

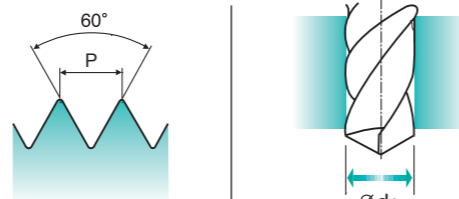
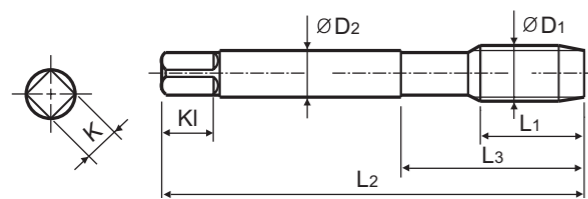
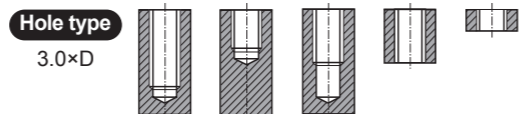
M ISO metric coarse threads DIN 13

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

Cold forming taps
Gewindeformer

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 371/376 6HX 60° C TiN p.B293

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

Recommended Cutting Page : P.285 Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|-------|--------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M2 | × 0.4 | TD723136 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 1.83 |
| M2.2 | × 0.45 | TD723156 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2 |
| *M2.3 | × 0.4 | TD723196 | 8 | 45 | 13 | 2.8 | 2.1 | 5 | 2.1 |
| M2.5 | × 0.45 | TD723176 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.3 |
| *M2.6 | × 0.45 | TD723496 | 9 | 50 | 15 | 2.8 | 2.1 | 5 | 2.4 |
| M3 | × 0.5 | TD723206 | 11 | 56 | 18 | 3.5 | 2.7 | 6 | 2.8 |
| M3.5 | × 0.6 | TD723226 | 12 | 56 | 20 | 4 | 3 | 6 | 3.25 |
| M4 | × 0.7 | TD723246 | 13 | 63 | 21 | 4.5 | 3.4 | 6 | 3.7 |
| M4.5 | × 0.75 | TD723266 | 14 | 70 | 25 | 6 | 4.9 | 8 | 4.15 |
| M5 | × 0.8 | TD723286 | 15 | 70 | 25 | 6 | 4.9 | 8 | 4.65 |
| M6 | × 1 | TD723316 | 17 | 80 | 30 | 6 | 4.9 | 8 | 5.55 |
| M7 | × 1 | TD723346 | 17 | 80 | 30 | 7 | 5.5 | 8 | 6.55 |
| M8 | × 1.25 | TD723366 | 20 | 90 | 35 | 8 | 6.2 | 9 | 7.4 |
| M9 | × 1.25 | TD723396 | 20 | 90 | 35 | 9 | 7 | 10 | 8.4 |
| M10 | × 1.5 | TD723426 | 22 | 100 | 39 | 10 | 8 | 11 | 9.3 |
| M11 | × 1.5 | TD723466 | 22 | 100 | 40 | 8 | 6.2 | 9 | 10.3 |
| M12 | × 1.75 | TD723506 | 24 | 110 | 44 | 9 | 7 | 10 | 11.2 |
| M14 | × 2 | TD723546 | 26 | 110 | 44 | 11 | 9 | 12 | 13 |
| M16 | × 2 | TD723606 | 27 | 110 | 44 | 12 | 9 | 12 | 15 |
| M18 | × 2.5 | TD723656 | 30 | 125 | 50 | 14 | 11 | 14 | 16.8 |
| M20 | × 2.5 | TD723706 | 32 | 140 | 54 | 16 | 12 | 15 | 18.8 |

- DIN 371(M2~M10) and DIN 376(M11~M20)
- * DIN profile not ISO

◎ : Excellent ○ : Good

| ISO Material Description | 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 Material Description | 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 |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRC | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 15 | 30 | 25 | 38 | 34 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |

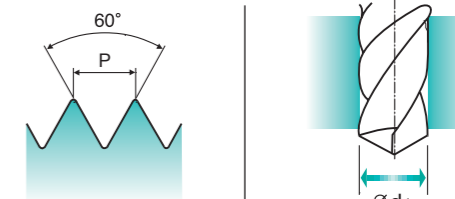
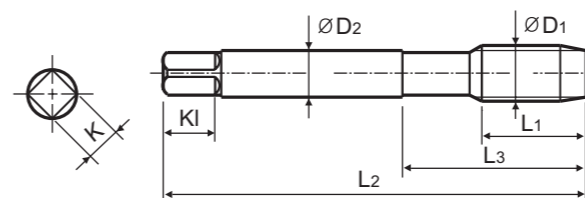
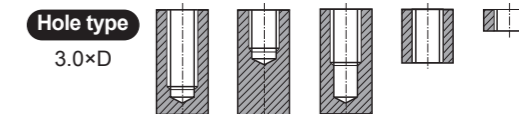
MF ISO metric fine threads DIN 13

- Metrisches ISO-Feingewinde DIN 13
- ISO MÉTRIQUE PAS FINS DIN13
- ISO Metrico passo fine DIN 13

Cold forming taps with oil grooves
Gewindeformer mit Schmiernuten

- Suitable for threading soft materials with at least 8-10% elongation.
- The pre-drilling holes are bigger than normal sized holes.

- Geeignet zum Gewindeformen weicher Werkstoffe mit mindestens 8-10% Dehnung.
- Die Kernlochbohrungen sind größer als normale Kernlöcher.



Material groups: **GV** HSS-E DIN 374 6HX 60° C TiN p.B293

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

Recommended Cutting Page : P.285 Unit : mm

| SIZE | Pitch | EDP No. | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | Tapping Drill Diameter |
|------|--------|----------|---------------|----------------|-------------|----------------|-------------|---------------|------------------------|
| ØD1 | P | TiN | L1 | L2 | L3 | ØD2 | K | KI | Ød1 |
| M4 | × 0.5 | TD733256 | 10 | 63 | 21 | 2.8 | 2.1 | 5 | 3.75 |
| M5 | × 0.5 | TD733296 | 11 | 70 | 25 | 3.5 | 2.7 | 6 | 4.75 |
| M6 | × 0.75 | TD733326 | 13 | 80 | 30 | 4.5 | 3.4 | 6 | 5.65 |
| M6 | × 0.5 | TD733336 | 13 | 80 | 30 | 4.5 | 3.4 | 6 | 5.75 |
| M7 | × 0.75 | TD733356 | 14 | 80 | 30 | 5.5 | 4.3 | 7 | 6.65 |
| M8 | × 1 | TD733376 | 17 | 90 | 36 | 6 | 4.9 | 8 | 7.5 |
| M8 | × 0.75 | TD733386 | 14 | 80 | 30 | 6 | 4.9 | 8 | 7.65 |
| M10 | × 1.25 | TD733436 | 22 | 100 | 40 | 7 | 5.5 | 8 | 9.4 |
| M10 | × 1 | TD733446 | 18 | 90 | 36 | 7 | 5.5 | 8 | 9.5 |
| M10 | × 0.75 | TD733456 | 18 | 90 | 36 | 7 | 5.5 | 8 | 9.65 |
| M12 | × 1.5 | TD733516 | 22 | 100 | 40 | 9 | 7 | 10 | 11.25 |
| M12 | × 1.25 | TD733526 | 22 | 100 | 40 | 9 | 7 | 10 | 11.4 |
| M12 | × 1 | TD733536 | 18 | 100 | 40 | 9 | 7 | 10 | 11.5 |
| M14 | × 1.5 | TD733556 | 22 | 100 | 40 | 11 | 9 | 12 | 13.25 |
| M14 | × 1.25 | TD733566 | 22 | 100 | 40 | 11 | 9 | 12 | 13.4 |
| M16 | × 1.5 | TD733616 | 22 | 100 | 40 | 12 | 9 | 12 | 15.25 |
| M18 | × 1.5 | TD733676 | 25 | 110 | 44 | 14 | 11 | 14 | 17.25 |
| M20 | × 1.5 | TD733726 | 25 | 125 | 50 | 16 | 12 | 15 | 19.25 |

◎ : Excellent ○ : Good

| ISO Material Description | 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 Material Description | 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 |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRC | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 15 | 30 | 25 | 38 | 34 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |