



TC170 SERIES

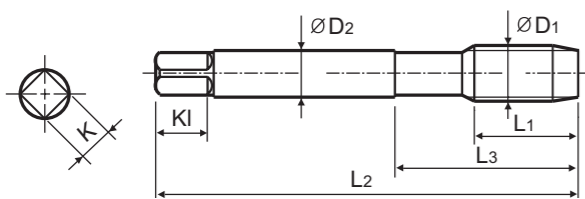
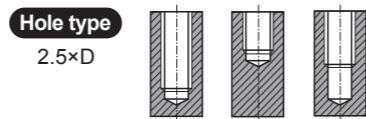
UNF Unified fine threads

- Unified Feingewinde
- UNF
- Unificato passo grosso

Machine taps
Maschinengewindebohrer

► Suitable for tapping blind holes due to special flute geometry and excellent chip evacuation.

► Geeignet zum Gewinden von Sacklöchern dank besonderer Nutengeometrie und ausgezeichneter Spanabfuhr.



Material groups: AI, HSS-E, DIN 371/374, 2B, 60°, C, R45, Bright, p.B260

Plain Shank TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213

| SIZE | TPI | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter |
|---------------|-----|----------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------|
| ØD1 | | Bright | L1 | L2 | L3 | ØD2 | K | KI | Z | Ød1 |
| #4 - 48UNF | | TC170182 | 6 | 56 | 18 | 3.5 | 2.7 | 6 | 2 | 2.4 |
| #5 - 44UNF | | TC170222 | 7 | 56 | 18 | 3.5 | 2.7 | 6 | 2 | 2.7 |
| #6 - 40UNF | | TC170262 | 7 | 56 | 20 | 4 | 3 | 6 | 2 | 3 |
| #8 - 36UNF | | TC170302 | 8 | 63 | 21 | 4.5 | 3.4 | 6 | 2 | 3.5 |
| #10 - 32UNF | | TC170342 | 10 | 70 | 25 | 6 | 4.9 | 8 | 2 | 4.1 |
| #12 - 28UNF | | TC170382 | 10 | 80 | 30 | 6 | 4.9 | 8 | 2 | 4.7 |
| 1/4 - 28UNF | | TC170422 | 10 | 80 | 30 | 7 | 5.5 | 8 | 2 | 5.5 |
| 5/16 - 24UNF | | TC170462 | 10 | 90 | 35 | 8 | 6.2 | 9 | 2 | 6.9 |
| 3/8 - 24UNF | | TC170502 | 10 | 100 | 39 | 9 | 7 | 10 | 2 | 8.5 |
| 7/16 - 20UNF | | TC170542 | 13 | 100 | 40 | 8 | 6.2 | 9 | 2 | 9.9 |
| 1/2 - 20UNF | | TC170582 | 13 | 100 | 40 | 9 | 7 | 10 | 2 | 11.5 |
| 9/16 - 18UNF | | TC170622 | 15 | 100 | 40 | 11 | 9 | 12 | 3 | 12.9 |
| 5/8 - 18UNF | | TC170662 | 15 | 100 | 40 | 12 | 9 | 12 | 3 | 14.5 |
| 3/4 - 16UNF | | TC170722 | 17 | 110 | 44 | 14 | 11 | 14 | 3 | 17.5 |
| 7/8 - 14UNF | | TC170762 | 17 | 125 | 50 | 18 | 14.5 | 17 | 3 | 20.5 |
| 1 - 12UNF | | TC170802 | 20 | 140 | 54 | 18 | 14.5 | 17 | 3 | 23.25 |
| 1-1/8 - 12UNF | | TC170842 | 22 | 150 | 60 | 22 | 18 | 21 | 3 | 26.5 |

► DIN 371(#4~3/8) and DIN 374(7/16~1-1/8)

© : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | |
|-------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|------------------------------------|-----|-----------------|-----|----------------|-------------------|-----|---------------------|-----|-----|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | Stainless steel | | Grey cast iron | Nodular cast iron | | Malleable cast iron | | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | 13 | 25 | 28 | 32 | 30 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 21 | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ○ | ○ | ○ | | | | | | | | | | | | | | | | | |

| ISO | N | | | | | S | | | | | H | | | | | | | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----------------|-----|----------------|-------------------|--------------------|-----|-----|-----|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | | | |



TC622 SERIES

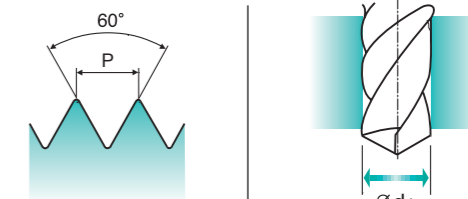
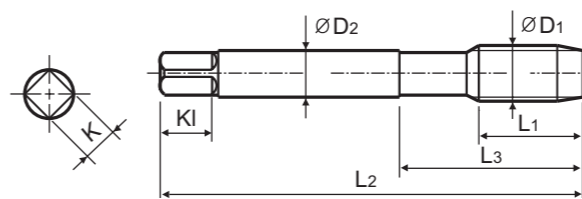
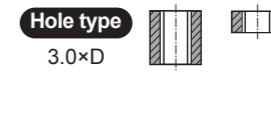
M-Az ISO metric coarse threads DIN 13

- Metrisches ISO-Gewinde DIN 13
- ISO MÉTRIQUE DIN13
- ISO Metrico passo grosso DIN 13

Machine taps
Maschinengewindebohrer

► Interrupted tap to reduce contact area and tapping torque, and to give more chip space.

► Gewindebohrer mit ausgesetzten Zähnen um die Kontaktzone mit dem Werkstück und das Drehmoment zu minimieren und dem Span mehr Raum zu geben.



Material groups: AI, HSS-E, DIN 371/376, 6H, 60°, B, Bright, p.B260

Plain Shank TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter |
|--------------|-------|----------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------|
| ØD1 | P | Bright | L1 | L2 | L3 | ØD2 | K | KI | Z | Ød1 |
| M2 × 0.4 | | TC622136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 3 | 1.6 |
| M2.2 × 0.45 | | TC622156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 3 | 1.75 |
| *M2.3 × 0.4 | | TC622196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 3 | 1.9 |
| M2.5 × 0.45 | | TC622176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 3 | 2.05 |
| *M2.6 × 0.45 | | TC622496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 3 | 2.1 |
| M3 × 0.5 | | TC622206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 3 | 2.5 |
| M3.5 × 0.6 | | TC622226 | 12 | 56 | 20 | 4 | 3 | 6 | 3 | 2.9 |
| M4 × 0.7 | | TC622246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3 | 3.3 |
| M4.5 × 0.75 | | TC622266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 3 | 3.7 |
| M5 × 0.8 | | TC622286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 3 | 4.2 |
| M6 × 1 | | TC622316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 3 | 5 |
| M7 × 1 | | TC622346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 3 | 6 |
| M8 × 1.25 | | TC622366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 3 | 6.8 |
| M9 × 1.25 | | TC622396 | 20 | 90 | 35 | 9 | 7 | 10 | 3 | 7.8 |
| M10 × 1.5 | | TC622426 | 22 | 100 | 39 | 10 | 8 | 11 | 3 | 8.5 |
| M11 × 1.5 | | TC622466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 3 | 9.5 |
| M12 × 1.75 | | TC622506 | 24 | 110 | 44 | 9 | 7 | 10 | 3 | 10.2 |
| M14 × 2 | | TC622546 | 26 | 110 | 44 | 11 | 9 | 12 | 3 | 12 |
| M16 × 2 | | TC622606 | 27 | 110 | 44 | 12 | 9 | 12 | 3 | 14 |
| M18 × 2.5 | | TC622656 | 30 | 125 | 50 | 14 | 11 | 14 | 3 | 15.5 |
| M20 × 2.5 | | TC622706 | 32 | 140 | 54 | 16 | 12 | 15 | 3 | 17.5 |
| M22 × 2.5 | | TC622746 | 32 | 140 | 54 | 18 | 14.5 | 17 | 3 | 19.5 |
| M24 × 3 | | TC622786 | 34 | 160 | 60 | 18 | 14.5 | 17 | 3 | 21 |
| M27 × 3 | | TC622866 | 36 | 160 | 60 | 20 | 16 | 19 | 3 | 24 |
| M30 × 3.5 | | TC622946 | 40 | 180 | 70 | 22 | 18 | 21 | 3 | 26.5 |

► DIN 371(M2~M10) and DIN 376(M11~M30)

► * DIN profile not ISO

© : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | |
|-------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|------------------------------------|-----|-----------------|-----|----------------|-------------------|-----|---------------------|-----|-----|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | Stainless steel | | Grey cast iron | Nodular cast iron | | Malleable cast iron | | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | 13 | 25 | 28 | 32 | 30 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 21 | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ○ | ○ | ○ | | | | | | | | | | | | | | | | | |

| ISO | N | | | | | S | | | | | H | | | | | | | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----------------|-----|----------------|-------------------|--------------------|-----|-----|-----|
| | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | Titanium Alloys | | Hardened steel | Chilled Cast Iron | Hardened Cast Iron | | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | | | |