

9 Thread Mills

| Cutter dia. | Overall length | Thread length | Thread+Neck length | Shank dia. |
|-------------|----------------|---------------|--------------------|------------|
| Dc | L | ℓ | ℓn | Ds |

JIS

① Spiral Fluted Taps
(for blind hole)

② Spiral Fluted Taps
(for through hole)

③ Spiral Pointed Taps
(for through hole)

④ Hand Taps

⑤ Cemented Carbide Taps

⑥ Roll Taps

⑦ Special Thread Taps
Simple inspection tools

⑧ Pipe Taps

⑨ Thread Mills

Dies

⑩ Center Drills
Centering Tools

JIS
⑨-3



Z-PRO PRML TI



Z-PRO
Premium Thread Mills for Heat-Resistant Alloys

Specification



For icon explanation, refer to icon-1

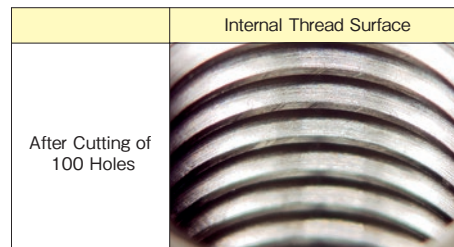
Product Features

- The same PRML TI can process right and left hand internal threads by using the helical interpolating process.
- This is most suitable for tapping heat-resistant alloys.
- Because it cuts at the first thread, it won't make the internal threads taper and the internal threads become highly accurate.
- When cutting, the load on the tool is small and the tool life is long.
- Cutting resistance is reduced by turning the tool counterclockwise and machining it from the top to the bottom with 1 pass cutting.

Cutting Data

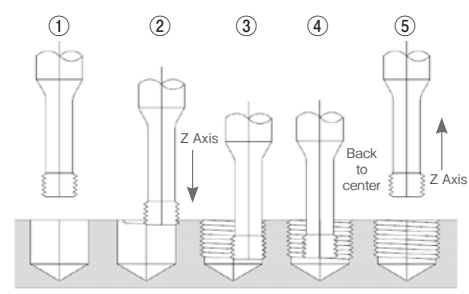
Processing Conditions [6.0P1.0]

| | |
|--------------------|-----------------------------------------------|
| Workpiece Material | Ti-6Al-4V |
| Cutting Speed | 50m/min |
| Feed per Tooth | 0.04mm/t |
| Cutting Length | 10mm |
| Bored Hole Size | φ7.0 |
| Number of Passes | 1Time |
| Machinery Type | Machining center (BT30) |
| Cutting Fluid | Water-soluble cutting fluid, 20 to 1 dilution |



Instructions

Use a counterclockwise spindle rotation for a left hand cutting tool. Process from top to the bottom like ② ~ ③. The program can be created from our web site.

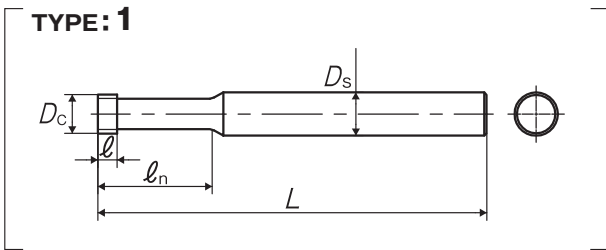


Processing Conditions:

| Workpiece Material | Cutting Speed (m/min) | Feed per Tooth fz (mm/t) |
|-----------------------------|-----------------------|--------------------------|
| Titanium Alloy | 40 ~ 60 | 0.02 ~ 0.06 |
| Austenitic Stainless Steel | 60 ~ 80 | 0.06 ~ 0.08 |
| Martensitic Stainless Steel | 40 ~ 60 | 0.02 ~ 0.06 |

- 1) These cutting conditions are based on water-soluble cutting oil. Depending on the condition of the cutting oil, satisfactory performance may not be delivered.
 - 2) Being careful of the nozzle position, supply enough oil obliquely from above the tool during use.
- * Formulas for revolution speed and feed speed of tool
 Revolution speed (min⁻¹) = 1000 x Cutting speed / 3.14 / Cutter dia. (Dc)
 Feed speed (mm/min) = fz x No. of flutes x Revolution speed x (Nominal dia. of internal thread - Cutter dia. (Dc)) / Nominal dia. of internal thread

| | | | | |
|-------------|----------------|---------------|--------------------|------------|
| Cutter dia. | Overall length | Thread length | Thread+Neck length | Shank dia. |
| Dc | L | ℓ | ℓn | Ds |



Segment : 1L

| Tool No. | Code | Dc (mm) | Pitch (mm) | L (mm) | ℓ (mm) | ℓn (mm) | Ds (mm) | No. of flutes | Min. size | Max. threading length | TYPE | MSRP |
|--------------------|-------------|---------|------------|--------|--------|---------|---------|---------------|-----------|-----------------------|------|----------|
| For Metric Threads | | | | | | | | | | | | |
| 6.0P1.25 | MH6.0NNIWLM | 6 | 1.25 | 70 | 3.8 | 18 | 6 | 4 | 8 | 16 | 1 | ¥ 20,200 |
| 6.0P1.0 | MH6.0MNIWLM | 6 | 1 | 70 | 3 | 18 | 6 | 4 | 8 | 16 | 1 | ¥ 20,200 |
| 7.5P1.5 | MH7.5ONIWLM | 7.5 | 1.5 | 80 | 4.5 | 22 | 8 | 4 | 10 | 20 | 1 | ¥ 21,100 |
| 7.5P1.25 | MH7.5NNIWLM | 7.5 | 1.25 | 80 | 3.8 | 22 | 8 | 4 | 10 | 20 | 1 | ¥ 21,100 |
| 7.5P1.0 | MH7.5MNIWLM | 7.5 | 1 | 80 | 3 | 22 | 8 | 4 | 10 | 20 | 1 | ¥ 21,100 |
| 9.0P1.75 | MH9.0PNIWLM | 9 | 1.75 | 90 | 5.3 | 26 | 10 | 4 | 12 | 24 | 1 | ¥ 24,100 |
| 9.0P1.5 | MH9.0ONIWLM | 9 | 1.5 | 90 | 4.5 | 26 | 10 | 4 | 12 | 24 | 1 | ¥ 24,100 |
| 9.0P1.25 | MH9.0NNIWLM | 9 | 1.25 | 90 | 3.8 | 26 | 10 | 4 | 12 | 24 | 1 | ¥ 24,100 |

| Tool No. | Code | Dc (mm) | Number of threads | L (mm) | ℓ (mm) | ℓn (mm) | Ds (mm) | No. of flutes | Min. size | Max. threading length | TYPE | MSRP |
|---------------------|------------|---------|-------------------|--------|--------|---------|---------|---------------|-----------|-----------------------|------|----------|
| For Unified Threads | | | | | | | | | | | | |
| 5.8U18 | MH5.8ONIWL | 5.8 | 18 | 70 | 4.2 | 17.9 | 6 | 4 | 5/16 | 15.9 | 1 | ¥ 20,200 |
| 5.8U24 | MH5.8MNIWL | 5.8 | 24 | 70 | 3.2 | 21.1 | 6 | 4 | 5/16 | 19.1 | 1 | ¥ 20,200 |
| 6.0U16 | MH6.0PNIWL | 6 | 16 | 70 | 4.8 | 21.1 | 6 | 4 | 3/8 | 19.1 | 1 | ¥ 20,200 |
| 8.0U14 | MH8.0QNIWL | 8 | 14 | 80 | 5.4 | 24.2 | 8 | 4 | 7/16 | 22.2 | 1 | ¥ 21,100 |
| 8.0U20 | MH8.0NNIWL | 8 | 20 | 80 | 3.8 | 27.4 | 8 | 4 | 7/16 | 25.4 | 1 | ¥ 21,100 |
| 9.0U13 | MH9.0RNIWL | 9 | 13 | 90 | 5.9 | 27.4 | 10 | 4 | 1/2 | 25.4 | 1 | ¥ 24,100 |

※ = Specified Distribution Items. Made to order products. For improvement, spec may change without advance notice.