5 | Int. | | ≥ 16 | H13 I 1.5 ISO | |
| | | 2.0 | Int. | M16 | ≥ 17 | H13 I 2.0 ISO | |
| H15 | 1 | 1.0 | Int. | | ≥ 17 | H15 I 1.0 ISO | SRH15... |
| | | 1.5 | Int. | | ≥ 18 | H15 I 1.5 ISO | |
| | | 2.0 | Int. | | ≥ 19 | H15 I 2.0 ISO | |
| H17 | 1 | 2.5 | Int. | M18 | ≥ 20 | H15 I 2.5 ISO | SRH17... |
| | | 1.0 | Int. | | ≥ 19 | H17 I 1.0 ISO | |
| | | 1.5 | Int. | | ≥ 20 | H17 I 1.5 ISO | |
| H19 | 1 | 2.0 | Int. | | ≥ 21 | H17 I 2.0 ISO | SRH19... |
| | | 2.5 | Int. | M20, M22 | ≥ 22 | H17 I 2.5 ISO | |
| | | 1.5 | Int. | | ≥ 22 | H19 I 1.5 ISO | |
| H23 | 2 | 2.0 | Int. | | ≥ 23 | H19 I 2.0 ISO | SRH23... |
| | | 3.0 | Int. | M24, M27 | ≥ 25 | H19 I 3.0 ISO | |
| | | 1.0 | Ext. | | ≥ 25 | H23 E 1.0 ISO | |
| H28 | 2 | 1.0 | Ext. | | ≥ 26 | H23 E 1.0 ISO | SRH28... |
| | | 1.5 | Ext. | | ≥ 26 | H23 E 1.5 ISO | |
| | | 1.5 | Int. | | ≥ 27 | H23 I 1.5 ISO | |
| | | 2.0 | Ext. | | ≥ 27 | H23 E 2.0 ISO | |
| | | 2.0 | Int. | | ≥ 27 | H23 I 2.0 ISO | |
| | | 3.0 | Ext. | | ≥ 29 | H23 E 3.0 ISO | |
| | | 3.0 | Int. | | ≥ 29 | H23 I 3.0 ISO | |
| | | 3.5 | Int. | M30, M33 | ≥ 30 | H23 I 3.5 ISO | |
| 4.0 | Int. | M36 | ≥ 31 | H23 I 4.0 ISO | | | |
| H32 | 2 | 4.0 | Int. | M36, M39 | ≥ 40 | H28 I 4.0 ISO | SRH32... |
| | | 1.0 | Int. | | ≥ 34 | H32 I 1.0 ISO | |
| | | 1.5 | Ext. | | ≥ 35 | H32 E 1.5 ISO | |
| | | 1.5 | Int. | | ≥ 35 | H32 I 1.5 ISO | |
| | | 2.0 | Ext. | | ≥ 36 | H32 E 2.0 ISO | |
| | | 2.0 | Int. | | ≥ 36 | H32 I 2.0 ISO | |
| | | 3.0 | Ext. | | ≥ 38 | H32 E 3.0 ISO | |
| | | 3.0 | Int. | | ≥ 38 | H32 I 3.0 ISO | |
| | | 3.5 | Int. | | ≥ 39 | H32 I 3.5 ISO | |
| | | 4.0 | Ext. | | ≥ 39 | H32 E 4.0 ISO | |
| H45 | 2 | 4.0 | Int. | M39 | ≥ 40 | H32 I 4.0 ISO | SRH45... |
| | | 4.5 | Int. | M42, M45 | ≥ 41 | H32 I 4.5 ISO | |
| | | 5.0 | Int. | M48 | ≥ 42 | H32 I 5.0 ISO | |
| | | 1.5 | Ext. | | ≥ 48 | H45 E 1.5 ISO | |
| | | 1.5 | Int. | | ≥ 48 | H45 I 1.5 ISO | |
| | | 2.0 | Ext. | | ≥ 49 | H45 E 2.0 ISO | |
| | | 2.0 | Int. | | ≥ 49 | H45 I 2.0 ISO | |
| | | 3.0 | Int. | | ≥ 51 | H45 I 3.0 ISO | |
| | | 3.5 | Int. | | ≥ 52 | H45 I 3.5 ISO | |
| H63 | 2 | 4.0 | Int. | M52 | ≥ 55 | H45 I 4.0 ISO | SRH63... |
| | | 4.5 | Int. | | ≥ 54 | H45 I 4.5 ISO | |
| | | 5.0 | Int. | M56, M60 | ≥ 56 | H45 I 5.0 ISO | |
| | | 5.5 | Int. | M64, M68 | ≥ 57 | H45 I 5.5 ISO | |
| | | 6.0 | Int. | | ≥ 57 | H45 I 6.0 ISO | |
| | | 1.5 | Int. | | ≥ 66 | H63 I 1.5 ISO | |
| | | 2.0 | Int. | | ≥ 67 | H63 I 2.0 ISO | |
| | | 3.0 | Int. | | ≥ 69 | H63 I 3.0 ISO | |
| 4.0 | Int. | | ≥ 71 | H63 I 4.0 ISO | | | |
| | | 6.0 | Int. | | ≥ 75 | H63 I 6.0 ISO | |

UN

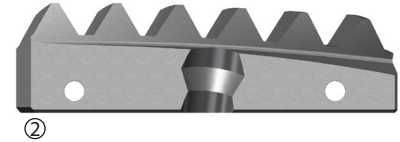
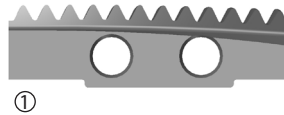
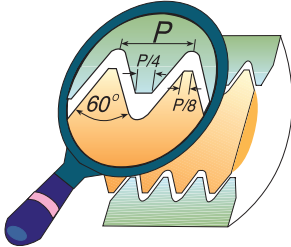


| Insert Size | Fig. | Pitch TPI | Ext./ Int. | UN | UNC | UNF | UNS | Ordering code | Toolholder |
|-------------|------|-----------------|------------|-----------------|--------------|-------------------|-----------|---------------------|------------|
| H13 | 1 | 16 | Int. | 5/8, 11/16 | | | | H13 I 16 UN | SRH13... |
| | | 14 | Int. | | | | 5/8 | H13 I 14 UN | |
| | | 12 | Int. | 11/16 | | | | H13 I 12 UN | |
| H15 | 1 | 16 | Int. | | | 3/4 | | H15 I 16 UN | SRH15... |
| | | 14 | Int. | | | | 3/4 | H15 I 14 UN | |
| | | 12 | Int. | 3/4, 13/16 | | | | H15 I 12 UN | |
| | | 10 | Int. | | 3/4 | | 7/8, 1 | H15 I 10 UN | |
| H17 | 1 | 20 | Int. | 1 1/16, 1 1/8 | | *13/16 - 1 | | H17 I 20 UN | SRH17... |
| | | 16 | Int. | 13/16 - 1 | | | | H17 I 16 UN | |
| | | 14 | Int. | | | 7/8, 1 | | H17 I 14 UN | |
| | | 12 | Int. | 7/8 | | | | H17 I 12 UN | |
| H19 | 1 | 9 | Int. | | 7/8 | | | H17 I 9 UN | SRH19... |
| | | 12 | Int. | 15/16 | | 1 | | H19 I 12 UN | |
| H19 | 1 | 8 | Int. | 1 1/16, 1 1/8 | 1 | | | H19 I 8 UN | SRH19... |
| | | 32 | Int. | 1 | | | 1 - 1 1/4 | H23 I 32 UN | |
| H23 | 2 | 24 | Int. | | | | | H23 I 24 UN | SRH23... |
| | | 20 | Ext. | | | | | H23 E 20 UN | |
| | | 20 | Int. | 1 1/16 - 1 5/16 | | | | H23 I 20 UN | |
| | | 18 | Ext. | | | | | H23 E 18 UN | |
| | | 18 | Int. | | | | 1 | H23 I 18 UN | |
| | | 16 | Ext. | | | | | H23 E 16 UN | |
| | | 16 | Int. | 1 1/16 - 1 5/16 | | | | H23 I 16 UN | |
| | | 14 | Ext. | | | | | H23 E 14 UN | |
| | | 14 | Int. | | | | ≥1 1/8 | H23 I 14 UN | |
| | | 12 | Ext. | | | | | H23 E 12 UN | |
| | | 12 | Int. | 1 1/16 - 1 3/16 | | 1 1/8 | | H23 I 12 UN | |
| | | 10 | Ext. | | | | | H23 E 10 UN | |
| | | 10 | Int. | | | | ≥1 1/8 | H23 I 10 UN | |
| | | 8 | Ext. | | | | | H23 E 8 UN | |
| 8 | Int. | 1 3/16 - 1 5/16 | | | | H23 I 8 UN | | | |
| H28 | 2 | 7 | Ext. | | | | | H23 E 7 UN | SRH28... |
| | | 7 | Int. | | 1 1/4 | | | H23 I 7 UN | |
| | | 12 | Int. | 1 5/16 | | 1 1/4, 1 3/8 | | H28 I 12 UN | |
| H28 | 2 | 8 | Int. | 1 3/8 - 1 7/16 | | | | H28 I 8 UN | SRH28... |
| | | 6 | Int. | 1 7/16, 1 9/16 | 1 3/8, 1 1/2 | | | H28 I 6 UN | |
| | | 24 | Ext. | | | | ≥1 3/8 | H32 E 24 UN | |
| H32 | 2 | 20 | Ext. | | | | | H32 E 20 UN | SRH32... |
| | | 20 | Int. | ≥1 3/8 | | | | H32 I 20 UN | |
| | | 18 | Ext. | | | | | H32 E 18 UN | |
| | | 18 | Int. | | | | ≥1 3/4 | H32 I 18 UN | |
| | | 16 | Ext. | | | | | H32 E 16 UN | |
| | | 16 | Int. | 1 3/8 - 1 7/8 | | | | H32 I 16 UN | |
| | | 12 | Ext. | | | | | H32 E 12 UN | |
| | | 12 | Int. | 1 7/16 - 1 7/8 | | 1 1/2 | | H32 I 12 UN | |
| | | 8 | Ext. | | | | | H32 E 8 UN | |
| | | 8 | Int. | 1 1/2 - 2 | | | | H32 I 8 UN | |
| H40 | 2 | 6 | Ext. | | | | | H32 E 6 UN | SRH40... |
| | | 6 | Int. | 1 5/8 - 1 7/8 | | | | H32 I 6 UN | |
| | | 5 | Int. | | 1 3/4 | | | H32 I 5 UN | |
| | | 6 | Int. | 1 15/16, 2 | | | | H40 I 6 UN | |
| | | 4.5 | Int. | | 2 | | | H40 I 4.5 UN | |

*Only UNEF



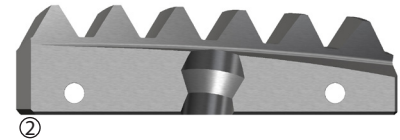
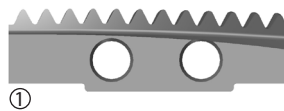
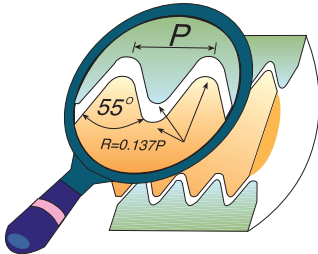
UN



| Insert Size | Fig. | Pitch TPI | Ext./ Int. | UN | UNC | UNF | UNS | Ordering code | Toolholder |
|-------------|------|-----------|------------|-----------------|-----|---------------|------------|---------------------|------------|
| H45 | 2 | 16 | Int. | 1 15/16 - 2 1/2 | | | 2 1/16 - 2 | H45 I 16 UN | SRH45... |
| | | 12 | Int. | 1 15/16 - 2 5/8 | | | | H45 I 12 UN | |
| | | 8 | Int. | 2 1/8 - 2 5/8 | | | | H45 I 8 UN | |
| | | 6 | Int. | 2 1/8 - 2 3/4 | | | | H45 I 6 UN | |
| | | 4.5 | Int. | | | 2 1/4 | | H45 I 4.5 UN | |
| | | 4 | Int. | | | 2 1/2 - 2 3/4 | | H45 I 4 UN | |
| H63 | 2 | 16 | Int. | ≥ 2 5/8 | | | | H63 I 16 UN | SRH63... |
| | | 12 | Int. | ≥ 2 3/4 | | | | H63 I 12 UN | |
| | | 8 | Int. | ≥ 2 3/4 | | | | H63 I 8 UN | |
| | | 6 | Int. | ≥ 2 7/8 | | | | H63 I 6 UN | |
| | | 4 | Int. | | | ≥ 3 | | H63 I 4 UN | |

Whitworth

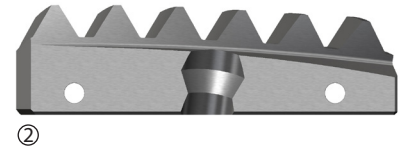
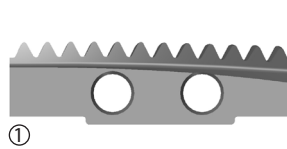
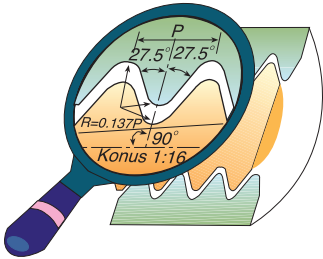
Same insert for internal and external thread



| Insert Size | Fig. | Pitch TPI | Ordering code | Thread Size | Toolholder |
|-------------|------|-----------|------------------|--------------------------------|------------|
| H13 | 1 | 19 | H13- 19 W | G 3/8 | SRH13... |
| H15 | 1 | 14 | H15- 14 W | G 1/2 | SRH15... |
| H17 | 1 | 14 | H17- 14 W | G 1/2 - 5/8 | SRH17... |
| | | 11 | H17- 11 W | G ≥ 1" | |
| H19 | 1 | 14 | H19- 14 W | G 3/4 - 7/8 | SRH19... |
| | | 11 | H19- 11 W | G ≥ 1" | |
| H23 | 2 | 14 | H23-14 W | Int. G 7/8" Ext. ≥ G 1/2" | SRH23... |
| | | 11 | H23-11 W | ≥ G 1" | |
| H32 | 2 | 14 | H32-14 W | Ext. ≥ G 1/2" | SRH32... |
| | | 11 | H32-11 W | Int. ≥ G 1 1/8" Ext. ≥ G 1" | |
| H45 | 2 | 11 | H45-11 W | Int. ≥ G 1 3/4" Ext. ≥ G 1" | SRH45... |
| H63 | 2 | 11 | H63-11 W | Int. ≥ G 2 1/2" Ext. ≥ G 1" | SRH63... |

BSPT

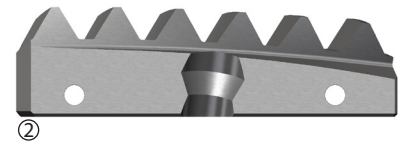
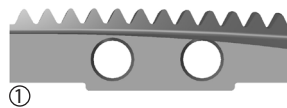
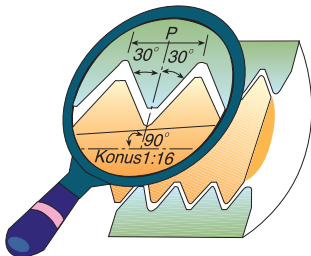
Same insert for internal and external thread



| Insert Size | Fig. | Pitch TPI | Ordering code | Thread Size | Toolholder |
|-------------|------|-----------|--------------------|----------------------------|------------|
| H13 | 1 | 19 | H13-19 BSPT | 3/8 | SRH13... |
| H15 | 1 | 14 | H15-14 BSPT | 1/2 - 3/4 | SRH15... |
| H17 | 1 | 14 | H17-14 BSPT | 1/2 - 3/4 | SRH17... |
| H23 | 2 | 11 | H23-11 BSPT | ≥ 1" | SRH23... |
| H32 | 2 | 11 | H32-11 BSPT | Int. ≥ 1 1/8" Ext. ≥ 1" | SRH32... |
| H45 | 2 | 11 | H45-11 BSPT | Int. ≥ 1 3/4" Ext. ≥ 1" | SRH45... |
| H63 | 2 | 11 | H63-11 BSPT | Int. ≥ 2 1/2" Ext. ≥ 1" | SRH63... |

NPT

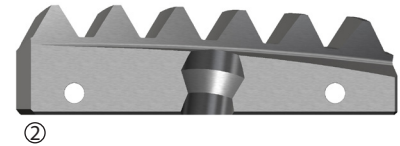
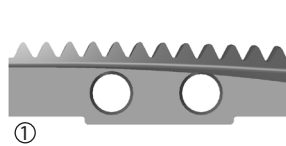
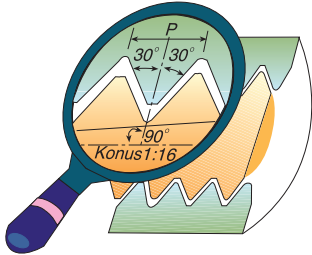
Same insert for internal and external thread



| Insert Size | Fig. | Pitch TPI | Ordering code | Thread Size | Toolholder |
|-------------|------|-----------|---------------------|----------------------------------|------------|
| H13 | 1 | 18 | H13-18 NPT | 3/8 | SRH13... |
| H15 | 1 | 14 | H15-14 NPT | 1/2 - 3/4 | SRH15... |
| H17 | 1 | 14 | H17-14 NPT | 1/2 - 3/4 | SRH17... |
| H23 | 2 | 11.5 | H23-11.5 NPT | 1" - 2" | SRH23... |
| H32 | 2 | 14 | H32-14 NPT | Ext. 1/2" - 3/4" | SRH32... |
| | | 11.5 | H32-11.5 NPT | Int. 1 1/4" - 2" Ext. 1" - 2" | |
| H45 | 2 | 11.5 | H45-11.5 NPT | Int. ≥ 2" Ext. ≥ 1" | SRH45... |
| | | 8 | H45-8 NPT | ≥ 2 1/2" | |
| H63 | 2 | 11.5 | H63-11.5 NPT | Ext. 1 - 2" | SRH63... |
| | | 8 | H63-8 NPT | ≥ 3" | |

NPTF

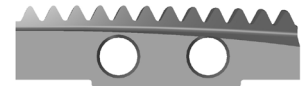
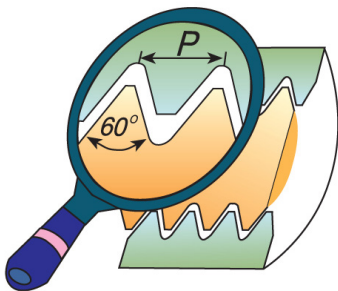
Same insert for internal and external thread



| Insert Size | Fig. | Pitch TPI | Ordering code | Thread Size | Toolholder |
|-------------|------|-----------|----------------------|-------------------------------|------------|
| H13 | 1 | 18 | H13-18 NPTF | 3/8 | SRH13... |
| H15 | 1 | 14 | H15-14 NPTF | 1/2 - 3/4 | SRH15... |
| H17 | 1 | 14 | H17-14 NPTF | 1/2 - 3/4 | SRH17... |
| H23 | 2 | 11.5 | H23-11.5 NPTF | 1"-2" | SRH23... |
| H32 | 2 | 11.5 | H32-11.5 NPTF | Int. 1 1/4"-2" Ext. 1" -2" | SRH32... |

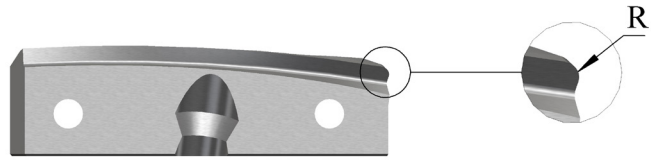
NPS

Same insert for internal and external thread



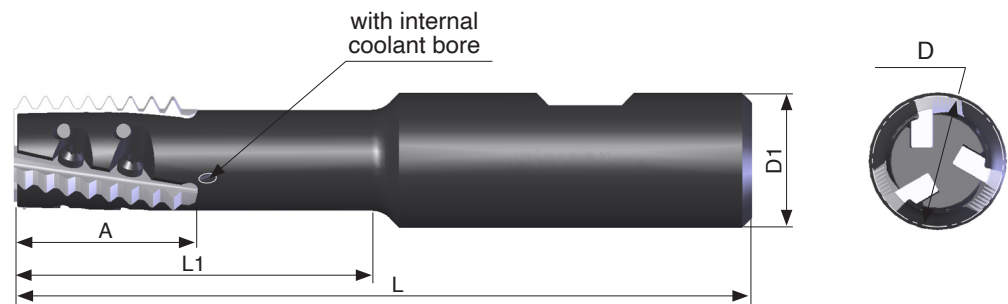
| Insert Size | Pitch TPI | Ordering code | Thread Size | Toolholder |
|-------------|-----------|--------------------|-------------|------------|
| H13 | 18 | H13- 18 NPS | 3/8 | SRH13... |
| H15 | 14 | H15- 14 NPS | 1/2 - 3/4 | SRH15... |
| H17 | 14 | H17- 14 NPS | 1/2 - 3/4 | SRH17... |

Spiral Finishing Inserts



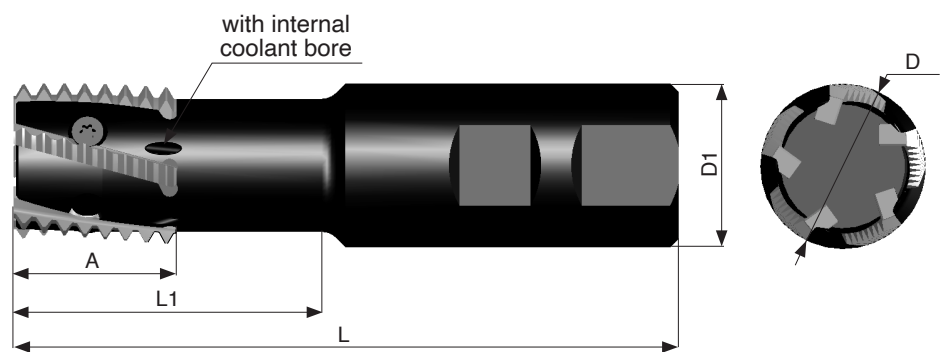
| Insert Size | R | Ordering code | Toolholder |
|-------------|-----|--------------------|------------|
| H23 | 0.2 | H23 F R 0.2 | SRH23... |
| | 0.5 | H23 F R 0.5 | |
| | 1.0 | H23 F R 1.0 | |
| H32 | 0.2 | H32 F R 0.2 | SRH32... |
| | 0.5 | H32 F R 0.5 | |
| | 1.0 | H32 F R 1.0 | |
| H45 | 0.2 | H45 F R 0.2 | SRH45... |
| | 0.5 | H45 F R 0.5 | |
| | 1.0 | H45 F R 1.0 | |
| | 1.5 | H45 F R 1.5 | |
| | 2.0 | H45 F R 2.0 | |
| H63 | 0.2 | H63 F R 0.2 | SRH63... |
| | 0.5 | H63 F R 0.5 | |
| | 1.0 | H63 F R 1.0 | |
| | 1.5 | H63 F R 1.5 | |
| | 2.0 | H63 F R 2.0 | |

Toolholders

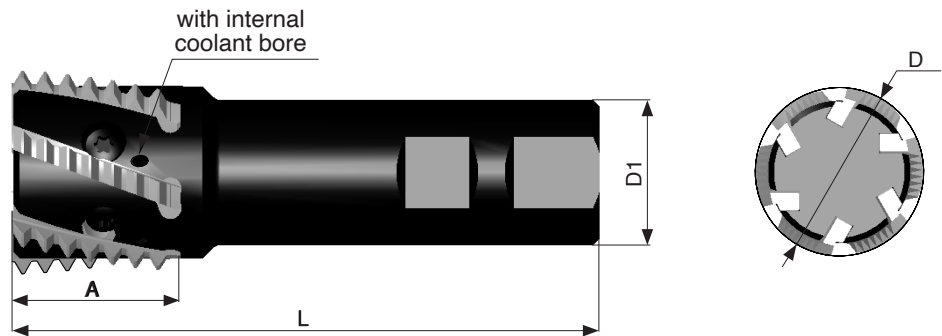


| Ordering Code | Insert Type | Insert size A | D | D1 | L | L1 | No. of Inserts | Screw | Key |
|-------------------|-------------|---------------|----|----|-----|----|----------------|-------|-----|
| SRH13S-1 | H13 | 27 | 13 | 20 | 80 | 26 | 1 | S13 | K11 |
| SRH13-1 | H13 | 27 | 13 | 20 | 90 | 35 | 1 | S13 | K11 |
| SRH15-1 | H15 | 27 | 15 | 20 | 95 | 40 | 1 | S15 | K11 |
| * SRH17-2 | H17 | 27 | 17 | 20 | 85 | 30 | 2 | S17 | K11 |
| * SRH17J-2 | H17 | 27 | 17 | 20 | 100 | 45 | 2 | S17 | K11 |
| SRH19-2 | H19 | 27 | 19 | 20 | 85 | 30 | 2 | S19 | K11 |
| SRH19J-2 | H19 | 27 | 19 | 20 | 110 | 55 | 2 | S19 | K11 |
| SRH19-3 | H19 | 27 | 19 | 20 | 85 | 30 | 3 | S19 | K11 |
| SRH19J-3 | H19 | 27 | 19 | 20 | 110 | 55 | 3 | S19 | K11 |

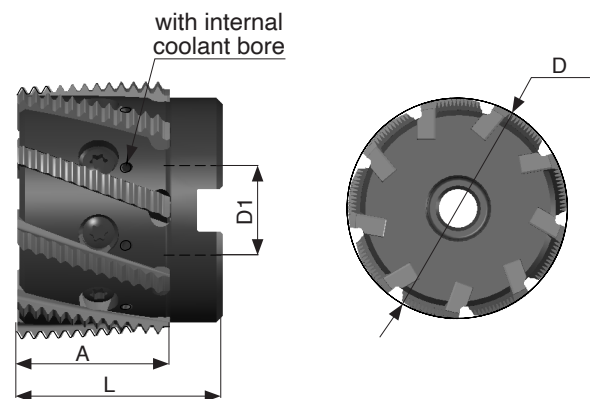
* When using NPT, NPTF, BSPT inserts the cutting diameter D = 18 mm



| Ordering Code | Insert Type | Insert size A | D | D1 | L | L1 | No. of Inserts | Screw | Key |
|-----------------|-------------|---------------|----|----|-----|----|----------------|-------|-----|
| SRH23-2 | H23 | 27 | 23 | 25 | 110 | 50 | 2 | S23 | K21 |
| SRH23M-2 | H23 | 27 | 23 | 25 | 150 | 75 | 2 | S23 | K21 |
| SRH28-3 | H28 | 32 | 28 | 32 | 150 | 75 | 3 | S32S | K22 |
| SRH32-5 | H32 | 32 | 32 | 32 | 130 | 60 | 5 | S32 | K22 |
| SRH32P-5 | H32 | 32 | 32 | 32 | 180 | 90 | 5 | S32 | K22 |



| Ordering Code | Insert Type | Insert size A | D | D1 | L | No. of Inserts | Screw | Key |
|----------------|-------------|---------------|----|----|-----|----------------|-------|-----|
| SRH40-4 | H40 | 37 | 40 | 32 | 180 | 4 | S45S | K40 |
| SRH45-6 | H45 | 37 | 45 | 32 | 130 | 6 | S45 | K40 |



| Ordering Code | Insert Type | Insert size A | D | D1 | L | No. of Inserts | Screw | Key |
|-----------------|-------------|---------------|----|----|----|----------------|-------|-----|
| SRH32-5M | H32 | 32 | 32 | 16 | 52 | 5 | S32S | K22 |
| SRH45-6M | H45 | 37 | 45 | 22 | 60 | 6 | S45S | K40 |
| SRH63-9 | H63 | 38 | 63 | 22 | 50 | 9 | S63 | K40 |

Special Tools

In addition to standard products, CPT manufactures special tools and inserts according to customers' requests. The toolholders are multi-purpose, making them suitable for both roughing and finishing inserts. Special tools are supplied in short delivery times.



Case Studies

Case Study no. 1

| | |
|--------------------|--|
| Thread | M56x1.5 |
| Internal/External | Internal |
| Thread Length | 33.0 |
| Raw Material | Ductile Iron |
| Cutting Speed – Vc | 130 m/min |
| Tooth Load – Fz | 0.15 mm/tooth |
| Toolholder | SRH45 – 6 |
| Insert | H45 I 1.5 ISO MT7 |
| Result | 600 pcs with 0.02 offset (Competitor – 40 pcs with 0.15 offset) |



Case Study no. 2

| | |
|--------------------|------------------------------------|
| Application | Grooves Milling |
| Internal/External | External |
| Raw Material | Cast Steel |
| Cutting Speed – Vc | 195 m/min |
| Tooth Load – Fz | 0.10 mm/tooth |
| Toolholder | SRH63 – 9 |
| Insert | Taylor Made H63 |
| Result | 1350 pcs (Competitor – 540 pcs) |

