

HELICOIL® manual taps

Type 0140.2 | Metric standard and fine thread

Finishing tap (product type 0140.2)

Manual tap for through holes and blind holes to create holding threads (acc. to DIN 8140-2) for HELICOIL® coil thread inserts. A manual tap, a taper tap (product type 0140.1), is required in addition.



Properties:

- 2-pitch chamfer
- Machining of materials with 700 N/mm² strength max.
- Tolerance class 6H mod. corresponds with 5H

Note:

The taper tap (product type 0140.1) must be ordered as a separate item.

Technical information can be found on the last page.

| Diameter (d) | Article number | Version | Pitch (P) | D _{HC} min. | d ₂ nominal size | d ₃ nominal size | d ₄ | L ₁ | L ₂ | L ₃ | L ₄ | K |
|--------------|----------------|---------|-----------|----------------------|-----------------------------|-----------------------------|----------------|----------------|----------------|----------------|----------------|------|
| M 2 | 01402020102 | A | 0.40 | 2.5 | 2.8 | 2 | – | 40 | 9 | 5 | – | 2.1 |
| M 2.5 | 01402250102 | B | 0.45 | 3.1 | 3.5 | 2.5 | 2.6 | 40 | 10 | 6 | 13.5 | 2.7 |
| M 3 | 01402030102 | B | 0.50 | 3.6 | 4 | 3 | 3.1 | 45 | 10 | 6 | 13.5 | 3.0 |
| M 3.5 | 01402350102 | B | 0.60 | 4.3 | 4.5 | 3.5 | 3.6 | 45 | 12 | 6 | 15.5 | 3.4 |
| M 4 | 01402040102 | B | 0.70 | 4.9 | 6 | 4 | 4.2 | 50 | 14 | 8 | 17.5 | 4.9 |
| M 5 | 01402050102 | B | 0.80 | 6.0 | 6 | 5 | 5.2 | 50 | 16 | 8 | 19.5 | 4.9 |
| M 6 | 01402060102 | C | 1.00 | 7.3 | 6 | 6 | – | 56 | 19 | 8 | – | 4.9 |
| M 7 | 01402070102 | C | 1.00 | 8.3 | 7 | 7 | – | 63 | 19 | 8 | – | 5.5 |
| M 8 | 01402080102 | C | 1.25 | 9.6 | 7 | 8 | – | 70 | 22 | 8 | – | 5.5 |
| M 8x1 | 01402083102 | C | 1.00 | 9.3 | 7 | 8 | – | 63 | 19 | 8 | – | 5.5 |
| M 9 | 01402090102 | C | 1.25 | 10.6 | 8 | 9 | – | 70 | 24 | 9 | – | 6.2 |
| M 10 | 01402100102 | C | 1.50 | 11.9 | 9 | 10 | – | 75 | 27 | 10 | – | 7.0 |
| M 10x1 | 01402103102 | C | 1.00 | 11.3 | 9 | 10 | – | 70 | 22 | 10 | – | 7.0 |
| M 10x1.25 | 01402109102 | C | 1.25 | 11.6 | 10 | 9 | – | 70 | 22 | 10 | – | 7.0 |
| M 11 | 01402110102 | C | 1.50 | 12.9 | 11 | 11 | – | 70 | 22 | 12 | – | 9.0 |
| M 12 | 01402120102 | C | 1.75 | 14.3 | 11 | 12 | – | 80 | 30 | 12 | – | 9.0 |
| M 12x1 | 01402123102 | C | 1.00 | 13.3 | 11 | 12 | – | 70 | 22 | 12 | – | 9.0 |
| M 12x1.25 | 01402129102 | C | 1.25 | 13.6 | 11 | 12 | – | 70 | 22 | 12 | – | 9.0 |
| M 12x1.5 | 01402124102 | C | 1.50 | 14.0 | 11 | 12 | – | 70 | 22 | 12 | – | 9.0 |
| M 14 | 01402140102 | C | 2.00 | 16.6 | 12 | 14 | – | 80 | 32 | 12 | – | 9.0 |
| M 14x1.25 | 01402149102 | C | 1.25 | 15.6 | 12 | 14 | – | 70 | 22 | 12 | – | 9.0 |
| M 14x1.5 | 01402144102 | C | 1.50 | 16.0 | 12 | 14 | – | 70 | 22 | 12 | – | 9.0 |
| M 16 | 01402160102 | C | 2.00 | 18.6 | 14 | 16 | – | 80 | 22 | 14 | – | 11.0 |
| M 16x1.5 | 01402164102 | C | 1.50 | 18.0 | 14 | 16 | – | 80 | 22 | 14 | – | 11.0 |
| M 18 | 01402180102 | C | 2.50 | 21.3 | 16 | 18 | – | 95 | 40 | 15 | – | 12.0 |
| M 18x1.5 | 01402184102 | C | 1.50 | 20.0 | 16 | 18 | – | 80 | 22 | 15 | – | 12.0 |
| M 20 | 01402200102 | C | 2.50 | 20.0 | 16 | 18 | – | 80 | 22 | 15 | – | 12.0 |
| M 20x1.5 | 01402204102 | C | 1.50 | 22.0 | 18 | 20 | – | 80 | 22 | 17 | – | 14.5 |
| M 20x2 | 01402205102 | C | 2.00 | 22.0 | 18 | 20 | – | 80 | 22 | 17 | – | 14.5 |
| M 22 | 01402220102 | C | 2.50 | 25.3 | 18 | 22 | – | 110 | 50 | 17 | – | 14.5 |
| M 22x1.5 | 01402224102 | C | 1.50 | 24.0 | 18 | 22 | – | 90 | 22 | 17 | – | 14.5 |
| M 24 | 01402240102 | C | 3.00 | 27.9 | 20 | 24 | – | 110 | 50 | 19 | – | 16.0 |

All technical data refer to the measure mm



HELICOIL® manual taps

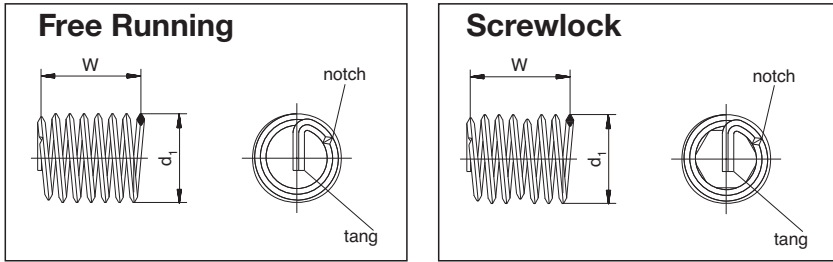
Type 0140.2 | Metric standard and fine thread

| Diameter (d) | Article number | Version | Pitch (P) | D _{HC} min. | d ₂ nominal size | d ₃ nominal size | d ₄ | L ₁ | L ₂ | L ₃ | L ₄ | K |
|-----------------|----------------|---------|--------------|-------------------------|--------------------------------|--------------------------------|----------------|----------------|----------------|----------------|----------------|------|
| M 24x1.5 | 01402244102 | C | 1.50 | 26.0 | 18 | 24 | – | 90 | 22 | 17 | – | 14.5 |
| M 24x2 | 01402245102 | C | 2.00 | 26.6 | 20 | 24 | – | 90 | 22 | 19 | – | 16.0 |
| M 27 | 01402270102 | C | 3.00 | 30.9 | 22 | 27 | – | 125 | 56 | 21 | – | 18.0 |
| M 30 | 01402300102 | C | 3.50 | 34.6 | 28 | 30 | – | 125 | 40 | 25 | – | 22.0 |
| M 30x2 | 01402305102 | C | 2.00 | 32.6 | 25 | 30 | – | 100 | 22 | 23 | – | 20.0 |
| M 33 | 01402330102 | C | 3.50 | 37.6 | 28 | 33 | – | 125 | 40 | 25 | – | 22.0 |
| M 33x2 | 01402335102 | C | 2.00 | 35.6 | 28 | 33 | – | 125 | 40 | 25 | – | 22.0 |
| M 36x3 | 01402366102 | C | 3.00 | 39.9 | 32 | 36 | – | 125 | 40 | 27 | – | 24.0 |

All technical data refer to the measure mm

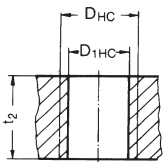


HELICOIL® Plus thread inserts

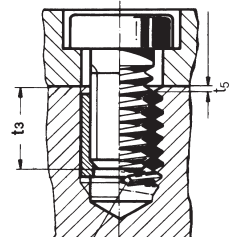
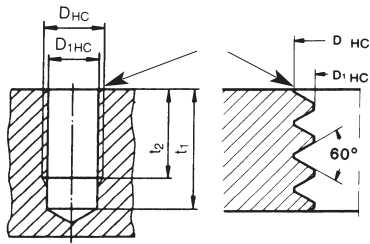
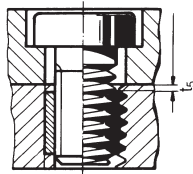


W and d_1 are the control values for thread inserts (Free Running and Screwlock) before they have been installed. The length can only be measured for installed thread inserts.

Holding thread



Assembly



tang not broken off

Prior to tapping, counter-bore 90° and deburr.
Outside diameter of countersink = $D_{HC} + 0.1 \text{ mm}$.

- d = Nominal thread diameter
- P = Thread pitch
- d_1 = Outside diameter of thread insert prior to installation
- W = Number of threads prior to installation
- D_{HC} = Outside diameter of the parent thread
- D_{1HC} = Crest diameter
- B = Suitable twist drill diameter. Please note: D_{1HC} is critical for selecting the correct twist drill diameter.
- t_1 = Minimum depth of tapped hole according to DIN 76 – Part 1 (guide value)
- t_2 = The nominal length of the thread insert corresponds to the minimum length of the full parent thread for blind holes or the minimum plate thickness for a through hole.
- t_3 = Maximum screw-in depth when the tang is not removed
- t_5 = Distance of the thread insert from the joint face = 0.25 to 0.5 P, if t_2 corresponds to the above-mentioned minimum value

When you use HELICOIL® Plus thread inserts for volume production, we recommend to add at least $1 \times P$ to values t_1 and t_2 .

All technical data refer to the measure mm

