

YU-PT26 AMERICAS

BEST VALUE IN THE WORLD OF CUTTING TOOLS

A close-up photograph of a YG YU-PT26 tap. The tap is black with a silver-colored cutting edge. It is positioned vertically, with its tip just above a hole in a metal workpiece. The background is dark, highlighting the tap and the workpiece.

TAP **PRIME**

HSS-PM(Powder Metallurgy) Premium Taps

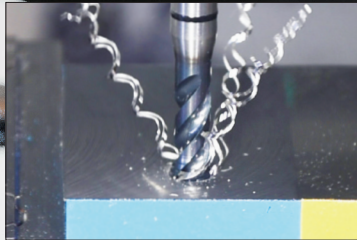
- Spiral Point, Spiral Flute, and Forming Taps for CNC Machines
- High and Reliable Performance in Various Ductile Materials

NEW PORTFOLIO!

EXPANSION Spiral Point, Spiral Flute Cutting Tap
NEW with Internal Coolant

Prime X-Coated Tap for CNC Machining in Various Ductile Materials

The special grinding process provides a unique geometry for spiral flute and spiral point taps to optimize chip evacuation, while Forming Taps form threads through material displacement without chip evacuation, resulting in stronger threads and improved surface finish.



Spiral Flute



Spiral Point

GUIDE TO ICONS

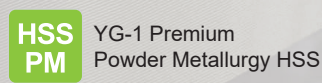
Working Material



Helix Angle



Tool Raw Material



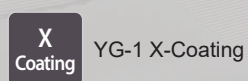
Cutting Condition



Tap Limits



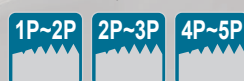
Finish



Thread Angle



Chamfer Type



Thread Designation



FEATURES & BENEFITS

High and Reliable Performance on Various Ductile Materials

YG-1's X-Coating

- YG-1's High Performance Coating for high heat and wear resistance

YG-1 Special Thread Structure

- Reduction in torque, wear, and the risk of over feeding as compared to conventional taps

Extra Short Threaded Body and Recess

- Minimize bird nesting, reduced chipping, improved thread finish

Optimized Edge Preparation

- Consistent performance and process stability to prevent chipping

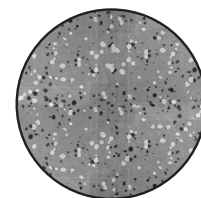
Optimized Flute Geometry for Excellent Chip Flow

- Increased tool life as a result of an optimum combination of material, geometry, and coating which gives unrestricted chip flow

Spiral Flute Forming Spiral Point

HSS-PM(Powder Metallurgy) Premium Taps

Powdered Metal Technology for a tough-chipping resistant cutting edge for long tool life and reliable thread finish



Premium Cutting Edge Strength

- More controlled structure with high wear resistance
- Consistent performance and process stability with chipping resistance



CASE STUDY

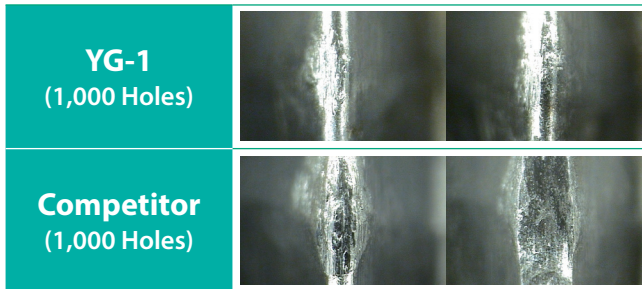
TEST I FORMING TAP (M6x1.0)

Cutting Condition

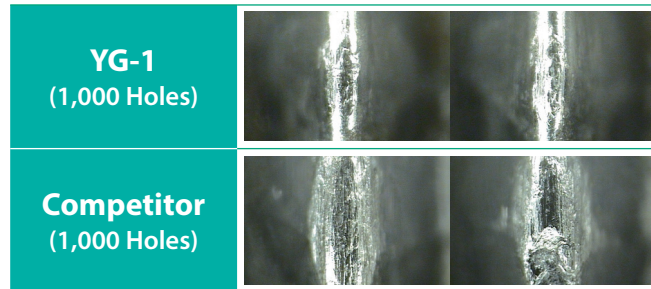
| | |
|---------------|--|
| Tool | Forming Tap |
| Size | M6x1.0 |
| Work Material | - JIS: SCM440(HRc35) - DIN: 42CrMo4 - WR: 1.7225 |
| SFM | 22 |
| Vc | 33 ft/min. |

| | |
|----------------|-------------------------------|
| Feed | 1.0 mm/rev. |
| Tap Drill Size | .2161" |
| Tapping Depth | .4724" |
| Tapping Holes | 1,000 |
| Machine | Machining Center (Horizontal) |

RESULT 1



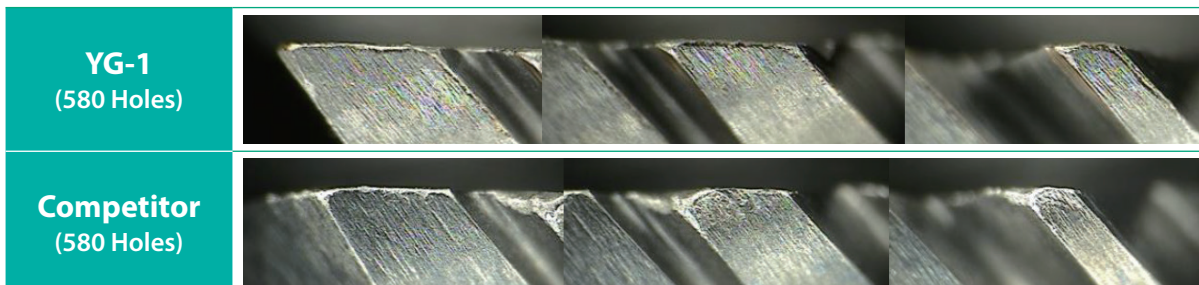
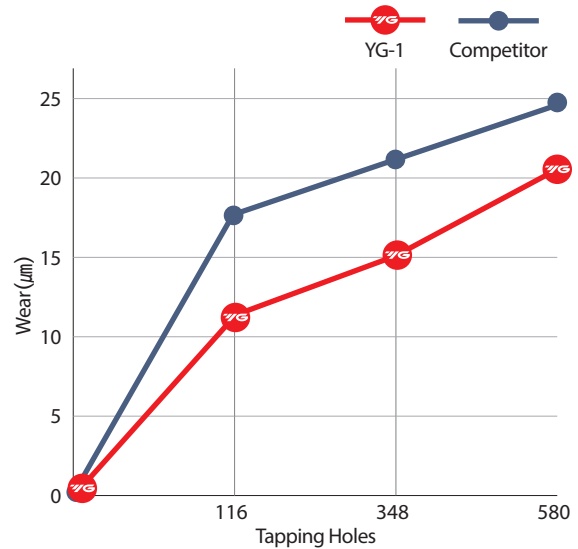
RESULT 2



TEST II SPIRAL FLUTE TAP (M4x0.7)

Cutting Condition

| | |
|----------------|--|
| Tool | Spiral Flute Tap |
| Size | M4x0.7 |
| Work Material | - JIS: SCM440(HRc30) - DIN: 42CrMo4 - WR: 1.7225 |
| SFM | 98 |
| Vc | 98 ft/min. |
| Feed | 0.7 mm/rev. |
| Tap Drill Size | .1299" |
| Tapping Depth | .3150" |
| Tapping Holes | 580 |
| Coolant | Wet Cut |

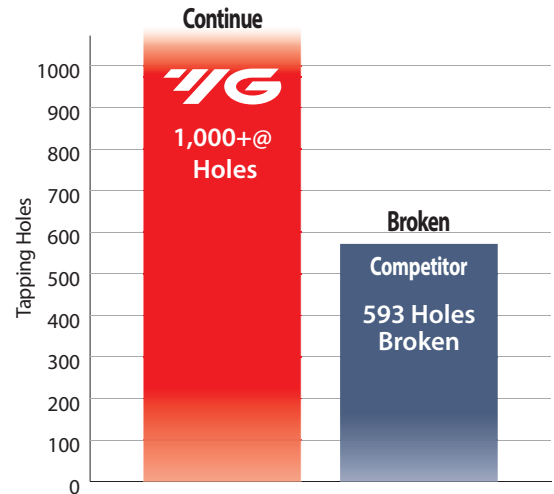


CASE STUDY

TEST III SPIRAL FLUTE TAP (M6x1.0)

Cutting Condition

| | |
|----------------|---|
| Tool | Spiral Flute Tap |
| Size | M6x1.0 |
| Work Material | - JIS: SUS304 - DIN: X16CrNi1810 - WR: 1.4350 |
| SFM | 33 |
| Vc | 33 ft/min. |
| Feed | 1.0 mm/rev. |
| Tap Drill Size | .2008" |
| Tapping Depth | .4724" |
| Tapping Holes | YG-1: 1,000+@ / Competitor: 593 |
| Coolant | Wet Cut |



YG-1 Prime Taps (1,000+@ Holes)



Competitor (593 Holes, Broken)



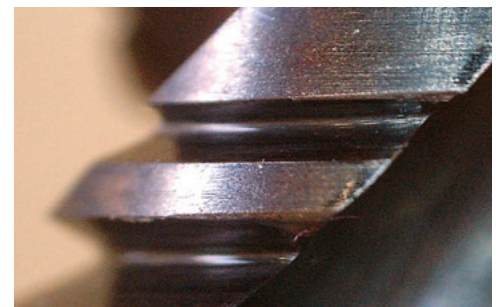
TEST IV SPIRAL FLUTE TAP (M8x1.25)

Cutting Condition

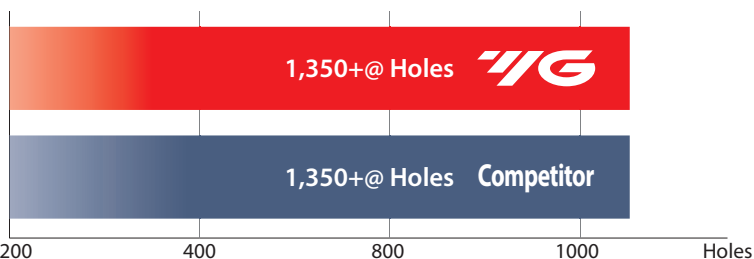
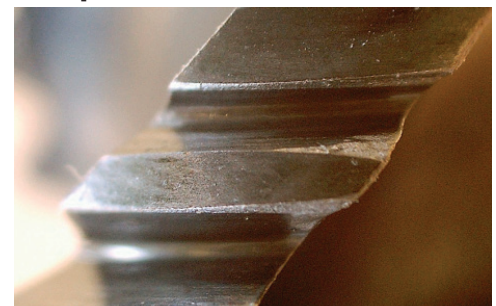
| | |
|----------------|--|
| Tool | Spiral Flute Tap |
| Size | M8x1.25 |
| Work Material | - JIS: S45C - DIN: CK45 - WR: 1.1191 |
| SFM | 66 |
| Vc | 66 ft/min. |
| Feed | 1.25 mm/rev. |
| Tap Drill Size | .2677" |
| Tapping Depth | .6693" |
| Tapping Holes | YG-1: 1,350+@ / Competitor: 1,350+@ |
| Coolant | Wet Cut |

Comparison of Wear Resistance

YG-1 PRIME TAP








Competitor



HSS-PM PRIME TAP

Premium HSS-PM X-Coated Tap
for CNC Machines

| HOLE TYPE | |  Max. 2.5xD Blind Hole |  Max. 3.0xD Through Hole | |
|------------------------------|------------------------------------|---|---|---|
| TOOL MATERIAL | | HSS-PM | | |
| CHAMFER LEAD ACC. TO DIN2197 | | 2P~3P | 1P~2P | 4P~5P |
| FLUTE TYPE | | Spiral Flute | | Spiral Point |
| SPIRAL FLUTE ANGLE | | R45 | | - |
| M | USCTI 302A | | | |
| M/MF | USCTI 302A | | | |
| | DIN Length-ANSI Shank Extension | TRF04 (p.12) | TRF24 (p.16) | TRK04 (p.20) |
| UNC | USCTI Long Shank | | | |
| UNC/UNF | USCTI 302 | | | |
| | USCTI 302A | | | |
| | DIN Length-ANSI Shank Extension | TRF14 (p.8) | TRF34 (p.14) | TRK14 (p.17) |
| SURFACE TREATMENT / COATING | | X-Coating | | |
| MODEL | |  |  |  |



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

| ISO | VDI 3323 | Material Description | Composition / Structure / Heat Treatment | | HB | HRC | Examples | Recommended cutting conditions (SFM) | | |
|----------|------------------------------|---|--|---------------------|-----------------|-----|---|--------------------------------------|------------|------------|
| P | 1 | Non-alloy steel | About 0.15% C | Annealed | 125 | | S15C, C15, 1015 | ○ (16-66) | ○ (16-66) | ◎ (49-148) |
| | 2 | | About 0.45% C | Annealed | 190 | 13 | S45C, C45, 1045 | ◎ (33-164) | ◎ (33-164) | ◎ (33-180) |
| | 3 | | About 0.45% C | Quenched & Tempered | 250 | 25 | | ◎ (33-164) | ◎ (33-164) | ◎ (33-180) |
| | 4 | | About 0.75% C | Annealed | 270 | 28 | | ◎ (49-131) | ◎ (49-131) | ◎ (49-164) |
| | 5 | | About 0.75% C | Quenched & Tempered | 300 | 32 | SK5, Ck75, 1080 | ◎ (49-131) | ◎ (49-131) | ◎ (49-164) |
| | 6 | Low alloy steel | | Annealed | 180 | 10 | SCM440, 42CrMo4, 410 | ◎ (26-98) | ◎ (26-98) | ◎ (26-98) |
| | 7 | | | Quenched & Tempered | 275 | 29 | | ◎ (26-98) | ◎ (26-98) | ◎ (26-98) |
| | 8 | | | Quenched & Tempered | 300 | 32 | | ◎ (26-98) | ◎ (26-98) | ◎ (26-98) |
| | 9 | | | Quenched & Tempered | 350 | 38 | | ○ (26-98) | ○ (26-98) | ◎ (26-98) |
| | 10 | High alloyed steel, and tool steel | | Annealed | 200 | 15 | SKD, D2 | ○ (26-98) | ○ (26-98) | ○ (26-98) |
| | 11 | | | Quenched & Tempered | 325 | 35 | SKH, SUH, M42 | ○ (26-98) | ○ (26-98) | ○ (26-98) |
| M | 12 | Stainless steel | Ferritic / Martensitic | Annealed | 200 | 15 | SUS 420, X40Cr13, 420 | ◎ (16-49) | ◎ (16-49) | ◎ (26-66) |
| | 13 | | Martensitic | Quenched & Tempered | 240 | 23 | | ◎ (16-49) | ◎ (16-49) | ◎ (26-66) |
| | 14 | | Austenitic | | 180 | 10 | | SUS 316, 316, X5CrNiMo 17 122 | ◎ (16-49) | ◎ (16-49) |
| K | 15 | Grey cast iron | Pearlitic / ferritic | | 180 | 10 | FCDD, GGG, EN-GJS-500-7 FCMW, FCMP, GTS, GJMB350-10 | ○ (49-115) | ○ (49-115) | ◎ (49-115) |
| | 16 | | Pearlitic (Martensitic) | | 260 | 26 | | ○ (49-115) | ○ (49-115) | ◎ (49-115) |
| | 17 | Nodular cast iron | Ferritic | | 160 | 3 | | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 18 | | Pearlitic | | 250 | 25 | | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 19 | Malleable cast iron | Ferritic | | 130 | | | | | |
| 20 | Pearlitic | | 230 | 21 | | | | | | |
| N | 21 | Aluminum-wrought alloy | Not Curable | | 60 | | SAE 1000, AIMg 1, 3.3315 | ○ (49-115) | ○ (49-115) | ○ (49-115) |
| | 22 | | Curable Hardened | | 100 | | SAE 7050, AlCuMg 1, 3.1325 | ○ (49-115) | ○ (49-115) | ○ (49-115) |
| | 23 | Aluminum-cast, alloyed | ≤ 12% Si, Not Curable | | 75 | | ADC12, G-AISI12, 3.2581 | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 24 | | ≤ 12% Si, Curable Hardened | | 90 | | C4BS, G-AISI10Mg, 3.2381 | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 25 | | > 12% Si, Not Curable | | 130 | | | ○ (49-115) | ○ (49-115) | ○ (49-115) |
| | 26 | Copper and Copper Alloys (Bronze / Brass) | Cutting Alloys, PB>1% | | 110 | | CuZn36Pb 3, 2.0375 | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 27 | | CuZn, CuSnZn (Brass) | | 90 | | CuZn 15, 2.0240 | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 28 | | CuSn, lead-free copper and electrolytic copper | | 100 | | G-CuZn40Fe, 2.0590 | ◎ (49-115) | ◎ (49-115) | ◎ (49-115) |
| | 29 | Non Metallic Materials | Duroplastic, Fiber Reinforced Plastic | | | | CFRP | | | |
| | 30 | | Rubber, Wood, etc. | | | | | | | |
| S | 31 | Heat Resistant Super Alloys | Fe Based | | 200 | 15 | X12 NiCrSi 36-16, 1.4864 Inconel 718, NiCr20TiAl, 2.4631 NiCu30Al, 2.4375 G-X120Mn12, 1.3401 | | | |
| | 32 | | Cured | | 280 | 30 | | | | |
| | 33 | | Annealed | | 250 | 25 | | | | |
| | 34 | | Cured | | 350 | 38 | | | | |
| | 35 | | Cast | | 320 | 34 | | | | |
| | 36 | Titanium Alloys | Pure Titanium | | 400 Rm | | | | | |
| 37 | Alpha + Beta Alloys Hardened | | 1050 Rm | | TiAl6V4, 3.7165 | | | | | |
| H | 38 | Hardened steel | Hardened | | 550 | 55 | SK3 | | | |
| | 39 | | Hardened | | 630 | 60 | | | | |
| | 40 | Chilled Cast Iron | Cast | | 400 | 42 | | | | |
| | 41 | | Hardened | | 550 | 55 | | | | |

| | | | | |
|--|--|--|--|--|
|  Max. 2.5xD Blind Hole |  Max. 3.0xD Through Hole |  Max. 2.5xD Blind Hole |  Max. 3.0xD Through Hole |  Max. 3.0xD Blind/Through Hole |
|--|--|--|--|--|

| HSS-PM | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 2P~3P | 1P~2P | 4P~5P | 2P~3P | 4P~5P | 1P~2P | 2P~3P | 1P~2P | 2P~3P |
| Spiral Flute | Spiral Flute | Spiral Point | Spiral Flute | Spiral Point | Forming | | | |
| R45 | R45 | - | R45 | - | - | - | - | - |
| TRF26 (p.25) | TRF28 (p.29) | TRK16 (p.32) | TRF29 (p.36) | TRK29 (p.40) | TRR13 (p.44) | TRR12 (p.50) | TRR17 (p.54) | TRR16 (p.57) |
| TRF25 (p.22) | TRF27 (p.27) | TRK15 (p.30) | TRF30 (p.34) | TRK30 (p.38) | TRR11 (p.42) | TRR10 (p.46) | TRR15 (p.53) | TRR14 (p.55) |

X-Coating



Recommended cutting conditions (SFM)

| | | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| ○ (16-73) | ○ (16-73) | ◎ (49-163) | ○ (16-66) | ◎ (49-148) | ◎ (49-131) | ◎ (49-131) | ◎ (49-131) | ◎ (49-131) | 1 |
| ◎ (33-180) | ◎ (33-180) | ◎ (33-198) | ◎ (33-164) | ◎ (33-180) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | 2 |
| ◎ (33-180) | ◎ (33-180) | ◎ (33-198) | ◎ (33-164) | ◎ (33-180) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | 3 |
| ◎ (49-144) | ◎ (49-144) | ◎ (49-181) | ◎ (49-131) | ◎ (49-164) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | 4 |
| ◎ (49-144) | ◎ (49-144) | ◎ (49-181) | ◎ (49-131) | ◎ (49-164) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | 5 |
| ◎ (26-108) | ◎ (26-108) | ◎ (26-108) | ◎ (26-98) | ◎ (26-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | 6 P |
| ◎ (26-108) | ◎ (26-108) | ◎ (26-108) | ◎ (26-98) | ◎ (26-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | ◎ (49-98) | 7 |
| ◎ (26-108) | ◎ (26-108) | ◎ (26-108) | ◎ (26-98) | ◎ (26-98) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | 8 |
| ○ (26-108) | ○ (26-108) | ○ (26-108) | ○ (26-98) | ◎ (26-98) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | 9 |
| ○ (26-108) | ○ (26-108) | ○ (26-108) | ○ (26-98) | ○ (26-98) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | 10 |
| ○ (26-108) | ○ (26-108) | ○ (26-108) | ○ (26-98) | ○ (26-98) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | ◎ (16-65) | 11 |
| ◎ (16-54) | ◎ (16-54) | ◎ (26-73) | ◎ (16-49) | ◎ (26-66) | ◎ (16-49) | ◎ (16-49) | ◎ (16-49) | ◎ (16-49) | 12 |
| ◎ (16-54) | ◎ (16-54) | ◎ (26-73) | ◎ (16-49) | ◎ (26-66) | ◎ (16-49) | ◎ (16-49) | ◎ (16-49) | ◎ (16-49) | 13 M |
| ◎ (16-54) | ◎ (16-54) | ◎ (26-73) | ◎ (16-49) | ◎ (26-66) | ◎ (10-30) | ◎ (10-30) | ◎ (10-30) | ◎ (10-30) | 14 |
| ○ (49-127) | ○ (49-127) | ○ (49-127) | ○ (49-115) | ◎ (49-115) | | | | | 15 |
| ○ (49-127) | ○ (49-127) | ○ (49-127) | ○ (49-115) | ◎ (49-115) | | | | | 16 |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | | | | | 17 K |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | | | | | 18 |
| | | | | | | | | | 19 |
| | | | | | | | | | 20 |
| ○ (49-127) | ○ (49-127) | ○ (49-127) | ○ (49-115) | ○ (49-115) | ◎ (65-164) | ◎ (65-164) | ◎ (65-164) | ◎ (65-164) | 21 |
| ○ (49-127) | ○ (49-127) | ○ (49-127) | ○ (49-115) | ○ (49-115) | ◎ (65-164) | ◎ (65-164) | ◎ (65-164) | ◎ (65-164) | 22 |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | ◎ (65-131) | ◎ (65-131) | ◎ (65-131) | ◎ (65-131) | 23 |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | ◎ (65-131) | ◎ (65-131) | ◎ (65-131) | ◎ (65-131) | 24 |
| ○ (49-127) | ○ (49-127) | ○ (49-127) | ○ (49-115) | ○ (49-115) | ◎ (65-131) | ◎ (65-131) | ◎ (65-131) | ◎ (65-131) | 25 |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | ◎ (32-98) | ◎ (32-98) | ◎ (32-98) | ◎ (32-98) | 26 N |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | ◎ (32-98) | ◎ (32-98) | ◎ (32-98) | ◎ (32-98) | 27 |
| ◎ (49-127) | ◎ (49-127) | ◎ (49-127) | ◎ (49-115) | ◎ (49-115) | ◎ (32-98) | ◎ (32-98) | ◎ (32-98) | ◎ (32-98) | 28 |
| | | | | | | | | | 29 |
| | | | | | | | | | 30 |
| | | | | | | | | | 31 |
| | | | | | | | | | 32 |
| | | | | | | | | | 33 |
| | | | | | | | | | 34 S |
| | | | | | | | | | 35 |
| | | | | | | | | | 36 |
| | | | | | | | | | 37 |
| | | | | | | | | | 38 |
| | | | | | | | | | 39 |
| | | | | | | | | | 40 H |
| | | | | | | | | | 41 |

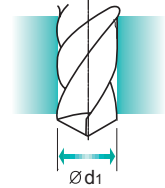
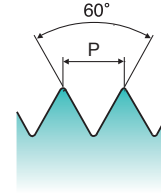
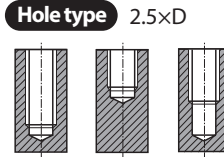
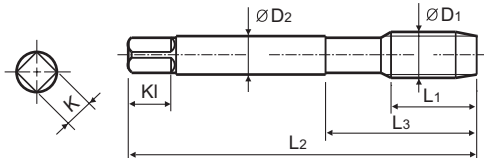


X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

SERIES

TRF14

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups: **MU** HSS PM UNC UNF H 60° 2P~3P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|-----------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| #4 - 40 | | TRF14162GS | H2 | .200 | 2.21 | .708 | .141 | .110 | .19 | 2 | - | 2.3 |
| #4 - 48 | | TRF14182GS | H2 | .200 | 2.21 | .708 | .141 | .110 | .19 | 2 | 3/32 | - |
| #5 - 40 | | TRF14202GS | H2 | .200 | 2.21 | .708 | .141 | .110 | .19 | 3 | - | 2.6 |
| #6 - 32 | | TRF14242GS | H2 | .248 | 2.21 | .783 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 32 | | TRF14243GS | H3 | .248 | 2.21 | .783 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 40 | | TRF14262GS | H2 | .248 | 2.21 | .783 | .141 | .110 | .19 | 3 | - | 2.9 |
| #8 - 32 | | TRF14282GS | H2 | .251 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.4 |
| #8 - 32 | | TRF14283GS | H3 | .251 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.4 |
| #8 - 36 | | TRF14302GS | H2 | .251 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.5 |
| #10 - 24 | | TRF14323GS | H3 | .326 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 3.9 |
| #10 - 32 | | TRF14342GS | H2 | .326 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 4.1 |
| #10 - 32 | | TRF14343GS | H3 | .326 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 4.1 |
| #12 - 24 | | TRF14363GS | H3 | .330 | 3.15 | 1.177 | .220 | .165 | .28 | 3 | - | 4.5 |
| #12 - 28 | | TRF14383GS | H3 | .330 | 3.15 | 1.177 | .220 | .165 | .28 | 3 | - | 4.7 |
| 1/4 - 20 | | TRF14403GS | H3 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 20 | | TRF14405GS | H5 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28 | | TRF14423GS | H3 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 1/4 - 28 | | TRF14424GS | H4 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18 | | TRF14443GS | H3 | .556 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 18 | | TRF14445GS | H5 | .556 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |

▶ NEXT PAGE

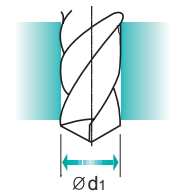
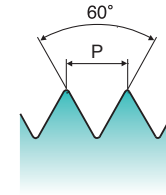
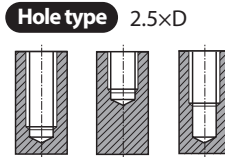
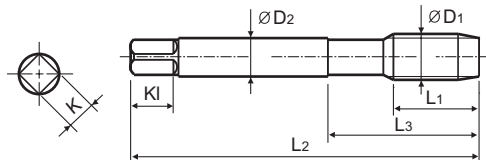
◎ : Excellent ○ : Good

| 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 | | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | | |
| 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 | | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

TRF14

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups **MU** HSS PM UNC UNF H 60° 2P~3P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|-------------|------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 5/16 | - 24 | TRF14463GS | H3 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 5/16 | - 24 | TRF14464GS | H4 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 | - 16 | TRF14483GS | H3 | .625 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 | - 16 | TRF14485GS | H5 | .625 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 | - 24 | TRF14503GS | H3 | .417 | 3.94 | 1.377 | .381 | .286 | .44 | 3 | - | 8.6 |
| 3/8 | - 24 | TRF14504GS | H4 | .417 | 3.94 | 1.377 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 | - 14 | TRF14523GS | H3 | .714 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 | - 14 | TRF14525GS | H5 | .714 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 | - 20 | TRF14543GS | H3 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 7/16 | - 20 | TRF14545GS | H5 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 1/2 | - 13 | TRF14563GS | H3 | .769 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 | - 13 | TRF14565GS | H5 | .769 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 | - 20 | TRF14583GS | H3 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 1/2 | - 20 | TRF14585GS | H5 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 9/16 | - 12 | TRF14603GS | H3 | .833 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 | - 12 | TRF14605GS | H5 | .833 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 | - 18 | TRF14623GS | H3 | .556 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 9/16 | - 18 | TRF14625GS | H5 | .556 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 | - 11 | TRF14643GS | H3 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 | - 11 | TRF14645GS | H5 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |

▶ NEXT PAGE

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | |
| 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 | | | | | | | | | | | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

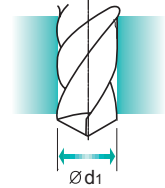
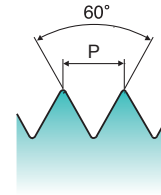
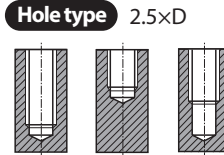
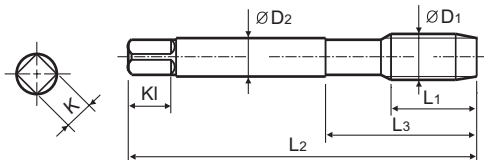


X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

SERIES

TRF14

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups: **MU** HSS PM UNC UNF H 60° 2P~3P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 5/8 - 18 | | TRF14663GS | H3 | .556 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 5/8 - 18 | | TRF14665GS | H5 | .556 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 3/4 - 10 | | TRF14703GS | H3 | 1.000 | 4.92 | 2.433 | .590 | .442 | .69 | 4 | - | 16.9 |
| 3/4 - 10 | | TRF14705GS | H5 | 1.000 | 4.92 | 2.433 | .590 | .442 | .69 | 4 | - | 16.9 |
| 3/4 - 16 | | TRF14723GS | H3 | .625 | 4.33 | 2.433 | .590 | .442 | .69 | 4 | - | 17.7 |
| 3/4 - 16 | | TRF14725GS | H5 | .625 | 4.33 | 2.433 | .590 | .442 | .69 | 4 | - | 17.7 |
| 7/8 - 9 | | TRF14744GS | H4 | 1.111 | 5.51 | 2.653 | .697 | .523 | .75 | 4 | - | 19.8 |
| 7/8 - 9 | | TRF14746GS | H6 | 1.111 | 5.51 | 2.653 | .697 | .523 | .75 | 4 | - | 19.8 |
| 7/8 - 14 | | TRF14764GS | H4 | .714 | 4.92 | 2.653 | .697 | .523 | .75 | 4 | - | 20.5 |
| 7/8 - 14 | | TRF14766GS | H6 | .714 | 4.92 | 2.653 | .697 | .523 | .75 | 4 | - | 20.5 |
| 1" - 8 | | TRF14786GS | H6 | 1.251 | 6.30 | 3.012 | .800 | .600 | .81 | 4 | - | 22.7 |
| 1" - 8 | | TRF14784GS | H4 | 1.251 | 6.30 | 3.012 | .800 | .600 | .81 | 4 | - | 22.7 |
| 1" - 12 | | TRF14804GS | H4 | .833 | 5.51 | 3.012 | .800 | .600 | .81 | 4 | - | 23.5 |
| 1" - 12 | | TRF14806GS | H6 | .833 | 5.51 | 3.012 | .800 | .600 | .81 | 4 | - | 23.5 |
| 1" - 14 | | TRF14816GS | H6 | .714 | 5.51 | 3.012 | .800 | .600 | .81 | 4 | - | 23.7 |
| 1-1/8 - 7 | | TRF14829GS | H9 | 1.429 | 7.08 | 3.818 | .896 | .672 | .88 | 4 | - | 25.5 |
| 1-1/8 - 8 | | TRF14839GS | H9 | 1.250 | 7.08 | 3.818 | .896 | .672 | .88 | 4 | - | 25.7 |
| 1-1/8 - 12 | | TRF14848GS | H8 | .833 | 5.90 | 3.070 | .896 | .672 | .88 | 4 | 1-3/64 | - |
| 1-1/4 - 7 | | TRF14860GS | H10 | 1.429 | 7.08 | 3.937 | 1.021 | .766 | 1.00 | 4 | - | 28.5 |
| 1-1/4 - 8 | | TRF14879GS | H9 | 1.250 | 7.08 | 3.937 | 1.021 | .766 | 1.00 | 4 | - | 29.0 |

▶ NEXT PAGE

◎ : Excellent ○ : Good

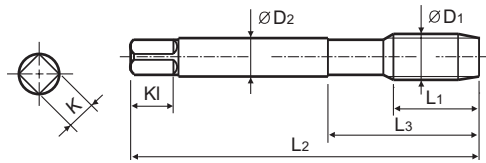
| ISO | P | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|----------------|-------|-------------------|-----|---------------------|-------------------|--------------------|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | | |
| Material Description | | | | | | | | | | | | | | | | | | | | | |
| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 |
| Material Description | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

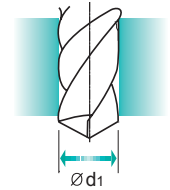
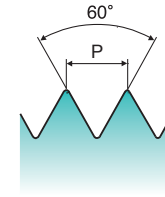
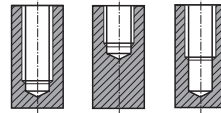
SERIES

TRF14

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Hole type 2.5xD



Material groups **MU** HSS PM UNC UNF H 60° 2P~3P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (ØD1) | |
|-------|------|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| ØD1 | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 1-1/4 | - 12 | TRF14888GS | H8 | .833 | 5.90 | 3.070 | 1.021 | .766 | 1.00 | 4 | 1-11/64 | - |
| 1-3/8 | - 6 | TRF14900GS | H10 | 1.667 | 7.87 | 4.527 | 1.108 | .831 | 1.06 | 4 | - | 31.0 |
| 1-3/8 | - 8 | TRF14919GS | H9 | 1.250 | 7.87 | 4.527 | 1.108 | .831 | 1.06 | 4 | - | 32.0 |
| 1-3/8 | - 12 | TRF14928GS | H8 | .833 | 6.69 | 3.582 | 1.108 | .831 | 1.06 | 4 | - | 33.0 |
| 1-1/2 | - 6 | TRF14940GS | H10 | 1.667 | 7.87 | 4.527 | 1.233 | .925 | 1.13 | 4 | 1-11/32 | - |
| 1-1/2 | - 8 | TRF14959GS | H9 | 1.250 | 7.87 | 4.527 | 1.233 | .925 | 1.13 | 4 | - | 35.0 |
| 1-1/2 | - 12 | TRF14968GS | H8 | .833 | 6.69 | 3.582 | 1.233 | .925 | 1.13 | 4 | - | 36.0 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|-----|-----|------------------------------------|-----|-----------------------------|-----|-----|-------|-----------------|-----|-------------------|-------------------|---------------------|--|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

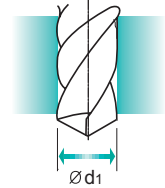
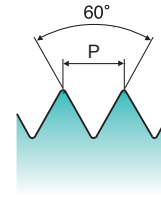
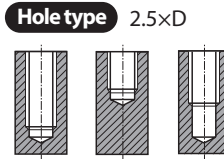
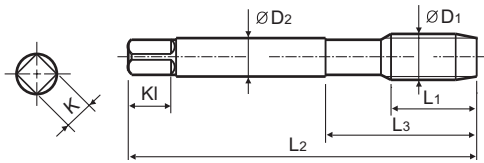


X-Coating, HSS-PM Spiral Flute Taps for Multipurpose

SERIES

TRF04

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups: **MU** HSS PM M/MF D 60° 2P~3P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| M2 | x 0.4 | TRF04132GS | D2 | .126 | 1.77 | .393 | .141 | .110 | .19 | 2 | - | 1.6 |
| M2.5 | x 0.45 | TRF04173GS | D3 | .126 | 1.97 | .511 | .141 | .110 | .19 | 2 | - | 2.1 |
| M3 | x 0.5 | TRF04203GS | D3 | .158 | 2.21 | .708 | .141 | .110 | .19 | 3 | - | 2.5 |
| M3.5 | x 0.6 | TRF04224GS | D4 | .189 | 2.21 | .787 | .141 | .110 | .19 | 3 | - | 2.9 |
| M4 | x 0.7 | TRF04244GS | D4 | .221 | 2.48 | .823 | .168 | .131 | .25 | 3 | - | 3.4 |
| M5 | x 0.8 | TRF04284GS | D4 | .252 | 2.75 | .988 | .194 | .152 | .25 | 3 | - | 4.3 |
| M6 | x 1.0 | TRF04315GS | D5 | .315 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.1 |
| M6 | x 0.75 | TRF04324GS | D4 | .315 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.3 |
| M7 | x 1.0 | TRF04345GS | D5 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 3 | - | 6.1 |
| M8 | x 1.25 | TRF04365GS | D5 | .492 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - | 6.9 |
| M8 | x 1.0 | TRF04375GS | D5 | .394 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - | 7.1 |
| M9 | x 1.25 | TRF04395GS | D5 | .492 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 7.9 |
| M9 | x 1.0 | TRF04405GS | D5 | .394 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 8.1 |
| M10 | x 1.5 | TRF04426GS | D6 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.7 |
| M10 | x 1.25 | TRF04435GS | D5 | .492 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.9 |
| M10 | x 1.0 | TRF04445GS | D5 | .394 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 9.1 |
| M12 | x 1.75 | TRF04506GS | D6 | .689 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 10.5 |
| M12 | x 1.5 | TRF04516GS | D6 | .591 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 10.7 |
| M12 | x 1.25 | TRF04525GS | D5 | .492 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 10.9 |
| M14 | x 2.0 | TRF04547GS | D7 | .787 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.3 |

▶ NEXT PAGE

◎ : 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 | |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 3 | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommended | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ | ◎ |

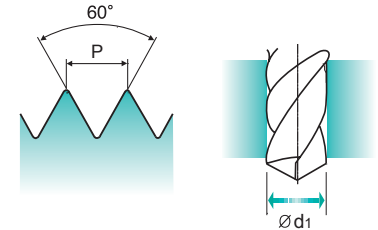
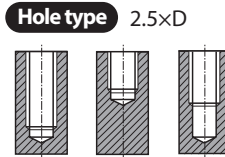
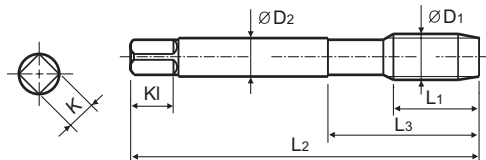
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | 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 |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

SERIES

TRF04

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups **MU** **HSS PM** **M/MF** **D** **60°** **2P~3P** **R45** **X Coating** p.6

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) |
|------|--------|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch Metric |
| M14 | x 1.5 | TRF04556GS | D6 | .591 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - 12.7 |
| M14 | x 1.25 | TRF04566GS | D6 | .492 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - 12.9 |
| M16 | x 2.0 | TRF04607GS | D7 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 3 | - 14.3 |
| M16 | x 1.5 | TRF04616GS | D6 | .591 | 3.94 | 2.126 | .480 | .360 | .56 | 3 | - 14.7 |
| M18 | x 2.5 | TRF04657GS | D7 | .984 | 4.92 | 2.165 | .542 | .406 | .63 | 4 | - 15.8 |
| M18 | x 1.5 | TRF04676GS | D6 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 4 | - 16.7 |
| M20 | x 2.5 | TRF04708GS | D8 | .984 | 5.51 | 2.433 | .652 | .489 | .69 | 4 | - 17.8 |
| M20 | x 1.5 | TRF04726GS | D6 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 4 | - 18.7 |
| M22 | x 2.5 | TRF04748GS | D8 | .984 | 5.51 | 2.653 | .697 | .523 | .75 | 4 | - 19.8 |
| M22 | x 1.5 | TRF04766GS | D6 | .591 | 4.92 | 2.653 | .697 | .523 | .75 | 4 | - 20.7 |
| M24 | x 3.0 | TRF04788GS | D8 | 1.181 | 6.30 | 2.693 | .760 | .570 | .75 | 4 | 27/32 - |
| M24 | x 1.5 | TRF04806GS | D6 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 4 | - 22.7 |
| M27 | x 3.0 | TRF04868GS | D8 | 1.181 | 6.30 | 3.150 | .896 | .672 | .88 | 4 | - 24.4 |
| M27 | x 1.5 | TRF04886GS | D6 | .591 | 5.51 | 2.362 | .896 | .672 | .88 | 4 | - 25.7 |
| M30 | x 3.5 | TRF04949GS | D9 | 1.378 | 7.08 | 3.937 | 1.021 | .766 | 1.00 | 4 | - 27.0 |
| M30 | x 1.5 | TRF04976GS | D6 | .591 | 5.90 | 2.756 | 1.021 | .766 | 1.00 | 4 | - 28.6 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

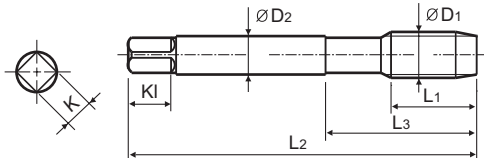


X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

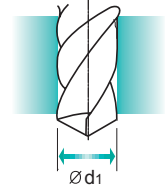
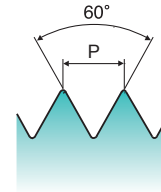
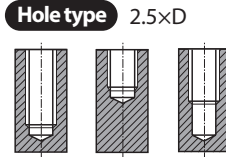
SERIES

TRF34

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Short Chamfer



Material groups: **MU** HSS PM UNC UNF H 60° 1P~2P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|-----------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| #4 - 40 | | TRF34162GS | H2 | .200 | 2.21 | .708 | .141 | .110 | .19 | 2 | - | 2.3 |
| #4 - 48 | | TRF34182GS | H2 | .200 | 2.21 | .708 | .141 | .110 | .19 | 2 | 3/32 | - |
| #5 - 40 | | TRF34202GS | H2 | .200 | 2.21 | .708 | .141 | .110 | .19 | 3 | - | 2.6 |
| #6 - 32 | | TRF34242GS | H2 | .248 | 2.21 | .783 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 32 | | TRF34243GS | H3 | .248 | 2.21 | .783 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 40 | | TRF34262GS | H2 | .248 | 2.21 | .783 | .141 | .110 | .19 | 3 | - | 2.9 |
| #8 - 32 | | TRF34282GS | H2 | .251 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.4 |
| #8 - 32 | | TRF34283GS | H3 | .251 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.4 |
| #8 - 36 | | TRF34302GS | H2 | .251 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.5 |
| #10 - 24 | | TRF34323GS | H3 | .326 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 3.9 |
| #10 - 32 | | TRF34342GS | H2 | .326 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 4.1 |
| #10 - 32 | | TRF34343GS | H3 | .326 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 4.1 |
| #12 - 24 | | TRF34363GS | H3 | .330 | 3.15 | 1.177 | .220 | .165 | .28 | 3 | - | 4.5 |
| #12 - 28 | | TRF34383GS | H3 | .330 | 3.15 | 1.177 | .220 | .165 | .28 | 3 | - | 4.7 |
| 1/4 - 20 | | TRF34403GS | H3 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 20 | | TRF34405GS | H5 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28 | | TRF34423GS | H3 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 1/4 - 28 | | TRF34424GS | H4 | .397 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18 | | TRF34443GS | H3 | .556 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 18 | | TRF34445GS | H5 | .556 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24 | | TRF34463GS | H3 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 5/16 - 24 | | TRF34464GS | H4 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |

▶ NEXT PAGE

◎ : Excellent ○ : Good

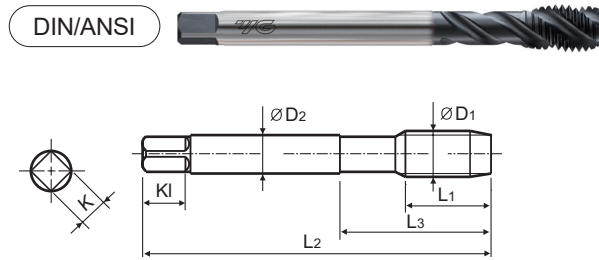
| ISO | P | | | | | | | | | | M | | | | K | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|------------------------------------|-----|-----------------|-----|----------------|-----|-------------------|-----|---------------------|-----|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | Stainless steel | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 10 | 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 |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

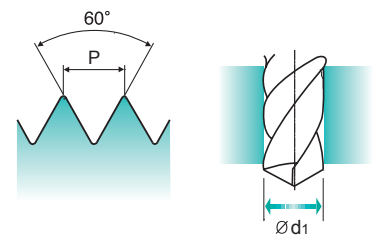
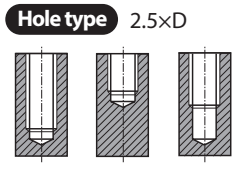
X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

TRF34

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Short Chamfer



Material groups **MU** HSS PM UNC UNF H 60° 1P~2P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (ØD1) | |
|-----------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 3/8 - 16 | | TRF34483GS | H3 | .625 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 16 | | TRF34485GS | H5 | .625 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24 | | TRF34503GS | H3 | .417 | 3.94 | 1.377 | .381 | .286 | .44 | 3 | - | 8.6 |
| 3/8 - 24 | | TRF34504GS | H4 | .417 | 3.94 | 1.377 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14 | | TRF34523GS | H3 | .714 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 14 | | TRF34525GS | H5 | .714 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 20 | | TRF34543GS | H3 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 7/16 - 20 | | TRF34545GS | H5 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 1/2 - 13 | | TRF34563GS | H3 | .769 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 13 | | TRF34565GS | H5 | .769 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20 | | TRF34583GS | H3 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 1/2 - 20 | | TRF34585GS | H5 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 9/16 - 12 | | TRF34603GS | H3 | .833 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 12 | | TRF34605GS | H5 | .833 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18 | | TRF34623GS | H3 | .556 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 9/16 - 18 | | TRF34625GS | H5 | .556 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11 | | TRF34643GS | H3 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 11 | | TRF34645GS | H5 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18 | | TRF34663GS | H3 | .556 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 5/8 - 18 | | TRF34665GS | H5 | .556 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|------------------------------------|-----|-----------------|-----|-----|-----|----------------|-----|-------------------|-----|---------------------|--|
| Material Description | 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 | 32 | 10 | 29 | 32 | 38 | 10 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 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 | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|------------------------|----|-----------------------------|-----|-----|-----|-----|-----|-----------------|--------|----------------|-------------------|--------------------|-----|
| Material Description | 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 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

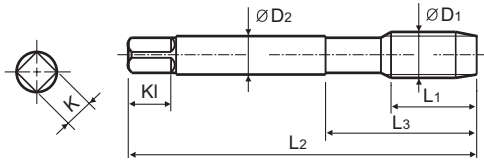


X-Coating, HSS-PM Spiral Flute Taps for Multipurpose

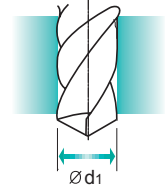
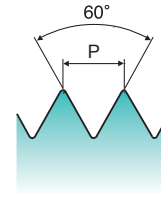
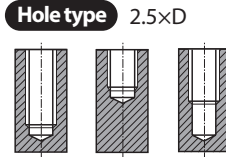
SERIES

TRF24

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Short Chamfer



Material groups: **MU** HSS PM M/MF D 60° 1P~2P R45 X Coating p.6

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| M3 | x 0.5 | TRF24203GS | D3 | .158 | 2.21 | .708 | .141 | .110 | .19 | 3 | - | 2.5 |
| M3.5 | x 0.6 | TRF24224GS | D4 | .189 | 2.21 | .787 | .141 | .110 | .19 | 3 | - | 2.9 |
| M4 | x 0.7 | TRF24244GS | D4 | .221 | 2.48 | .823 | .168 | .131 | .25 | 3 | - | 3.4 |
| M5 | x 0.8 | TRF24284GS | D4 | .252 | 2.75 | .988 | .194 | .152 | .25 | 3 | - | 4.3 |
| M6 | x 1.0 | TRF24315GS | D5 | .315 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.1 |
| M8 | x 1.25 | TRF24365GS | D5 | .492 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - | 6.9 |
| M9 | x 1.25 | TRF24395GS | D5 | .492 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 7.9 |
| M10 | x 1.5 | TRF24426GS | D6 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.7 |
| M10 | x 1.25 | TRF24435GS | D5 | .492 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.9 |
| M10 | x 1.0 | TRF24445GS | D5 | .394 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 9.1 |
| M12 | x 1.75 | TRF24506GS | D6 | .689 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 10.5 |
| M12 | x 1.5 | TRF24516GS | D6 | .591 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 10.7 |
| M12 | x 1.25 | TRF24525GS | D5 | .492 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 10.9 |
| M14 | x 2.0 | TRF24547GS | D7 | .787 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.3 |
| M14 | x 1.5 | TRF24556GS | D6 | .591 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 12.7 |
| M14 | x 1.25 | TRF24566GS | D6 | .492 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 12.9 |
| M16 | x 2.0 | TRF24607GS | D7 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 3 | - | 14.3 |
| M16 | x 1.5 | TRF24616GS | D6 | .591 | 3.94 | 2.126 | .480 | .360 | .56 | 3 | - | 14.7 |
| M18 | x 1.5 | TRF24676GS | D6 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 4 | - | 16.7 |

◎ : 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 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | | | |

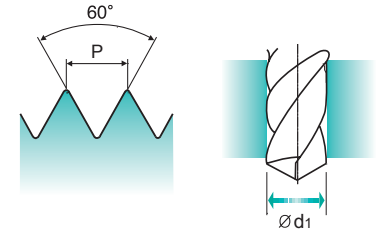
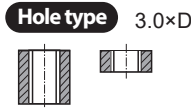
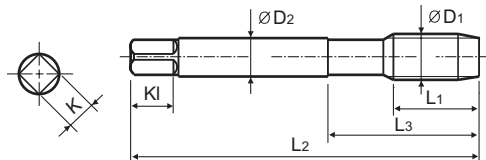
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

SERIES

TRK14

► High performance on various ductile materials



Material groups **MU** **HSS PM** **UNC UNF** **H** **60°** **4P~5P** **X Coating** p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|----------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| #2 - 56 | | TRK14082GS | H2 | .437 | 1.77 | .476 | .141 | .110 | .19 | 2 | - | 1.8 |
| #2 - 64 | | TRK14102GS | H2 | .437 | 1.77 | .476 | .141 | .110 | .19 | 2 | - | 1.8 |
| #3 - 48 | | TRK14122GS | H2 | .500 | 1.97 | .539 | .141 | .110 | .19 | 2 | - | 2.0 |
| #3 - 56 | | TRK14142GS | H2 | .500 | 1.97 | .539 | .141 | .110 | .19 | 2 | - | 2.1 |
| #4 - 40 | | TRK14162GS | H2 | .335 | 2.21 | .708 | .141 | .110 | .19 | 2 | - | 2.3 |
| #4 - 48 | | TRK14182GS | H2 | .335 | 2.21 | .708 | .141 | .110 | .19 | 2 | 3/32 | - |
| #5 - 40 | | TRK14202GS | H2 | .374 | 2.21 | .708 | .141 | .110 | .19 | 3 | - | 2.6 |
| #5 - 44 | | TRK14222GS | H2 | .374 | 2.21 | .708 | .141 | .110 | .19 | 3 | - | 2.6 |
| #6 - 32 | | TRK14242GS | H2 | .413 | 2.21 | .787 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 32 | | TRK14243GS | H3 | .413 | 2.21 | .787 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 40 | | TRK14262GS | H2 | .413 | 2.21 | .787 | .141 | .110 | .19 | 3 | - | 2.9 |
| #8 - 32 | | TRK14282GS | H2 | .453 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.4 |
| #8 - 32 | | TRK14283GS | H3 | .453 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.4 |
| #8 - 36 | | TRK14302GS | H2 | .453 | 2.48 | .826 | .168 | .131 | .25 | 3 | - | 3.5 |
| #10 - 24 | | TRK14323GS | H3 | .531 | 2.75 | .984 | .194 | .152 | .25 | 3 | - | 3.9 |
| #10 - 32 | | TRK14342GS | H2 | .531 | 2.75 | .984 | .194 | .152 | .25 | 3 | - | 4.1 |
| #10 - 32 | | TRK14343GS | H3 | .531 | 2.75 | .984 | .194 | .152 | .25 | 3 | - | 4.1 |
| #12 - 24 | | TRK14363GS | H3 | .571 | 3.15 | 1.181 | .220 | .165 | .28 | 3 | - | 4.5 |
| #12 - 28 | | TRK14383GS | H3 | .571 | 3.15 | 1.181 | .220 | .165 | .28 | 3 | - | 4.7 |

► NEXT PAGE

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

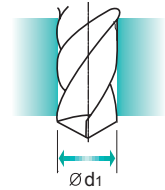
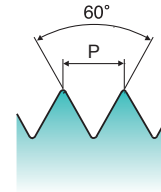
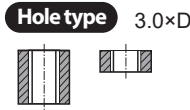
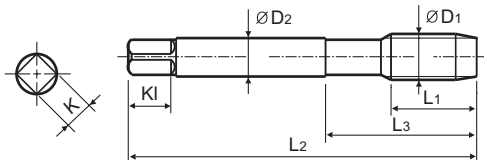


X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

SERIES

TRK14

► High performance on various ductile materials



Material groups **MU** HSS PM UNC UNF H 60° 4P~5P X Coating p.6

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|-----------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 1/4 - 20 | | TRK14403GS | H3 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 20 | | TRK14405GS | H5 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28 | | TRK14423GS | H3 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 1/4 - 28 | | TRK14424GS | H4 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18 | | TRK14443GS | H3 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 18 | | TRK14445GS | H5 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24 | | TRK14463GS | H3 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 5/16 - 24 | | TRK14464GS | H4 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 - 16 | | TRK14483GS | H3 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 16 | | TRK14485GS | H5 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24 | | TRK14503GS | H3 | .748 | 3.94 | 1.377 | .381 | .286 | .44 | 3 | - | 8.6 |
| 3/8 - 24 | | TRK14504GS | H4 | .748 | 3.94 | 1.377 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14 | | TRK14523GS | H3 | .866 | 3.94 | 1.437 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 14 | | TRK14525GS | H5 | .866 | 3.94 | 1.437 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 20 | | TRK14543GS | H3 | .866 | 3.94 | 1.437 | .323 | .242 | .41 | 3 | - | 10.0 |
| 7/16 - 20 | | TRK14545GS | H5 | .866 | 3.94 | 1.437 | .323 | .242 | .41 | 3 | - | 10.0 |
| 1/2 - 13 | | TRK14563GS | H3 | .984 | 4.33 | 1.657 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 13 | | TRK14565GS | H5 | .984 | 4.33 | 1.657 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20 | | TRK14583GS | H3 | .984 | 3.94 | 1.657 | .367 | .275 | .44 | 3 | - | 11.6 |
| 1/2 - 20 | | TRK14585GS | H5 | .984 | 3.94 | 1.657 | .367 | .275 | .44 | 3 | - | 11.6 |

► NEXT PAGE

◎ : Excellent ○ : Good

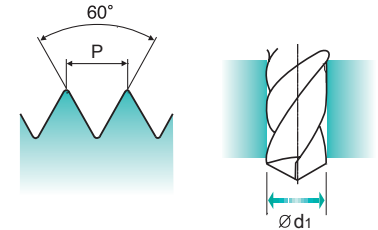
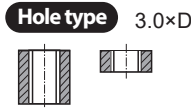
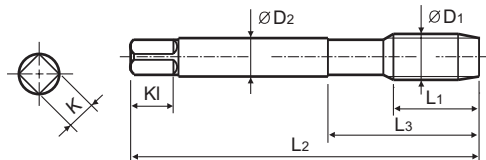
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|--|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | Stainless steel | | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | | |
| HRc | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | | |
| HRc | | | | | | | | | | | | | | | | | | | | | | | |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400Rm | 1050Rm | 550 | 630 | 400 | 550 | | |
| Recommended | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

SERIES

TRK14

► High performance on various ductile materials



Material groups **MU** HSS PM UNC UNF H 60° 4P~5P X Coating p.6

Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|-------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 9/16 - 12 | | TRK14603GS | H3 | .984 | 4.33 | 1.657 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 12 | | TRK14605GS | H5 | .984 | 4.33 | 1.657 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18 | | TRK14623GS | H3 | .984 | 3.94 | 1.657 | .429 | .322 | .50 | 3 | - | 13.0 |
| 9/16 - 18 | | TRK14625GS | H5 | .984 | 3.94 | 1.657 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11 | | TRK14643GS | H3 | 1.083 | 4.33 | 1.811 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 11 | | TRK14645GS | H5 | 1.083 | 4.33 | 1.811 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18 | | TRK14663GS | H3 | 1.083 | 3.94 | 1.811 | .480 | .360 | .56 | 3 | - | 14.6 |
| 5/8 - 18 | | TRK14665GS | H5 | 1.083 | 3.94 | 1.811 | .480 | .360 | .56 | 3 | - | 14.6 |
| 3/4 - 10 | | TRK14703GS | H3 | 1.201 | 4.92 | 2.000 | .590 | .442 | .69 | 3 | - | 16.9 |
| 3/4 - 10 | | TRK14705GS | H5 | 1.201 | 4.92 | 2.000 | .590 | .442 | .69 | 3 | - | 16.9 |
| 3/4 - 16 | | TRK14723GS | H3 | 1.201 | 4.33 | 2.000 | .590 | .442 | .69 | 3 | - | 17.7 |
| 3/4 - 16 | | TRK14725GS | H5 | 1.201 | 4.33 | 2.000 | .590 | .442 | .69 | 3 | - | 17.7 |
| 7/8 - 9 | | TRK14744GS | H4 | 1.339 | 5.51 | 2.224 | .697 | .523 | .75 | 3 | - | 19.8 |
| 7/8 - 9 | | TRK14746GS | H6 | 1.339 | 5.51 | 2.224 | .697 | .523 | .75 | 3 | - | 19.8 |
| 7/8 - 14 | | TRK14764GS | H4 | 1.339 | 4.92 | 2.224 | .697 | .523 | .75 | 3 | - | 20.5 |
| 7/8 - 14 | | TRK14766GS | H6 | 1.339 | 4.92 | 2.224 | .697 | .523 | .75 | 3 | - | 20.5 |
| 1" - 8 | | TRK14786GS | H6 | 1.496 | 6.30 | 2.500 | .800 | .600 | .81 | 3 | - | 22.7 |
| 1" - 12 | | TRK14806GS | H6 | 1.496 | 5.51 | 2.500 | .800 | .600 | .81 | 3 | - | 23.5 |
| 1" - 14 | | TRK14816GS | H6 | 1.496 | 5.51 | 2.500 | .800 | .600 | .81 | 3 | - | 23.7 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | | K | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-----------------|--------|-------------------|-------------------|---------------------|-----|
| Material Description | 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 | 32 | 10 | 29 | 32 | 38 | 15 | 15 | 35 | 23 | 10 | 10 | 26 | 3 | 25 | 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 | | | |
| Material Description | 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 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

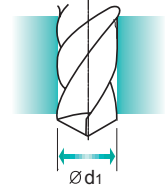
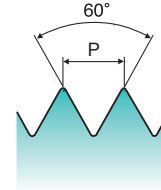
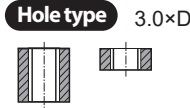
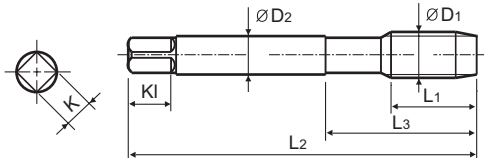


X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

SERIES

TRK04

► High performance on various ductile materials



Material groups **MU** HSS PM M/MF D 60° 4P~5P X Coating p.6

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M2 | x 0.4 | TRK04132GS | D2 | .433 | 1.77 | .472 | .141 | .110 | .19 | 2 | - | 1.6 |
| M2.5 | x 0.45 | TRK04173GS | D3 | .472 | 1.97 | .539 | .141 | .110 | .19 | 2 | - | 2.1 |
| M3 | x 0.5 | TRK04203GS | D3 | .374 | 2.21 | .705 | .141 | .110 | .19 | 3 | - | 2.5 |
| M3.5 | x 0.6 | TRK04224GS | D4 | .413 | 2.21 | .780 | .141 | .110 | .19 | 3 | - | 2.9 |
| M4 | x 0.7 | TRK04244GS | D4 | .453 | 2.48 | .819 | .168 | .131 | .25 | 3 | - | 3.4 |
| M5 | x 0.8 | TRK04284GS | D4 | .531 | 2.75 | .976 | .194 | .152 | .25 | 3 | - | 4.3 |
| M6 | x 1.0 | TRK04315GS | D5 | .591 | 3.15 | 1.169 | .255 | .191 | .31 | 3 | - | 5.1 |
| M6 | x 0.75 | TRK04324GS | D4 | .591 | 3.15 | 1.169 | .255 | .191 | .31 | 3 | - | 5.3 |
| M7 | x 1.0 | TRK04345GS | D5 | .669 | 3.15 | 1.169 | .318 | .238 | .38 | 3 | - | 6.1 |
| M8 | x 1.25 | TRK04365GS | D5 | .669 | 3.54 | 1.366 | .318 | .238 | .38 | 3 | - | 6.9 |
| M8 | x 1.0 | TRK04375GS | D5 | .669 | 3.54 | 1.366 | .318 | .238 | .38 | 3 | - | 7.1 |
| M9 | x 1.25 | TRK04395GS | D5 | .669 | 3.54 | 1.370 | .381 | .286 | .44 | 3 | - | 7.9 |
| M9 | x 1.0 | TRK04405GS | D5 | .669 | 3.54 | 1.370 | .381 | .286 | .44 | 3 | - | 8.1 |
| M10 | x 1.5 | TRK04426GS | D6 | .748 | 3.94 | 1.531 | .381 | .286 | .44 | 3 | - | 8.7 |
| M10 | x 1.25 | TRK04435GS | D5 | .748 | 3.94 | 1.531 | .381 | .286 | .44 | 3 | - | 8.9 |
| M10 | x 1.0 | TRK04445GS | D5 | .748 | 3.54 | 1.370 | .381 | .286 | .44 | 3 | - | 9.1 |
| M12 | x 1.75 | TRK04506GS | D6 | .984 | 4.33 | 1.657 | .367 | .275 | .44 | 3 | - | 10.5 |
| M12 | x 1.5 | TRK04516GS | D6 | .984 | 3.94 | 1.657 | .367 | .275 | .44 | 3 | - | 10.7 |
| M12 | x 1.25 | TRK04525GS | D5 | .984 | 3.94 | 1.657 | .367 | .275 | .44 | 3 | - | 10.9 |

► NEXT PAGE

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | |

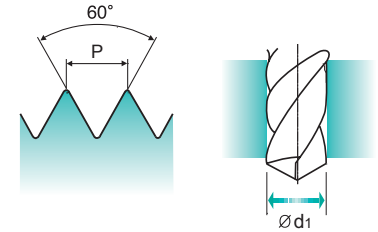
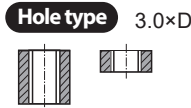
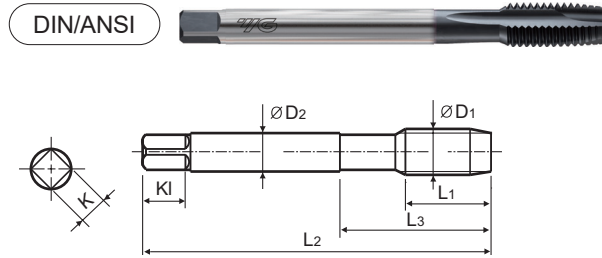
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

SERIES

TRK04

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M14 | x 2.0 | TRK04547GS | D7 | .984 | 4.33 | 1.657 | .429 | .322 | .50 | 3 | - | 12.3 |
| M14 | x 1.5 | TRK04556GS | D6 | .984 | 3.94 | 1.657 | .429 | .322 | .50 | 3 | - | 12.7 |
| M14 | x 1.25 | TRK04566GS | D6 | .984 | 3.94 | 1.657 | .429 | .322 | .50 | 3 | - | 12.9 |
| M16 | x 2.0 | TRK04607GS | D7 | 1.083 | 4.33 | 1.811 | .480 | .360 | .56 | 3 | - | 14.3 |
| M16 | x 1.5 | TRK04616GS | D6 | 1.083 | 3.94 | 1.811 | .480 | .360 | .56 | 3 | - | 14.7 |
| M18 | x 2.5 | TRK04657GS | D7 | 1.083 | 4.92 | 1.811 | .542 | .406 | .63 | 3 | - | 15.8 |
| M18 | x 1.5 | TRK04676GS | D6 | 1.083 | 4.33 | 1.811 | .542 | .406 | .63 | 3 | - | 16.7 |
| M20 | x 2.5 | TRK04708GS | D8 | 1.201 | 5.51 | 2.126 | .652 | .489 | .69 | 3 | - | 17.8 |
| M20 | x 1.5 | TRK04726GS | D6 | 1.201 | 4.92 | 2.000 | .652 | .489 | .69 | 3 | - | 18.7 |
| M22 | x 2.5 | TRK04748GS | D8 | 1.339 | 5.51 | 2.126 | .697 | .523 | .75 | 3 | - | 19.8 |
| M22 | x 1.5 | TRK04766GS | D6 | 1.339 | 4.92 | 2.000 | .697 | .523 | .75 | 3 | - | 20.7 |
| M24 | x 3.0 | TRK04788GS | D8 | 1.339 | 6.30 | 2.362 | .760 | .570 | .75 | 3 | 27/32 | - |
| M24 | x 1.5 | TRK04806GS | D6 | 1.339 | 5.51 | 2.126 | .760 | .570 | .75 | 3 | - | 22.7 |

◎ : Excellent ○ : Good

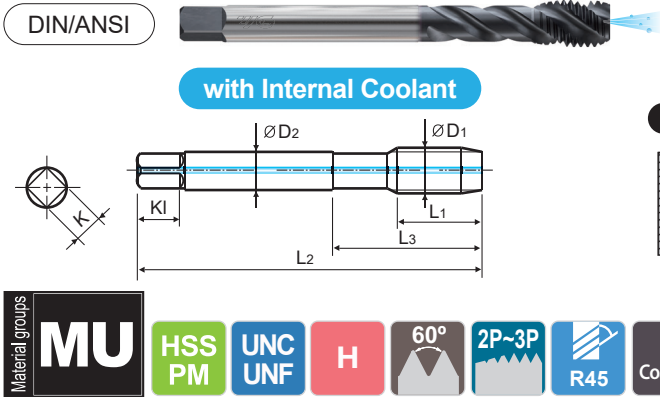
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |



X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

NEW SERIES
TRF25

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | Kl | | Inch | Metric |
| 1/4 - 20UNC | | TRF25403GS | H3 | .500 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 20UNC | | TRF25405GS | H5 | .500 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28UNF | | TRF25423GS | H3 | .358 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 1/4 - 28UNF | | TRF25424GS | H4 | .358 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18UNC | | TRF25443GS | H3 | .555 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 18UNC | | TRF25445GS | H5 | .555 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24UNF | | TRF25463GS | H3 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 5/16 - 24UNF | | TRF25464GS | H4 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 - 16UNC | | TRF25483GS | H3 | .626 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 16UNC | | TRF25485GS | H5 | .626 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24UNF | | TRF25503GS | H3 | .417 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.6 |
| 3/8 - 24UNF | | TRF25504GS | H4 | .417 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14UNC | | TRF25523GS | H3 | .713 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 14UNC | | TRF25525GS | H5 | .713 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 20UNF | | TRF25543GS | H3 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 7/16 - 20UNF | | TRF25545GS | H5 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 1/2 - 13UNC | | TRF25563GS | H3 | .768 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 13UNC | | TRF25565GS | H5 | .768 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20UNF | | TRF25583GS | H3 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 1/2 - 20UNF | | TRF25585GS | H5 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |

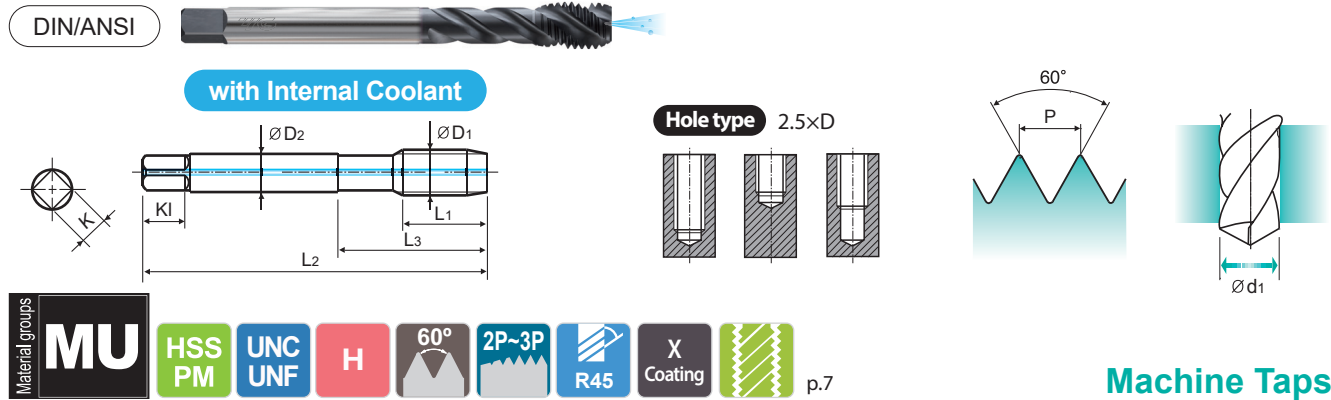
▶ NEXT PAGE

◎ : 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 | | |
| Material Description | | | | | | | | | | | | | | | | | | | | | |
| 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 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 |
| Material Description | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

| Size $\varnothing D_1$ | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter ($\varnothing D_1$) | |
|---------------------------|-----|-------------------|--------|---------------|----------------|-------------|-------------------|-------------|---------------|--------------|--|--------|
| | | | | L1 | L2 | L3 | $\varnothing D_2$ | K | KI | Z | Inch | Metric |
| 9/16 - 12UNC | | TRF25603GS | H3 | .835 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 12UNC | | TRF25605GS | H5 | .835 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18UNF | | TRF25623GS | H3 | .555 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 9/16 - 18UNF | | TRF25625GS | H5 | .555 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11UNC | | TRF25643GS | H3 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 11UNC | | TRF25645GS | H5 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18UNF | | TRF25663GS | H3 | .555 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 5/8 - 18UNF | | TRF25665GS | H5 | .555 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 3/4 - 10UNC | | TRF25703GS | H3 | 1.000 | 4.92 | 2.433 | .590 | .442 | .69 | 4 | - | 16.9 |
| 3/4 - 10UNC | | TRF25705GS | H5 | 1.000 | 4.92 | 2.433 | .590 | .442 | .69 | 4 | - | 16.9 |
| 3/4 - 16UNF | | TRF25723GS | H3 | .626 | 4.33 | 2.433 | .590 | .442 | .69 | 4 | - | 17.7 |
| 3/4 - 16UNF | | TRF25725GS | H5 | .626 | 4.33 | 2.433 | .590 | .442 | .69 | 4 | - | 17.7 |
| 7/8 - 9UNC | | TRF25744GS | H4 | 1.110 | 5.51 | 2.654 | .697 | .523 | .75 | 4 | - | 19.8 |
| 7/8 - 9UNC | | TRF25746GS | H6 | 1.110 | 5.51 | 2.654 | .697 | .523 | .75 | 4 | - | 19.8 |
| 7/8 - 14UNF | | TRF25764GS | H4 | .713 | 4.92 | 2.654 | .697 | .523 | .75 | 4 | - | 20.5 |
| 7/8 - 14UNF | | TRF25766GS | H6 | .713 | 4.92 | 2.654 | .697 | .523 | .75 | 4 | - | 20.5 |
| 1" - 8UNC | | TRF25786GS | H6 | 1.252 | 6.30 | 3.012 | .800 | .600 | .81 | 4 | - | 22.7 |
| 1" - 8UNC | | TRF25784GS | H4 | 1.252 | 6.30 | 3.012 | .800 | .600 | .81 | 4 | - | 22.7 |
| 1" - 12UNF | | TRF25804GS | H4 | .835 | 5.51 | 3.012 | .800 | .600 | .81 | 4 | - | 23.5 |
| 1" - 12UNF | | TRF25806GS | H6 | .835 | 5.51 | 3.012 | .800 | .600 | .81 | 4 | - | 23.5 |

▶ NEXT PAGE

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--|--------------------|--|
| Material Description | 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 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | | |

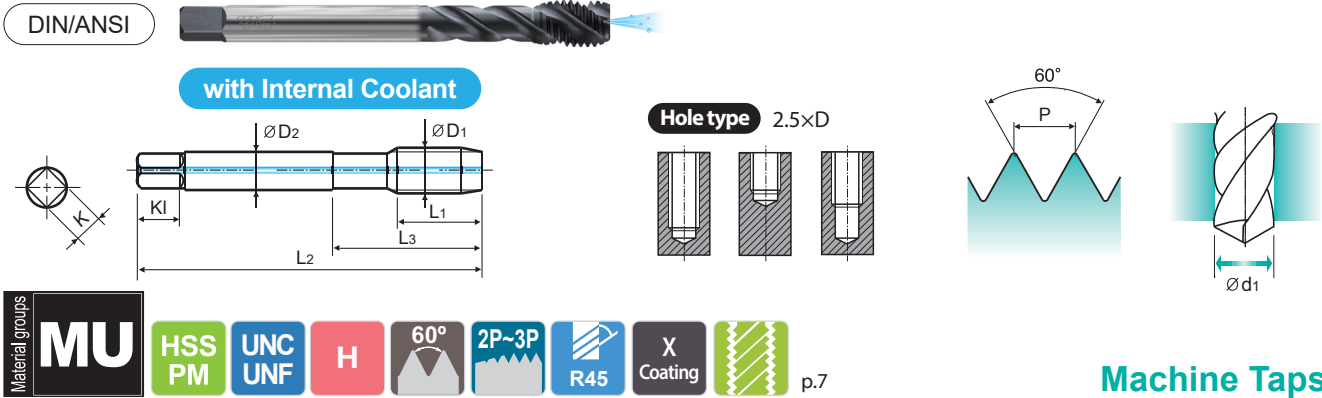


NEW SERIES

TRF25

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

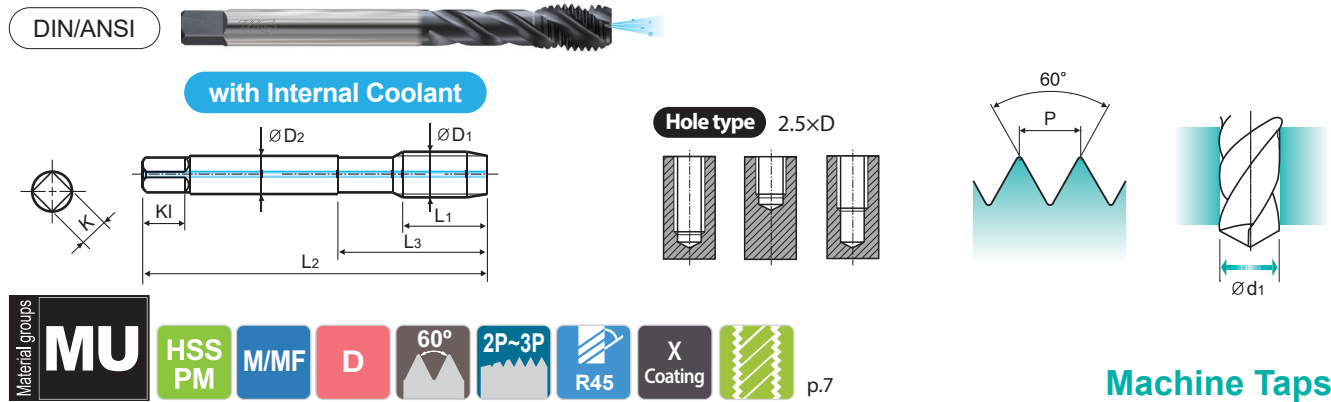
| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute Z | Tapping Drill Diameter (Ød1) | |
|---------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KL | | Inch | Metric |
| 1" - 14UNS | | TRF25816GS | H6 | .713 | 5.51 | 3.012 | .800 | .600 | .81 | 4 | - | 23.7 |
| 1-1/8 - 7UNC | | TRF25829GS | H9 | 1.429 | 7.09 | 3.819 | .896 | .672 | .88 | 4 | - | 25.5 |
| 1-1/8 - 8UN | | TRF25839GS | H9 | 1.252 | 7.09 | 3.819 | .896 | .672 | .88 | 4 | - | 25.7 |
| 1-1/8 - 12UNF | | TRF25848GS | H8 | .835 | 5.91 | 3.071 | .896 | .672 | .88 | 4 | 1-3/64 | - |
| 1-1/4 - 7UNC | | TRF25860GS | H10 | 1.429 | 7.09 | 3.937 | 1.021 | .766 | 1.00 | 4 | - | 28.5 |
| 1-1/4 - 8UN | | TRF25879GS | H9 | 1.252 | 7.09 | 3.937 | 1.021 | .766 | 1.00 | 4 | - | 29.0 |
| 1-1/4 - 12UNF | | TRF25888GS | H8 | .835 | 5.91 | 3.071 | 1.021 | .766 | 1.00 | 4 | 1-11/64 | - |
| 1-3/8 - 6UNC | | TRF25900GS | H10 | 1.665 | 7.87 | 4.528 | 1.108 | .831 | 1.06 | 4 | - | 31.0 |
| 1-3/8 - 8UN | | TRF25919GS | H9 | 1.252 | 7.87 | 4.528 | 1.108 | .831 | 1.06 | 4 | - | 32.0 |
| 1-3/8 - 12UNF | | TRF25928GS | H8 | .835 | 6.69 | 3.583 | 1.108 | .831 | 1.06 | 4 | - | 33.0 |
| 1-1/2 - 6UNC | | TRF25940GS | H10 | 1.665 | 7.87 | 4.528 | 1.233 | .925 | 1.13 | 4 | 1-11/32 | - |
| 1-1/2 - 8UN | | TRF25959GS | H9 | 1.252 | 7.87 | 4.528 | 1.233 | .925 | 1.13 | 4 | - | 35.0 |
| 1-1/2 - 12UNF | | TRF25968GS | H8 | .835 | 6.69 | 3.583 | 1.233 | .925 | 1.13 | 4 | - | 36.0 |

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | |
| 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 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (ØD1) |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch Metric |
| M6 | x 1.0 | TRF26315GS | D5 | .394 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - 5.1 |
| M6 | x 0.75 | TRF26324GS | D4 | .315 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - 5.3 |
| M7 | x 1.0 | TRF26345GS | D5 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 3 | - 6.1 |
| M8 | x 1.25 | TRF26365GS | D5 | .492 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - 6.9 |
| M8 | x 1.0 | TRF26375GS | D5 | .394 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - 7.1 |
| M9 | x 1.25 | TRF26395GS | D5 | .492 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - 7.9 |
| M9 | x 1.0 | TRF26405GS | D5 | .394 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - 8.1 |
| M10 | x 1.5 | TRF26426GS | D6 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - 8.7 |
| M10 | x 1.25 | TRF26435GS | D5 | .492 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - 8.9 |
| M10 | x 1.0 | TRF26445GS | D5 | .394 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - 9.1 |
| M12 | x 1.75 | TRF26506GS | D6 | .689 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - 10.5 |
| M12 | x 1.5 | TRF26516GS | D6 | .591 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - 10.7 |
| M12 | x 1.25 | TRF26525GS | D5 | .492 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - 10.9 |
| M14 | x 2.0 | TRF26547GS | D7 | .787 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - 12.3 |
| M14 | x 1.5 | TRF26556GS | D6 | .591 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - 12.7 |
| M14 | x 1.25 | TRF26566GS | D6 | .492 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - 12.9 |
| M16 | x 2.0 | TRF26607GS | D7 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 3 | - 14.3 |
| M16 | x 1.5 | TRF26616GS | D6 | .591 | 3.94 | 2.126 | .480 | .360 | .56 | 3 | - 14.7 |
| M18 | x 2.5 | TRF26657GS | D7 | .984 | 4.92 | 2.165 | .542 | .406 | .63 | 4 | - 15.8 |
| M18 | x 1.5 | TRF26676GS | D6 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 4 | - 16.7 |

▶ NEXT PAGE

◎ : Excellent ○ : Good

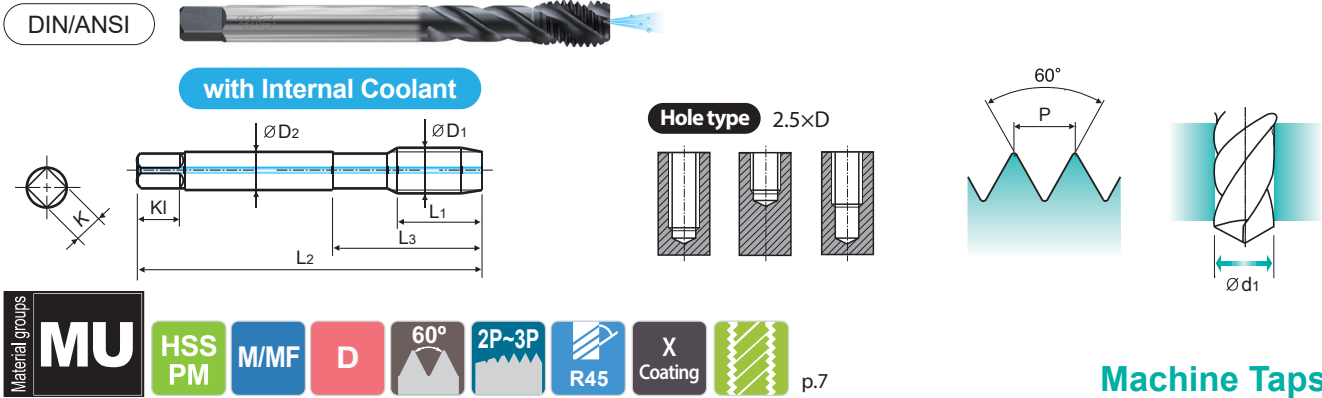
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|------------------------|-----|-----|------------------------------------|-----|-----------------|-----------------|----------------|-------|-------------------|-----|---------------------|-----|--------------------|--|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |



X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

NEW SERIES
TRF26

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|-------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| M20 | x 2.5 | TRF26708GS | D8 | .984 | 5.51 | 2.433 | .652 | .489 | .69 | 4 | - | 17.8 |
| M20 | x 1.5 | TRF26726GS | D6 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 4 | - | 18.7 |
| M22 | x 2.5 | TRF26748GS | D8 | .984 | 5.51 | 2.653 | .697 | .523 | .75 | 4 | - | 19.8 |
| M22 | x 1.5 | TRF26766GS | D6 | .591 | 4.92 | 2.653 | .697 | .523 | .75 | 4 | - | 20.7 |
| M24 | x 3.0 | TRF26788GS | D8 | 1.181 | 6.30 | 2.693 | .760 | .570 | .75 | 4 | 27/32 | - |
| M24 | x 1.5 | TRF26806GS | D6 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 4 | - | 22.7 |
| M27 | x 3.0 | TRF26868GS | D8 | 1.181 | 6.30 | 3.150 | .896 | .672 | .88 | 4 | - | 24.4 |
| M27 | x 1.5 | TRF26886GS | D6 | .591 | 5.51 | 2.362 | .896 | .672 | .88 | 4 | - | 25.7 |
| M30 | x 3.5 | TRF26949GS | D9 | 1.378 | 7.09 | 3.937 | 1.021 | .766 | 1.00 | 4 | - | 27.0 |
| M30 | x 1.5 | TRF26976GS | D6 | .591 | 5.91 | 2.756 | 1.021 | .766 | 1.00 | 4 | - | 28.6 |

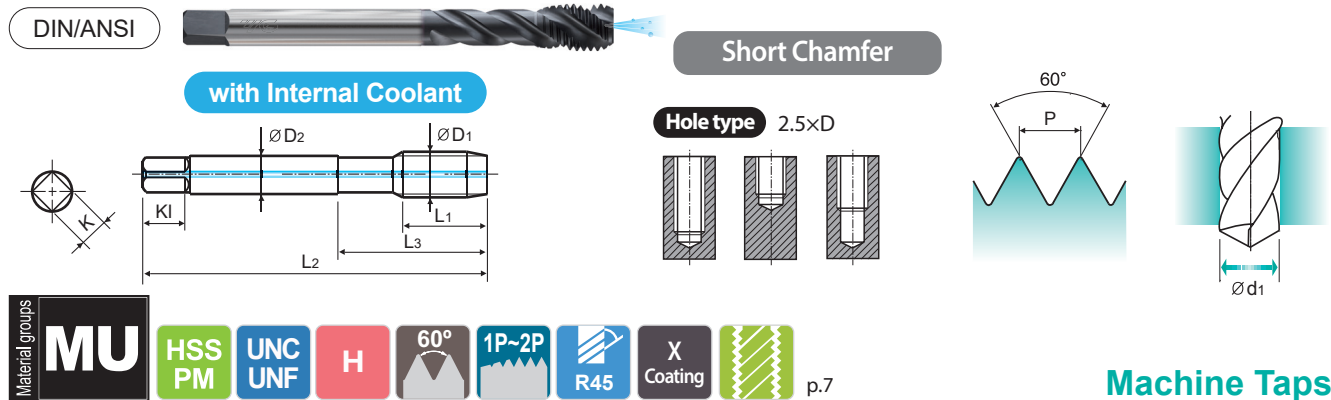
◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | |
|-------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|------------------------------------|-----|-----|-----------------|-----|-----|-----|----------------|-----|-------------------|--|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | | Stainless steel | | | | Grey cast iron | | Nodular cast iron | |
| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 1/4 - 20UNC | | TRF27403GS | H3 | .500 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 20UNC | | TRF27405GS | H5 | .500 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28UNF | | TRF27423GS | H3 | .358 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 1/4 - 28UNF | | TRF27424GS | H4 | .358 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18UNC | | TRF27443GS | H3 | .555 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 18UNC | | TRF27445GS | H5 | .555 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24UNF | | TRF27463GS | H3 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 5/16 - 24UNF | | TRF27464GS | H4 | .417 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 - 16UNC | | TRF27483GS | H3 | .626 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 16UNC | | TRF27485GS | H5 | .626 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24UNF | | TRF27503GS | H3 | .417 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.6 |
| 3/8 - 24UNF | | TRF27504GS | H4 | .417 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14UNC | | TRF27523GS | H3 | .713 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 14UNC | | TRF27525GS | H5 | .713 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 20UNF | | TRF27543GS | H3 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 7/16 - 20UNF | | TRF27545GS | H5 | .500 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 1/2 - 13UNC | | TRF27563GS | H3 | .768 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 13UNC | | TRF27565GS | H5 | .768 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20UNF | | TRF27583GS | H3 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 1/2 - 20UNF | | TRF27585GS | H5 | .500 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |

▶ NEXT PAGE

◎ : Excellent ○ : Good

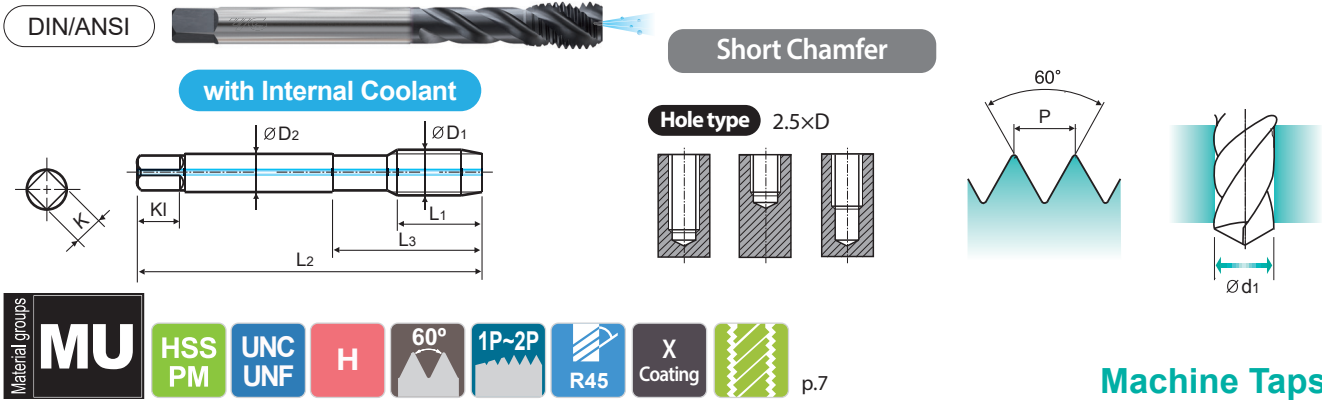
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|---------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--|--------------------|--|
| Material Description | 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 | 32 | 10 | 29 | 32 | 38 | 15 | 15 | 35 | 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 | | | | | | | |
| Material Description | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallics | | 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 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | | |



X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

NEW SERIES
TRF27

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KL | | Z | Inch |
| 9/16 - 12UNC | | TRF27603GS | H3 | .835 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 12UNC | | TRF27605GS | H5 | .835 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18UNF | | TRF27623GS | H3 | .555 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 9/16 - 18UNF | | TRF27625GS | H5 | .555 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11UNC | | TRF27643GS | H3 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 11UNC | | TRF27645GS | H5 | .909 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18UNF | | TRF27663GS | H3 | .555 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 5/8 - 18UNF | | TRF27665GS | H5 | .555 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |

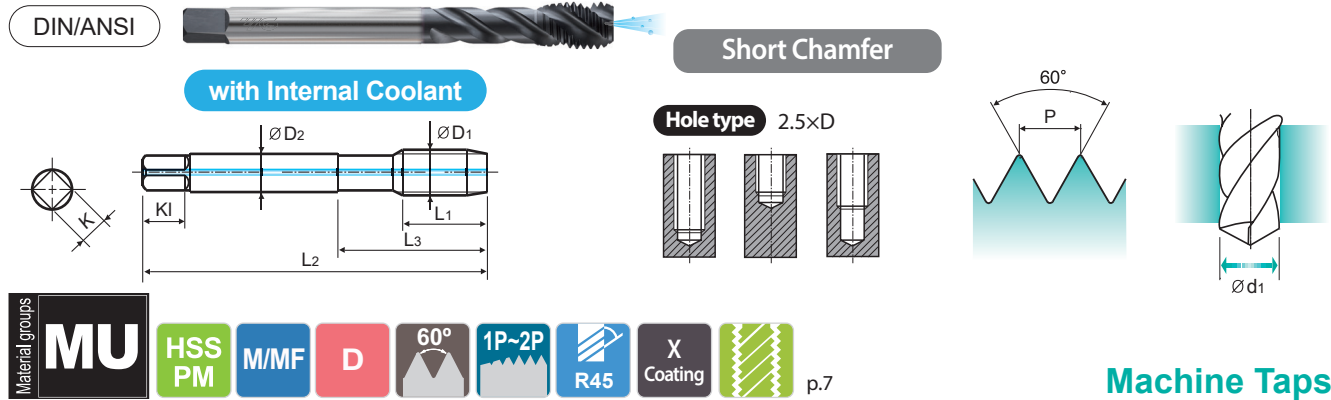
◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | |
|-------------|-----------------|-----|-----|-----|-----|-----------------|-----|-----|-----|-----|------------------------------------|-----|-----|-----------------|-----|-----|-----|----------------|-----|-------------------|--|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | | Stainless steel | | | | Grey cast iron | | Nodular cast iron | |
| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch Metric |
| M6 | x 1.0 | TRF28315GS | D5 | .394 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - 5.1 |
| M8 | x 1.25 | TRF28365GS | D5 | .492 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - 6.9 |
| M9 | x 1.25 | TRF28395GS | D5 | .492 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - 7.9 |
| M10 | x 1.5 | TRF28426GS | D6 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - 8.7 |
| M10 | x 1.25 | TRF28435GS | D5 | .492 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - 8.9 |
| M10 | x 1.0 | TRF28445GS | D5 | .394 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - 9.1 |
| M12 | x 1.75 | TRF28506GS | D6 | .689 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - 10.5 |
| M12 | x 1.5 | TRF28516GS | D6 | .591 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - 10.7 |
| M12 | x 1.25 | TRF28525GS | D5 | .492 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - 10.9 |
| M14 | x 2.0 | TRF28547GS | D7 | .787 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - 12.3 |
| M14 | x 1.5 | TRF28556GS | D6 | .591 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - 12.7 |
| M14 | x 1.25 | TRF28566GS | D6 | .492 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - 12.9 |
| M16 | x 2.0 | TRF28607GS | D7 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 3 | - 14.3 |
| M16 | x 1.5 | TRF28616GS | D6 | .591 | 3.94 | 2.126 | .480 | .360 | .56 | 3 | - 14.7 |
| M18 | x 1.5 | TRF28676GS | D6 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 4 | - 16.7 |

◎ : Excellent ○ : Good

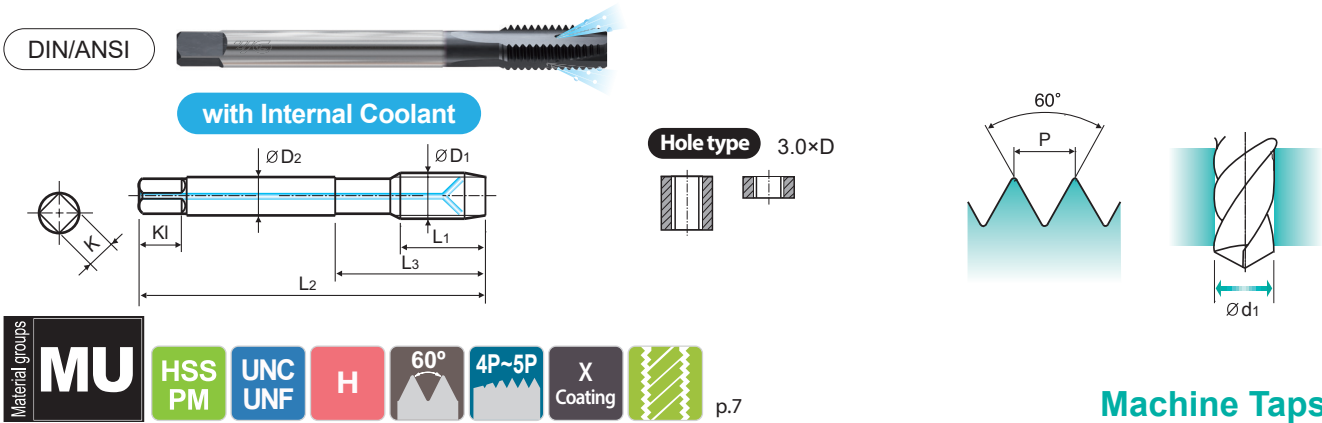
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |



X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

NEW SERIES
TRK15

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | Kl | Z | Inch | Metric |
| 1/4 - 20UNC | | TRK15403GSP | H3 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 20UNC | | TRK15405GSP | H5 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28UNF | | TRK15423GSP | H3 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 1/4 - 28UNF | | TRK15424GSP | H4 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18UNC | | TRK15443GSP | H3 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 18UNC | | TRK15445GSP | H5 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24UNF | | TRK15463GSP | H3 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 5/16 - 24UNF | | TRK15464GSP | H4 | .669 | 3.54 | 1.377 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 - 16UNC | | TRK15483GSP | H3 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 16UNC | | TRK15485GSP | H5 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24UNF | | TRK15503GSP | H3 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.6 |
| 3/8 - 24UNF | | TRK15504GSP | H4 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14UNC | | TRK15523GSP | H3 | .866 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 14UNC | | TRK15525GSP | H5 | .866 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 9.5 |
| 7/16 - 20UNF | | TRK15543GSP | H3 | .866 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 7/16 - 20UNF | | TRK15545GSP | H5 | .866 | 3.94 | 1.712 | .323 | .242 | .41 | 3 | - | 10.0 |
| 1/2 - 13UNC | | TRK15563GSP | H3 | .984 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 13UNC | | TRK15565GSP | H5 | .984 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20UNF | | TRK15583GSP | H3 | .984 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |
| 1/2 - 20UNF | | TRK15585GSP | H5 | .984 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 11.6 |

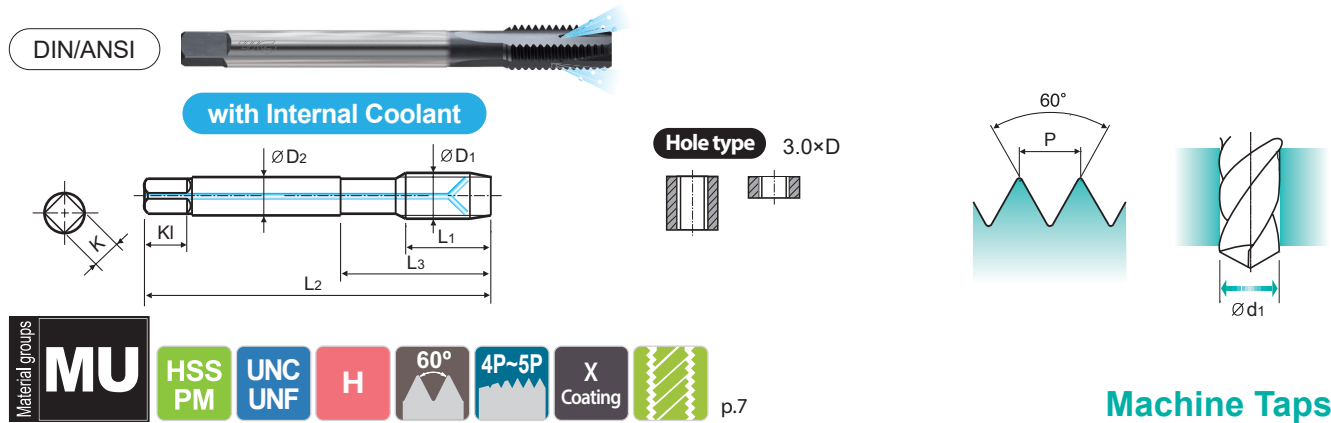
► NEXT PAGE

◎ : 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 | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | | | | | | | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 9/16 - 12UNC | | TRK15603GSP | H3 | .984 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 12UNC | | TRK15605GSP | H5 | .984 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18UNF | | TRK15623GSP | H3 | .984 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 9/16 - 18UNF | | TRK15625GSP | H5 | .984 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11UNC | | TRK15643GSP | H3 | 1.083 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 11UNC | | TRK15645GSP | H5 | 1.083 | 4.33 | 2.125 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18UNF | | TRK15663GSP | H3 | 1.083 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 5/8 - 18UNF | | TRK15665GSP | H5 | 1.083 | 3.94 | 2.125 | .480 | .360 | .56 | 3 | - | 14.6 |
| 3/4 - 10UNC | | TRK15703GSP | H3 | 1.201 | 4.92 | 2.433 | .590 | .442 | .69 | 3 | - | 16.9 |
| 3/4 - 10UNC | | TRK15705GSP | H5 | 1.201 | 4.92 | 2.433 | .590 | .442 | .69 | 3 | - | 16.9 |
| 3/4 - 16UNF | | TRK15723GSP | H3 | 1.201 | 4.33 | 2.433 | .590 | .442 | .69 | 3 | - | 17.7 |
| 3/4 - 16UNF | | TRK15725GSP | H5 | 1.201 | 4.33 | 2.433 | .590 | .442 | .69 | 3 | - | 17.7 |
| 7/8 - 9UNC | | TRK15744GSP | H4 | 1.339 | 5.51 | 2.654 | .697 | .523 | .75 | 3 | - | 19.8 |
| 7/8 - 9UNC | | TRK15746GSP | H6 | 1.339 | 5.51 | 2.654 | .697 | .523 | .75 | 3 | - | 19.8 |
| 7/8 - 14UNF | | TRK15764GSP | H4 | 1.339 | 4.92 | 2.654 | .697 | .523 | .75 | 3 | - | 20.5 |
| 7/8 - 14UNF | | TRK15766GSP | H6 | 1.339 | 4.92 | 2.654 | .697 | .523 | .75 | 3 | - | 20.5 |
| 1" - 8UNC | | TRK15786GSP | H6 | 1.496 | 6.30 | 3.012 | .800 | .600 | .81 | 3 | - | 22.7 |
| 1" - 12UNF | | TRK15806GSP | H6 | 1.496 | 5.51 | 3.012 | .800 | .600 | .81 | 3 | - | 23.5 |
| 1" - 14UNS | | TRK15816GSP | H6 | 1.496 | 5.51 | 3.012 | .800 | .600 | .81 | 3 | - | 23.7 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | | | |
| 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

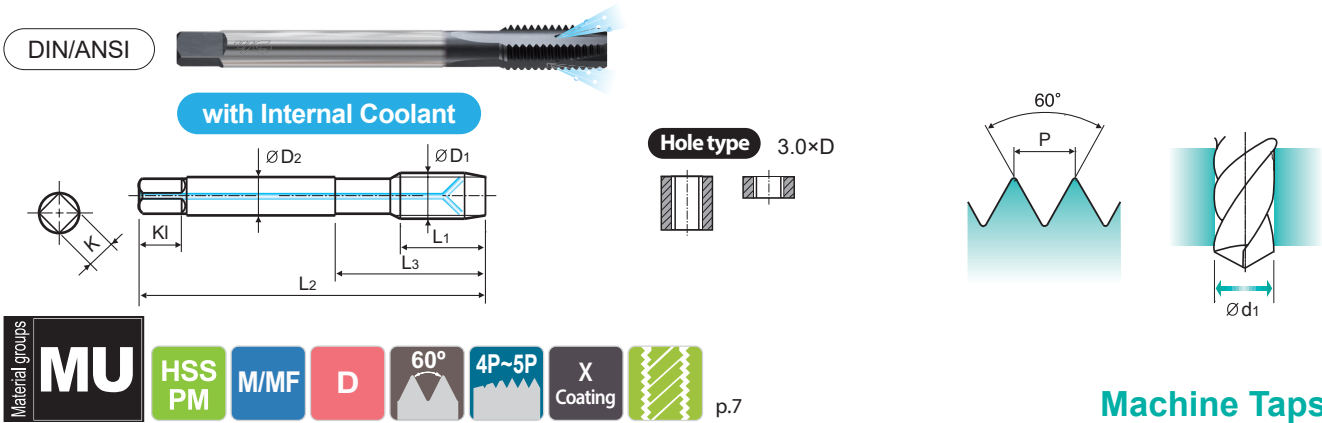


X-Coating, HSS-PM

Spiral Point Taps for Multipurpose

NEW SERIES
TRK16

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------------|-------|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M6 x 1.0 | | TRK16315GSP | D5 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.1 |
| M6 x 0.75 | | TRK16324GSP | D4 | .591 | 3.15 | 1.177 | .255 | .191 | .31 | 3 | - | 5.3 |
| M7 x 1.0 | | TRK16345GSP | D5 | .669 | 3.15 | 1.181 | .318 | .238 | .38 | 3 | - | 6.1 |
| M8 x 1.25 | | TRK16365GSP | D5 | .669 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - | 6.9 |
| M8 x 1.0 | | TRK16375GSP | D5 | .669 | 3.54 | 1.378 | .318 | .238 | .38 | 3 | - | 7.1 |
| M9 x 1.25 | | TRK16395GSP | D5 | .669 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 7.9 |
| M9 x 1.0 | | TRK16405GSP | D5 | .669 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 8.1 |
| M10 x 1.5 | | TRK16426GSP | D6 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.7 |
| M10 x 1.25 | | TRK16435GSP | D5 | .748 | 3.94 | 1.535 | .381 | .286 | .44 | 3 | - | 8.9 |
| M10 x 1.0 | | TRK16445GSP | D5 | .748 | 3.54 | 1.378 | .381 | .286 | .44 | 3 | - | 9.1 |
| M12 x 1.75 | | TRK16506GSP | D6 | .984 | 4.33 | 1.933 | .367 | .275 | .44 | 3 | - | 10.5 |
| M12 x 1.5 | | TRK16516GSP | D6 | .984 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 10.7 |
| M12 x 1.25 | | TRK16525GSP | D5 | .984 | 3.94 | 1.933 | .367 | .275 | .44 | 3 | - | 10.9 |
| M14 x 2.0 | | TRK16547GSP | D7 | .984 | 4.33 | 1.972 | .429 | .322 | .50 | 3 | - | 12.3 |
| M14 x 1.5 | | TRK16556GSP | D6 | .984 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 12.7 |
| M14 x 1.25 | | TRK16566GSP | D6 | .984 | 3.94 | 1.972 | .429 | .322 | .50 | 3 | - | 12.9 |
| M16 x 2.0 | | TRK16607GSP | D7 | 1.083 | 4.33 | 2.126 | .480 | .360 | .56 | 3 | - | 14.3 |
| M16 x 1.5 | | TRK16616GSP | D6 | 1.083 | 3.94 | 2.126 | .480 | .360 | .56 | 3 | - | 14.7 |
| M18 x 2.5 | | TRK16657GSP | D7 | 1.083 | 4.92 | 2.165 | .542 | .406 | .63 | 3 | - | 15.8 |
| M18 x 1.5 | | TRK16676GSP | D6 | 1.083 | 4.33 | 2.165 | .542 | .406 | .63 | 3 | - | 16.7 |

► NEXT PAGE

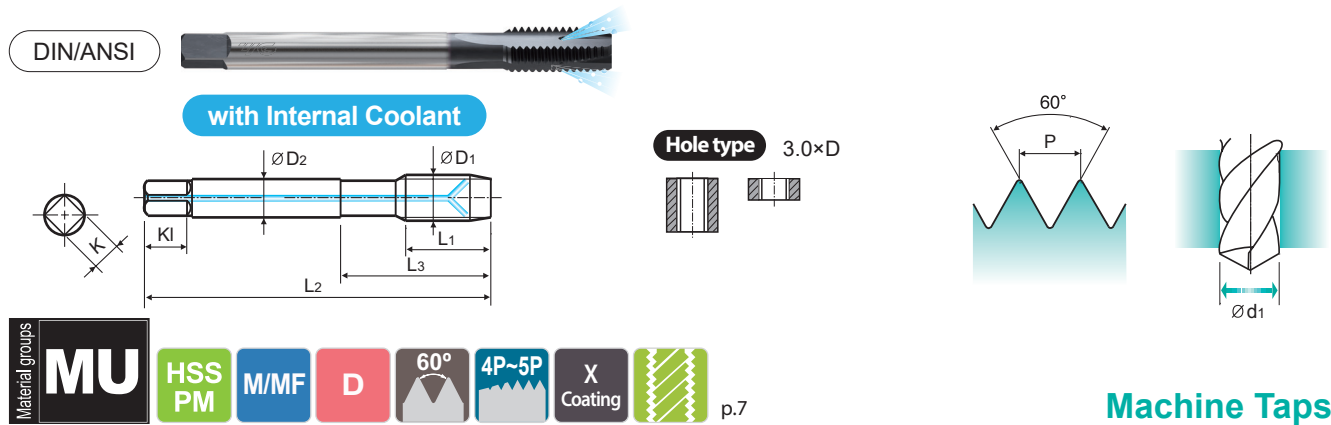
◎ : Excellent ○ : Good

| 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 |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 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 |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|-------|--------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M20 | x 2.5 | TRK16708GSP | D8 | 1.201 | 5.51 | 2.433 | .652 | .489 | .69 | 3 | - | 17.8 |
| M20 | x 1.5 | TRK16726GSP | D6 | 1.201 | 4.92 | 2.433 | .652 | .489 | .69 | 3 | - | 18.7 |
| M22 | x 2.5 | TRK16748GSP | D8 | 1.339 | 5.51 | 2.653 | .697 | .523 | .75 | 3 | - | 19.8 |
| M22 | x 1.5 | TRK16766GSP | D6 | 1.339 | 4.92 | 2.653 | .697 | .523 | .75 | 3 | - | 20.7 |
| M24 | x 3.0 | TRK16788GSP | D8 | 1.339 | 6.30 | 2.693 | .760 | .570 | .75 | 3 | 27/32 | - |
| M24 | x 1.5 | TRK16806GSP | D6 | 1.339 | 5.51 | 2.693 | .760 | .570 | .75 | 3 | - | 22.7 |

◎ : Excellent ○ : Good

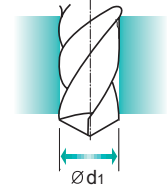
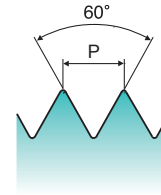
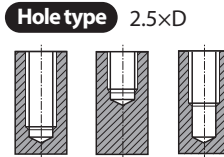
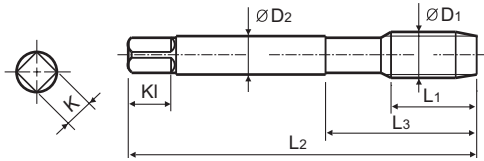
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|-----|-------|-----------------|-----|-------------------|-------------------|---------------------|--|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |



X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

NEW SERIES
TRF30

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups **MU** HSS PM UNC UNF H 60° 2P~3P R45 X Coating p.7

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| #4 - 40UNC | | TRF30162GS | H2 | .201 | 3.15 | .709 | .141 | .110 | .19 | 2 | - | 2.3 |
| #4 - 48UNF | | TRF30182GS | H2 | .201 | 3.15 | .709 | .141 | .110 | .19 | 2 | 3/32 | - |
| #5 - 40UNC | | TRF30202GS | H2 | .201 | 3.94 | .709 | .141 | .110 | .19 | 3 | - | 2.6 |
| #6 - 32UNC | | TRF30243GS | H3 | .248 | 4.72 | .787 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 40UNF | | TRF30262GS | H2 | .248 | 3.94 | .787 | .141 | .110 | .19 | 3 | - | 2.9 |
| #8 - 32UNC | | TRF30283GS | H3 | .252 | 4.72 | .827 | .168 | .131 | .24 | 3 | - | 3.4 |
| #8 - 36UNF | | TRF30302GS | H2 | .252 | 3.94 | .827 | .168 | .131 | .24 | 3 | - | 3.5 |
| #10 - 24UNC | | TRF30323GS | H3 | .327 | 4.92 | .984 | .194 | .152 | .24 | 3 | - | 3.9 |
| #10 - 32UNF | | TRF30343GS | H3 | .327 | 5.91 | .984 | .194 | .152 | .24 | 3 | - | 4.1 |
| #12 - 24UNC | | TRF30363GS | H3 | .331 | 4.92 | 1.181 | .220 | .165 | .27 | 3 | - | 4.5 |
| #12 - 28UNF | | TRF30383GS | H3 | .331 | 4.92 | 1.181 | .220 | .165 | .27 | 3 | - | 4.7 |
| 1/4 - 20UNC | | TRF30405GS | H5 | .398 | 5.91 | 1.260 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28UNF | | TRF30424GS | H4 | .398 | 5.91 | 1.260 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18UNC | | TRF30445GS | H5 | .555 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24UNF | | TRF30464GS | H4 | .417 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 - 16UNC | | TRF30485GS | H5 | .626 | 5.91 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24UNF | | TRF30504GS | H4 | .417 | 5.91 | 1.378 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14UNC | | TRF30525GS | H5 | .713 | 5.91 | 2.362 | .323 | .242 | .39 | 3 | - | 9.5 |
| 7/16 - 20UNF | | TRF30545GS | H5 | .500 | 5.91 | 2.362 | .323 | .242 | .39 | 3 | - | 10.0 |

▶ NEXT PAGE

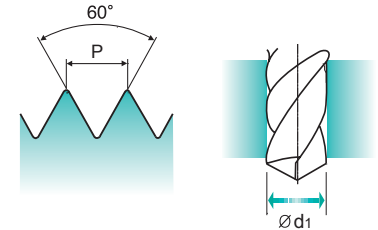
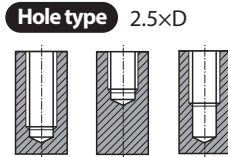
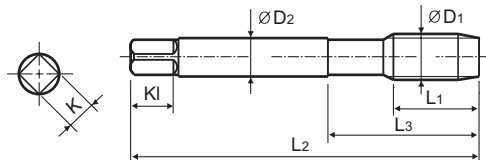
◎ : Excellent ○ : Good

| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 20 | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups **MU** HSS PM UNC UNF H 60° 2P~3P R45 X Coating p.7

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 1/2 - 13UNC | | TRF30565GS | H5 | .768 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20UNF | | TRF30585GS | H5 | .500 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 11.6 |
| 9/16 - 12UNC | | TRF30605GS | H5 | .835 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18UNF | | TRF30625GS | H5 | .555 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11UNC | | TRF30645GS | H5 | .909 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18UNF | | TRF30665GS | H5 | .555 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 14.6 |
| 3/4 - 10UNC | | TRF30705GS | H5 | 1.000 | 7.87 | 3.150 | .590 | .442 | .67 | 4 | - | 16.9 |
| 3/4 - 16UNF | | TRF30725GS | H5 | .626 | 7.87 | 3.150 | .590 | .442 | .67 | 4 | - | 17.7 |
| 7/8 - 9UNC | | TRF30746GS | H6 | 1.110 | 7.87 | 3.150 | .697 | .523 | .74 | 4 | - | 19.8 |
| 7/8 - 14UNF | | TRF30766GS | H6 | .713 | 7.87 | 3.150 | .697 | .523 | .74 | 4 | - | 20.5 |
| 1" - 8UNC | | TRF30786GS | H6 | 1.252 | 7.87 | 3.465 | .800 | .600 | .80 | 4 | - | 22.7 |
| 1" - 12UNF | | TRF30806GS | H6 | .835 | 7.87 | 3.465 | .800 | .600 | .80 | 4 | - | 23.5 |

◎ : Excellent ○ : Good

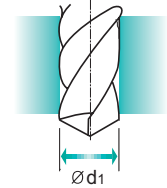
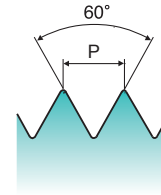
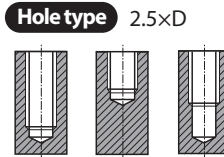
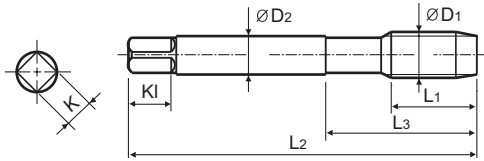
| ISO | P | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|----------------|-----------------|-------------------|----------------|---------------------|--------------------|-----|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |



X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

NEW SERIES
TRF29

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Material groups **MU** HSS PM M/MF D 60° 2P~3P R45 X Coating p.7

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| M3 | x 0.5 | TRF29203GS | D3 | .157 | 3.94 | .709 | .141 | .110 | .19 | 3 | - | 2.5 |
| M4 | x 0.7 | TRF29244GS | D4 | .220 | 3.94 | .827 | .168 | .191 | .31 | 3 | - | 3.4 |
| M5 | x 0.8 | TRF29284GS | D4 | .252 | 4.92 | .984 | .194 | .191 | .31 | 3 | - | 4.3 |
| M6 | x 1.0 | TRF29315GS | D5 | .315 | 5.91 | 1.181 | .255 | .191 | .31 | 3 | - | 5.1 |
| M6 | x 0.75 | TRF29324GS | D4 | .315 | 5.91 | 1.181 | .255 | .191 | .31 | 3 | - | 5.3 |
| M8 | x 1.25 | TRF29365GS | D5 | .492 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 6.9 |
| M8 | x 1.0 | TRF29375GS | D5 | .394 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 7.1 |
| M10 | x 1.5 | TRF29426GS | D6 | .591 | 5.91 | 1.378 | .381 | .286 | .44 | 3 | - | 8.7 |
| M10 | x 1.25 | TRF29435GS | D5 | .492 | 5.91 | 1.535 | .381 | .286 | .44 | 3 | - | 8.9 |
| M10 | x 1.0 | TRF29445GS | D5 | .394 | 5.91 | 1.535 | .381 | .286 | .44 | 3 | - | 9.1 |
| M12 | x 1.75 | TRF29506GS | D6 | .689 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 10.5 |
| M12 | x 1.5 | TRF29516GS | D6 | .591 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 10.7 |
| M12 | x 1.25 | TRF29526GS | D6 | .492 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 10.9 |
| M14 | x 2.0 | TRF29547GS | D7 | .492 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.3 |
| M14 | x 1.5 | TRF29556GS | D6 | .591 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.7 |
| M14 | x 1.25 | TRF29566GS | D6 | .492 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.9 |
| M16 | x 2.0 | TRF29607GS | D7 | .591 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 14.3 |
| M16 | x 1.5 | TRF29616GS | D6 | .787 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 14.7 |
| M18 | x 2.5 | TRF29657GS | D7 | .984 | 7.09 | 2.835 | .542 | .406 | .61 | 4 | - | 15.8 |
| M18 | x 1.5 | TRF29676GS | D6 | .591 | 7.09 | 2.835 | .542 | .406 | .61 | 4 | - | 16.7 |

▶ NEXT PAGE

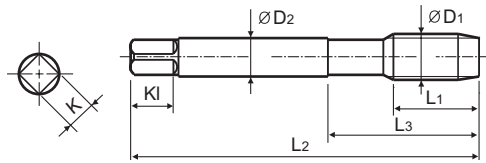
◎ : Excellent ○ : Good

| 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 |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 21 | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | ◎ | ○ | ○ | ◎ | ◎ | | | |

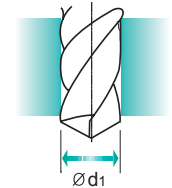
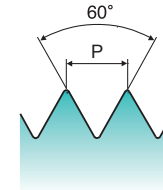
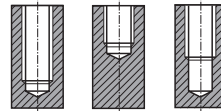
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | 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 |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Flute Taps for Multipurpose

- ▶ High performance on various ductile materials
- ▶ Specially designed to prevent oversized threads and reduce gauging problems



Hole type 2.5xD



Material groups **MU** HSS PM M/MF D 60° 2P~3P R45 X Coating p.7

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (ØD1) | |
|------|-------|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M20 | x 2.5 | TRF29707GS | D7 | .984 | 7.87 | 3.150 | .652 | .489 | .67 | 4 | - | 17.8 |
| M20 | x 1.5 | TRF29726GS | D6 | .591 | 7.87 | 3.150 | .652 | .489 | .67 | 4 | - | 18.7 |
| M22 | x 2.5 | TRF29747GS | D7 | .984 | 7.87 | 3.150 | .697 | .523 | .74 | 4 | - | 19.8 |
| M22 | x 1.5 | TRF29766GS | D6 | .591 | 7.87 | 3.150 | .697 | .523 | .74 | 4 | - | 20.7 |
| M24 | x 3.0 | TRF29788GS | D8 | 1.181 | 7.87 | 3.268 | .760 | .570 | .74 | 4 | 27/32 | - |
| M24 | x 1.5 | TRF29806GS | D6 | .591 | 7.87 | 3.268 | .760 | .570 | .74 | 4 | - | 22.7 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|----------------|-----------------|-------------------|----------------|---------------------|--------------------|-----|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |



X-Coating, HSS-PM

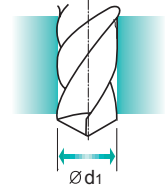
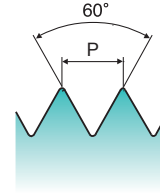
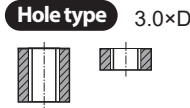
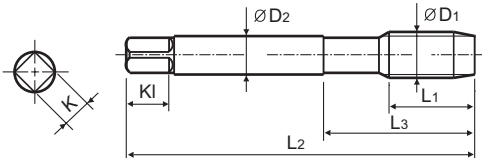
Spiral Point Taps for Multipurpose

NEW SERIES

TRK30

► High performance on various ductile materials

EXTENDED LENGTH



Material groups **MU** HSS PM UNC UNF H 60° 4P~5P X Coating p.7

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| #4 - 40UNC | | TRK30162GS | H2 | .335 | 3.15 | .709 | .141 | .110 | .19 | 2 | - | 2.3 |
| #4 - 48UNF | | TRK30182GS | H2 | .335 | 3.15 | .709 | .141 | .110 | .19 | 2 | 3/32 | - |
| #5 - 40UNC | | TRK30202GS | H2 | .374 | 3.94 | .709 | .141 | .110 | .19 | 3 | - | 2.6 |
| #6 - 32UNC | | TRK30243GS | H3 | .413 | 4.72 | .787 | .141 | .110 | .19 | 3 | - | 2.8 |
| #6 - 40UNF | | TRK30262GS | H2 | .413 | 3.94 | .787 | .141 | .110 | .19 | 3 | - | 2.9 |
| #8 - 32UNC | | TRK30283GS | H3 | .453 | 4.72 | .827 | .168 | .131 | .24 | 3 | - | 3.4 |
| #8 - 36UNF | | TRK30302GS | H2 | .453 | 3.94 | .827 | .168 | .131 | .24 | 3 | - | 3.5 |
| #10 - 24UNC | | TRK30323GS | H3 | .531 | 4.92 | .984 | .194 | .152 | .24 | 3 | - | 3.9 |
| #10 - 32UNF | | TRK30343GS | H3 | .531 | 5.91 | .984 | .194 | .152 | .24 | 3 | - | 4.1 |
| #12 - 24UNC | | TRK30363GS | H3 | .571 | 4.92 | 1.181 | .220 | .165 | .27 | 3 | - | 4.5 |
| #12 - 28UNF | | TRK30383GS | H3 | .571 | 4.92 | 1.181 | .220 | .165 | .27 | 3 | - | 4.7 |
| 1/4 - 20UNC | | TRK30405GS | H5 | .591 | 5.91 | 1.260 | .255 | .191 | .31 | 3 | - | 5.2 |
| 1/4 - 28UNF | | TRK30424GS | H4 | .591 | 5.91 | 1.260 | .255 | .191 | .31 | 3 | - | 5.5 |
| 5/16 - 18UNC | | TRK30445GS | H5 | .669 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 6.7 |
| 5/16 - 24UNF | | TRK30464GS | H4 | .669 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 7.0 |
| 3/8 - 16UNC | | TRK30485GS | H5 | .748 | 5.91 | 1.535 | .381 | .286 | .44 | 3 | - | 8.1 |
| 3/8 - 24UNF | | TRK30504GS | H4 | .748 | 5.91 | 1.378 | .381 | .286 | .44 | 3 | - | 8.6 |
| 7/16 - 14UNC | | TRK30525GS | H5 | .866 | 5.91 | 2.362 | .323 | .242 | .39 | 3 | - | 9.5 |
| 7/16 - 20UNF | | TRK30545GS | H5 | .866 | 5.91 | 2.362 | .323 | .242 | .39 | 3 | - | 10.0 |

► NEXT PAGE

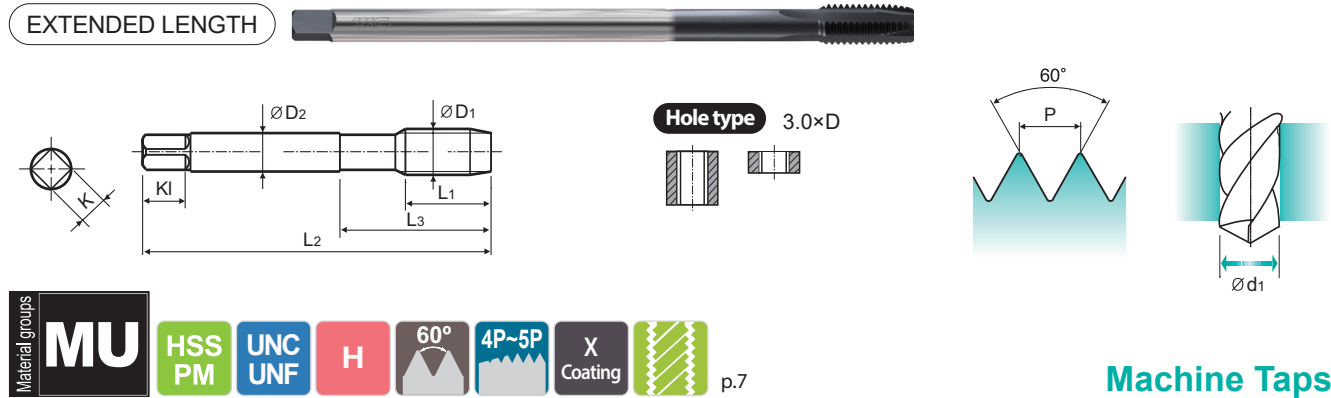
◎ : Excellent ○ : Good

| 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 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 20 | 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 |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|--------------|-----|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | Kl | Z | Inch | Metric |
| 1/2 - 13UNC | | TRK30565GS | H5 | .984 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 11.0 |
| 1/2 - 20UNF | | TRK30585GS | H5 | .984 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 11.6 |
| 9/16 - 12UNC | | TRK30605GS | H5 | .984 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.5 |
| 9/16 - 18UNF | | TRK30625GS | H5 | .984 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 13.0 |
| 5/8 - 11UNC | | TRK30645GS | H5 | 1.083 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 13.9 |
| 5/8 - 18UNF | | TRK30665GS | H5 | 1.083 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 14.6 |
| 3/4 - 10UNC | | TRK30705GS | H5 | 1.201 | 7.87 | 3.150 | .590 | .442 | .67 | 3 | - | 16.9 |
| 3/4 - 16UNF | | TRK30725GS | H5 | 1.201 | 7.87 | 3.150 | .590 | .442 | .67 | 3 | - | 17.7 |
| 7/8 - 9UNC | | TRK30746GS | H6 | 1.339 | 7.87 | 3.150 | .697 | .523 | .74 | 3 | - | 19.8 |
| 7/8 - 14UNF | | TRK30766GS | H6 | 1.339 | 7.87 | 3.150 | .697 | .523 | .74 | 3 | - | 20.5 |
| 1" - 8UNC | | TRK30786GS | H6 | 1.496 | 7.87 | 3.465 | .800 | .600 | .80 | 3 | - | 22.7 |
| 1" - 12UNF | | TRK30806GS | H6 | 1.496 | 7.87 | 3.465 | .800 | .600 | .80 | 3 | - | 23.5 |

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |



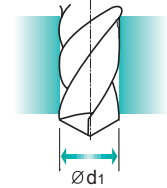
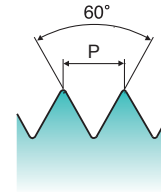
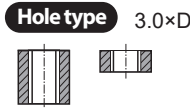
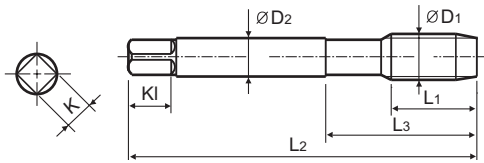
X-Coating, HSS-PM

Spiral Point Taps for Multipurpose

NEW SERIES
TRK29

► High performance on various ductile materials

EXTENDED LENGTH 



Material groups **MU** **HSS PM** **M/MF** **D** **60°** **4P~5P** **X Coating** p.7

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| M3 | x 0.5 | TRK29203GS | D3 | .374 | 3.94 | .709 | .141 | .110 | .19 | 3 | - | 2.5 |
| M4 | x 0.7 | TRK29244GS | D4 | .453 | 3.94 | .827 | .168 | .191 | .31 | 3 | - | 3.4 |
| M5 | x 0.8 | TRK29284GS | D4 | .531 | 4.92 | .984 | .194 | .191 | .31 | 3 | - | 4.3 |
| M6 | x 1.0 | TRK29315GS | D5 | .591 | 5.91 | 1.181 | .255 | .191 | .31 | 3 | - | 5.1 |
| M6 | x 0.75 | TRK29324GS | D4 | .591 | 5.91 | 1.181 | .255 | .191 | .31 | 3 | - | 5.3 |
| M8 | x 1.25 | TRK29365GS | D5 | .669 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 6.9 |
| M8 | x 1.0 | TRK29375GS | D5 | .669 | 5.91 | 1.378 | .318 | .238 | .38 | 3 | - | 7.1 |
| M10 | x 1.5 | TRK29426GS | D6 | .748 | 5.91 | 1.378 | .381 | .286 | .44 | 3 | - | 8.7 |
| M10 | x 1.25 | TRK29435GS | D5 | .748 | 5.91 | 1.535 | .381 | .286 | .44 | 3 | - | 8.9 |
| M10 | x 1.0 | TRK29445GS | D5 | .748 | 5.91 | 1.535 | .381 | .286 | .44 | 3 | - | 9.1 |
| M12 | x 1.75 | TRK29506GS | D6 | .984 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 10.5 |
| M12 | x 1.5 | TRK29516GS | D6 | .984 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 10.7 |
| M12 | x 1.25 | TRK29526GS | D6 | .984 | 7.09 | 2.835 | .367 | .275 | .44 | 3 | - | 10.9 |
| M14 | x 2.0 | TRK29547GS | D7 | .984 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.3 |
| M14 | x 1.5 | TRK29556GS | D6 | .984 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.7 |
| M14 | x 1.25 | TRK29566GS | D6 | .984 | 7.09 | 2.835 | .429 | .322 | .50 | 3 | - | 12.9 |
| M16 | x 2.0 | TRK29607GS | D7 | 1.083 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 14.3 |
| M16 | x 1.5 | TRK29616GS | D6 | 1.083 | 7.09 | 2.835 | .480 | .360 | .56 | 3 | - | 14.7 |
| M18 | x 2.5 | TRK29657GS | D7 | 1.083 | 7.09 | 2.835 | .542 | .406 | .61 | 3 | - | 15.8 |
| M18 | x 1.5 | TRK29676GS | D6 | 1.083 | 7.09 | 2.835 | .542 | .406 | .61 | 3 | - | 16.7 |

► NEXT PAGE

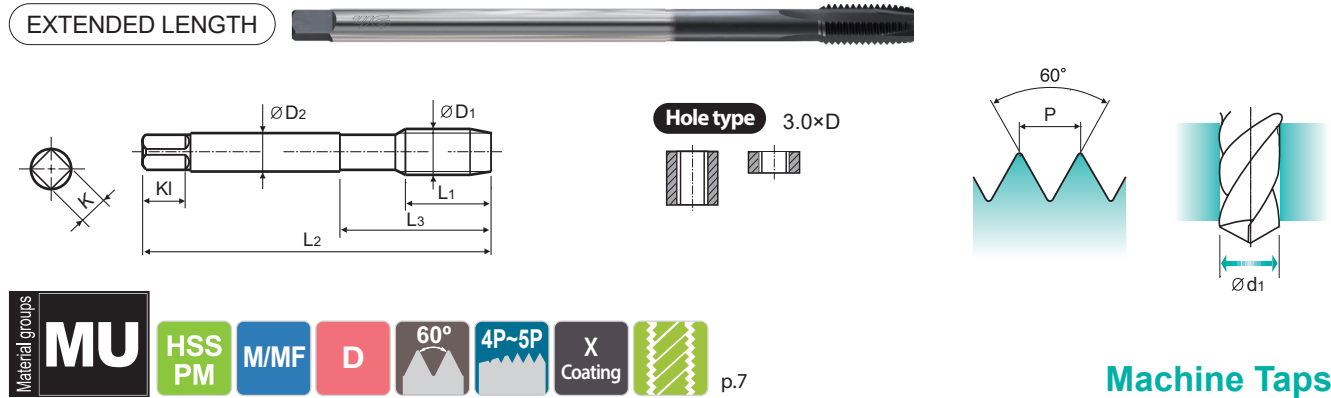
◎ : Excellent ○ : Good

| 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 |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 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 |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Spiral Point Taps for Multipurpose

► High performance on various ductile materials



Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Flute | Tapping Drill Diameter (Ød1) | |
|------|-------|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|--------------|------------------------------|--------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M20 | x 2.5 | TRK29707GS | D7 | 1.201 | 7.87 | 3.150 | .652 | .489 | .67 | 3 | - | 17.8 |
| M20 | x 1.5 | TRK29726GS | D6 | 1.201 | 7.87 | 3.150 | .652 | .489 | .67 | 3 | - | 18.7 |
| M22 | x 2.5 | TRK29747GS | D7 | 1.339 | 7.87 | 3.150 | .697 | .523 | .74 | 3 | - | 19.8 |
| M22 | x 1.5 | TRK29766GS | D6 | 1.339 | 7.87 | 3.150 | .697 | .523 | .74 | 3 | - | 20.7 |
| M24 | x 3.0 | TRK29788GS | D8 | 1.339 | 7.87 | 3.268 | .760 | .570 | .74 | 3 | 27/32 | - |
| M24 | x 1.5 | TRK29806GS | D6 | 1.339 | 7.87 | 3.268 | .760 | .570 | .74 | 3 | - | 22.7 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|----------------|-----------------|-------------------|----------------|---------------------|--------------------|-----|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ○ | ○ | ◎ | ◎ | ○ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

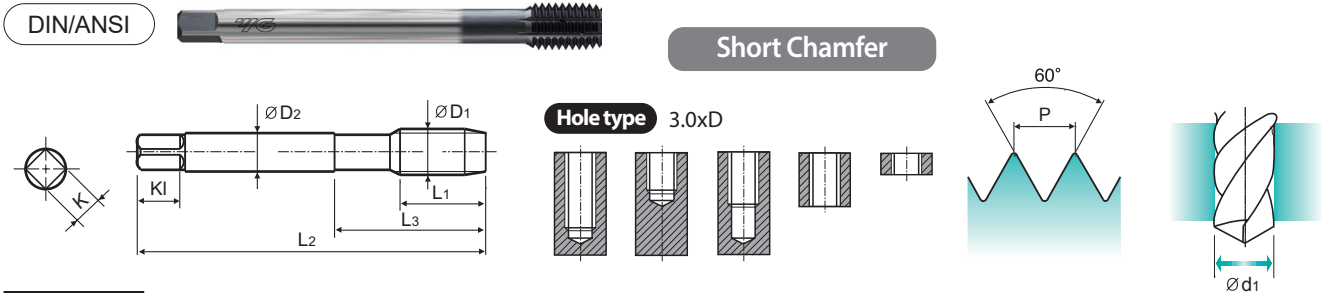


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR11

► High performance on various ductile materials



Material groups **MU** HSS PM UNC UNF H 60° 1P~2P X Coating p.7

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|------|------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| #0 | - 80 | TRR11023GS | H3 | .315 | 1.57 | .362 | .141 | .110 | .19 | 4 | - | 1.4 |
| #1 | - 64 | TRR11043GS | H3 | .315 | 1.57 | .370 | .141 | .110 | .19 | 4 | - | 1.7 |
| #2 | - 56 | TRR11083GS | H3 | .386 | 1.77 | .425 | .141 | .110 | .19 | 4 | - | 2.0 |
| #2 | - 64 | TRR11103GS | H3 | .386 | 1.77 | .425 | .141 | .110 | .19 | 4 | - | 2.0 |
| #3 | - 48 | TRR11123GS | H3 | .386 | 1.97 | .453 | .141 | .110 | .19 | 4 | - | 2.3 |
| #3 | - 56 | TRR11143GS | H3 | .386 | 1.97 | .453 | .141 | .110 | .19 | 4 | - | 2.3 |
| #4 | - 40 | TRR11165GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | #38 | - |
| #4 | - 48 | TRR11185GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.6 |
| #5 | - 40 | TRR11205GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.9 |
| #5 | - 44 | TRR11225GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.9 |
| #6 | - 32 | TRR11245GS | H5 | .374 | 2.21 | .787 | .141 | .110 | .19 | 4 | 1/8 | - |
| #6 | - 40 | TRR11265GS | H5 | .374 | 2.21 | .787 | .141 | .110 | .19 | 4 | - | 3.2 |
| #8 | - 32 | TRR11285GS | H5 | .374 | 2.48 | .827 | .168 | .131 | .25 | 4 | - | 3.8 |
| #8 | - 36 | TRR11305GS | H5 | .374 | 2.48 | .827 | .168 | .131 | .25 | 4 | #24 | - |
| #10 | - 24 | TRR11326GS | H6 | .500 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.4 |
| #10 | - 32 | TRR11346GS | H6 | .500 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.5 |
| #12 | - 24 | TRR11367GS | H7 | .500 | 3.15 | 1.142 | .220 | .165 | .28 | 5 | - | 5.0 |
| #12 | - 28 | TRR11387GS | H7 | .500 | 3.15 | 1.142 | .220 | .165 | .28 | 5 | - | 5.1 |
| 1/4 | - 20 | TRR11406GS | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.8 |
| 1/4 | - 28 | TRR11426GS | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | 15/64 | - |

► NEXT PAGE

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 10 | 21 | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | |

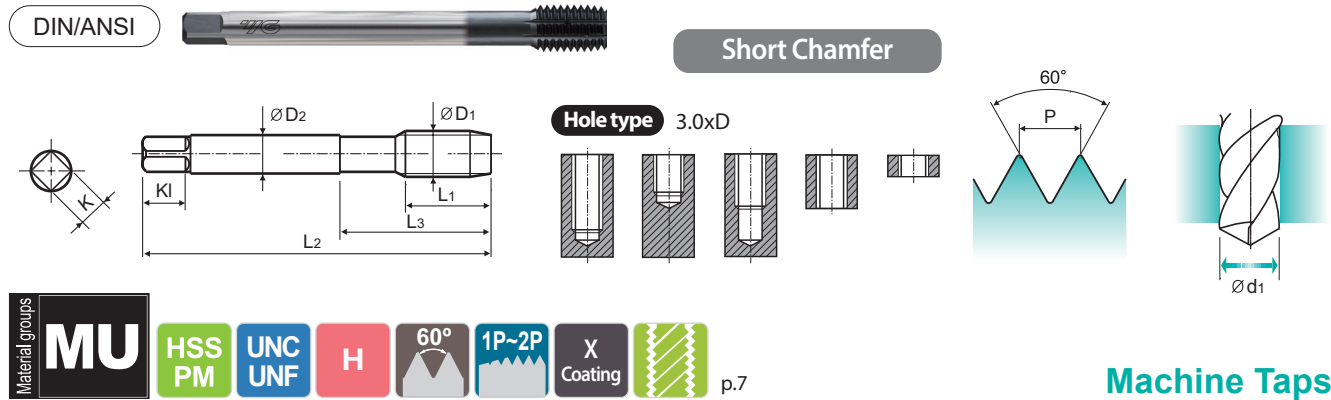
| ISO Material Description | N | | | | | | | | | | S | | | | | | H | | | | | | |
|--------------------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-----|-------------------|--|--------------------|
| | 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 | | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR11

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 5/16 - 18 | | TRR11447GS | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.3 |
| 5/16 - 24 | | TRR11467GS | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| 3/8 - 16 | | TRR11487GS | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 8.8 |
| 3/8 - 24 | | TRR11507GS | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 9.0 |
| 7/16 - 14 | | TRR11528GS | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.3 |
| 7/16 - 20 | | TRR11548GS | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.6 |
| 1/2 - 13 | | TRR11568GS | H8 | .768 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.8 |
| 1/2 - 20 | | TRR11588GS | H8 | .768 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 12.1 |
| 9/16 - 12 | | TRR11600GS | H10 | .835 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.4 |
| 9/16 - 18 | | TRR11620GS | H10 | .835 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.7 |
| 5/8 - 11 | | TRR11640GS | H10 | .909 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 14.9 |
| 5/8 - 18 | | TRR11660GS | H10 | .909 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| 3/4 - 10 | | TRR11700GS | H10 | .799 | 4.92 | 2.441 | .590 | .442 | .69 | 8 | - | 17.9 |
| 3/4 - 16 | | TRR11720GS | H10 | .626 | 4.33 | 2.441 | .590 | .442 | .69 | 8 | - | 18.4 |
| 7/8 - 9 | | TRR1174AGS | H11 | .890 | 5.51 | 2.638 | .697 | .523 | .75 | 8 | - | 21.0 |
| 7/8 - 14 | | TRR1176AGS | H11 | .713 | 4.92 | 2.638 | .697 | .523 | .75 | 8 | - | 21.4 |
| 1" - 8 | | TRR1178AGS | H11 | 1.000 | 6.30 | 2.992 | .800 | .600 | .81 | 8 | - | 24.0 |
| 1" - 12 | | TRR1180AGS | H11 | .835 | 5.51 | 2.992 | .800 | .600 | .81 | 8 | - | 24.5 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-----------------|----------------|----------------|-------------------|--------------------|---------------------|--|
| Material Description | 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 | | | |
| 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 | | | | | |
| Material Description | 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 | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

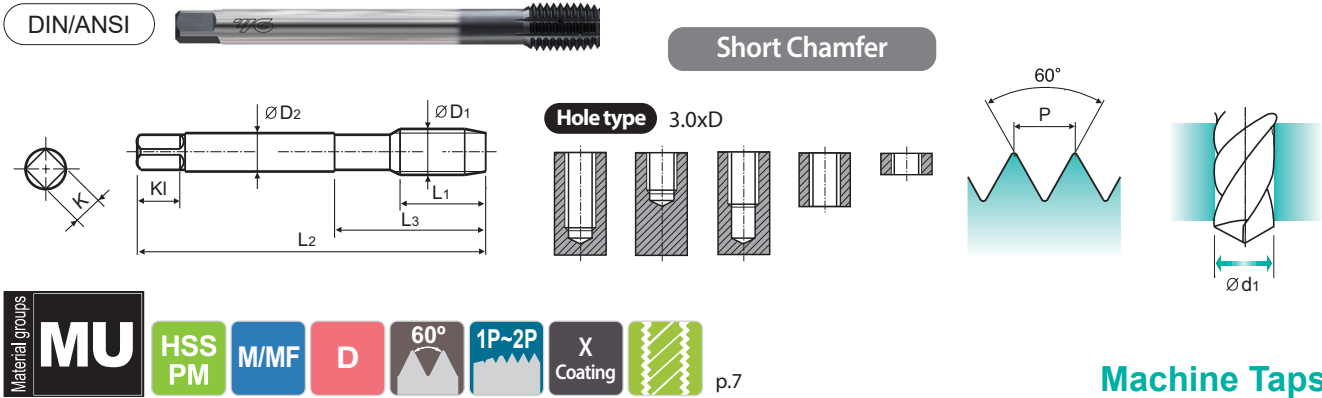


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR13

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-------------|-------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| M2 x 0.4 | | TRR13135GS | D5 | .315 | 1.77 | .362 | .141 | .110 | .19 | 4 | - | 1.8 |
| M2.5 x 0.45 | | TRR13175GS | D5 | .354 | 1.97 | .425 | .141 | .110 | .19 | 4 | - | 2.3 |
| M3 x 0.5 | | TRR13205GS | D5 | .236 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.8 |
| M3.5 x 0.6 | | TRR13226GS | D6 | .283 | 2.21 | .787 | .141 | .110 | .19 | 4 | - | 3.2 |
| M4 x 0.7 | | TRR13246GS | D6 | .331 | 2.48 | .827 | .168 | .131 | .25 | 4 | - | 3.7 |
| M4.5 x 0.75 | | TRR13266GS | D6 | .354 | 2.75 | .984 | .194 | .152 | .25 | 4 | - | 4.2 |
| M5 x 0.8 | | TRR13287GS | D7 | .378 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.6 |
| M6 x 1.0 | | TRR13318GS | D8 | .394 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.6 |
| M7 x 1.0 | | TRR13348GS | D8 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 5 | - | 6.6 |
| M8 x 1.25 | | TRR13369GS | D9 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| M8 x 1.0 | | TRR13378GS | D8 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.6 |
| M10 x 1.5 | | TRR13420GS | D10 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - | 9.4 |
| M10 x 1.25 | | TRR13439GS | D9 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - | 9.5 |
| M12 x 1.75 | | TRR1350AGS | D11 | .669 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.2 |
| M12 x 1.5 | | TRR1351AGS | D11 | .669 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 11.3 |
| M14 x 2.0 | | TRR1354BGS | D12 | .787 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.1 |
| M14 x 1.5 | | TRR1355AGS | D11 | .787 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.3 |
| M16 x 2.0 | | TRR1360BGS | D12 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 15.1 |
| M16 x 1.5 | | TRR1361AGS | D11 | .787 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |

► NEXT PAGE

◎ : Excellent ○ : Good

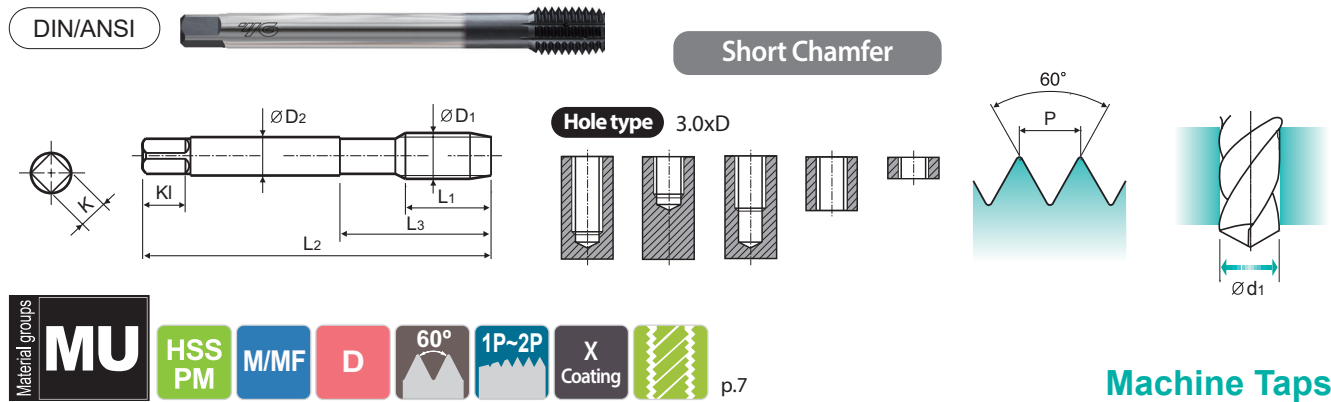
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | | |
|-------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--|--------------------|
| | 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 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 10 | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR13

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|------|-------|-------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| M18 | x 2.5 | TRR1365BGS | D12 | .787 | 4.92 | 2.165 | .542 | .406 | .63 | 8 | - | 16.9 |
| M18 | x 1.5 | TRR1367AGS | D11 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 8 | - | 17.3 |
| M20 | x 2.5 | TRR1370BGS | D12 | .787 | 5.51 | 2.433 | .652 | .489 | .69 | 8 | - | 18.9 |
| M20 | x 1.5 | TRR1372AGS | D11 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 8 | - | 19.3 |
| M22 | x 2.5 | TRR1374BGS | D12 | .787 | 5.51 | 2.654 | .697 | .523 | .75 | 8 | - | 20.9 |
| M22 | x 1.5 | TRR1376AGS | D11 | .591 | 4.92 | 2.654 | .697 | .523 | .75 | 8 | - | 21.3 |
| M24 | x 3.0 | TRR1378EGS | D15 | .945 | 6.30 | 2.693 | .760 | .570 | .75 | 8 | - | 22.7 |
| M24 | x 1.5 | TRR1380AGS | D11 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 8 | - | 23.3 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|-----|-----------------|----------------|----------------|-------------------|--------------------|---------------------|--|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | | |
| Material Description | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

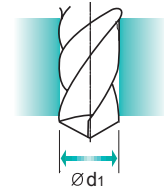
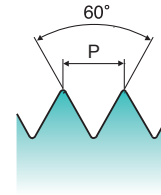
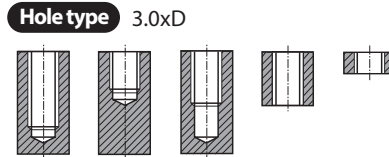
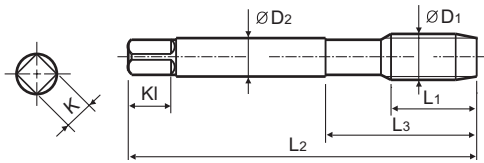


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR10

► High performance on various ductile materials



Material groups **MU** HSS PM UNC UNF H 60° 2P~3P X Coating p.7

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|---------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| #0 - 80 | | TRR10023GS | H3 | .315 | 1.57 | .362 | .141 | .110 | .19 | 4 | - | 1.4 |
| #1 - 64 | | TRR10043GS | H3 | .315 | 1.57 | .370 | .141 | .110 | .19 | 4 | - | 1.7 |
| #2 - 56 | | TRR10082GS | H2 | .386 | 1.77 | .425 | .141 | .110 | .19 | 4 | - | 2.0 |
| #2 - 56 | | TRR10083GS | H3 | .386 | 1.77 | .425 | .141 | .110 | .19 | 4 | - | 2.0 |
| #2 - 64 | | TRR10102GS | H2 | .386 | 1.77 | .425 | .141 | .110 | .19 | 4 | - | 2.0 |
| #2 - 64 | | TRR10103GS | H3 | .386 | 1.77 | .425 | .141 | .110 | .19 | 4 | - | 2.0 |
| #3 - 48 | | TRR10122GS | H2 | .386 | 1.97 | .453 | .141 | .110 | .19 | 4 | - | 2.3 |
| #3 - 48 | | TRR10123GS | H3 | .386 | 1.97 | .453 | .141 | .110 | .19 | 4 | - | 2.3 |
| #3 - 56 | | TRR10142GS | H2 | .386 | 1.97 | .453 | .141 | .110 | .19 | 4 | - | 2.3 |
| #3 - 56 | | TRR10143GS | H3 | .386 | 1.97 | .453 | .141 | .110 | .19 | 4 | - | 2.3 |
| #4 - 40 | | TRR10163GS | H3 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | #38 | - |
| #4 - 40 | | TRR10165GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | #38 | - |
| #4 - 48 | | TRR10183GS | H3 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.6 |
| #4 - 48 | | TRR10185GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.6 |
| #5 - 40 | | TRR10203GS | H3 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.9 |
| #5 - 40 | | TRR10205GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.9 |
| #5 - 44 | | TRR10223GS | H3 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.9 |
| #5 - 44 | | TRR10225GS | H5 | .299 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.9 |

► NEXT PAGE

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | |

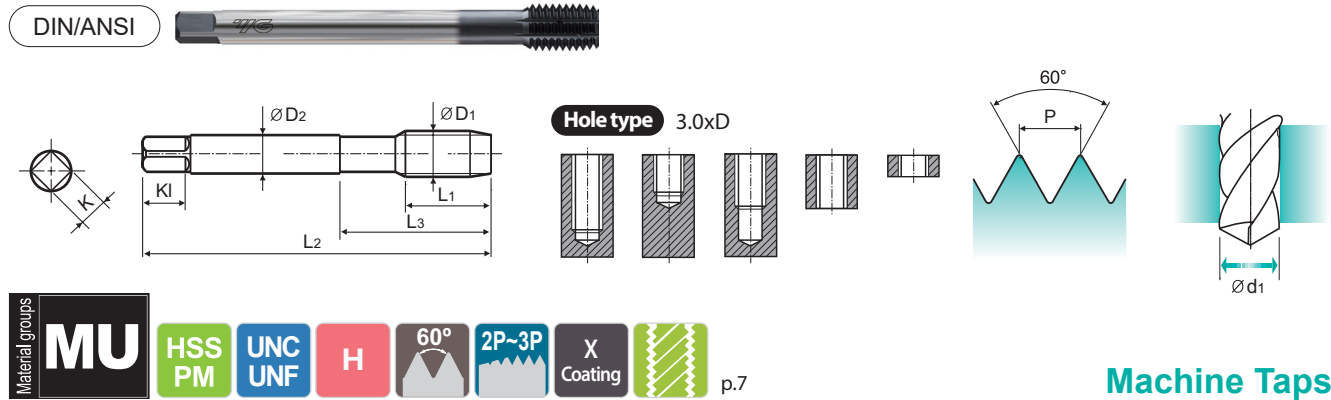
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR10

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| #6 - 32 | | TRR10243GS | H3 | .374 | 2.21 | .787 | .141 | .110 | .19 | 4 | 1/8 | - |
| #6 - 32 | | TRR10245GS | H5 | .374 | 2.21 | .787 | .141 | .110 | .19 | 4 | 1/8 | - |
| #6 - 40 | | TRR10263GS | H3 | .374 | 2.21 | .787 | .141 | .110 | .19 | 4 | - | 3.2 |
| #6 - 40 | | TRR10265GS | H5 | .374 | 2.21 | .787 | .141 | .110 | .19 | 4 | - | 3.2 |
| #8 - 32 | | TRR10283GS | H3 | .374 | 2.48 | .827 | .168 | .131 | .25 | 4 | - | 3.8 |
| #8 - 32 | | TRR10285GS | H5 | .374 | 2.48 | .827 | .168 | .131 | .25 | 4 | - | 3.8 |
| #8 - 36 | | TRR10303GS | H3 | .374 | 2.48 | .827 | .168 | .131 | .25 | 4 | #24 | - |
| #8 - 36 | | TRR10305GS | H5 | .374 | 2.48 | .827 | .168 | .131 | .25 | 4 | #24 | - |
| #10 - 24 | | TRR10324GS | H4 | .500 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.4 |
| #10 - 24 | | TRR10326GS | H6 | .500 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.4 |
| #10 - 32 | | TRR10344GS | H4 | .500 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.5 |
| #10 - 32 | | TRR10346GS | H6 | .500 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.5 |
| #12 - 24 | | TRR10365GS | H5 | .500 | 3.15 | 1.142 | .220 | .165 | .28 | 5 | - | 5.0 |
| #12 - 24 | | TRR10367GS | H7 | .500 | 3.15 | 1.142 | .220 | .165 | .28 | 5 | - | 5.0 |
| #12 - 28 | | TRR10385GS | H5 | .500 | 3.15 | 1.142 | .220 | .165 | .28 | 5 | - | 5.1 |
| #12 - 28 | | TRR10387GS | H7 | .500 | 3.15 | 1.142 | .220 | .165 | .28 | 5 | - | 5.1 |
| 1/4 - 20 | | TRR10404GS | H4 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.8 |
| 1/4 - 20 | | TRR10406GS | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.8 |
| 1/4 - 28 | | TRR10424GS | H4 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | 15/64 | - |
| 1/4 - 28 | | TRR10426GS | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | 15/64 | - |

► NEXT PAGE

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | |
| Material Description | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

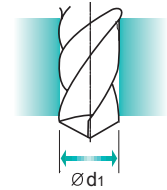
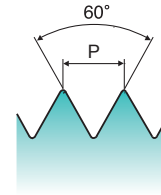
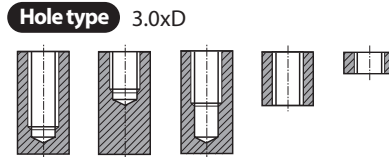
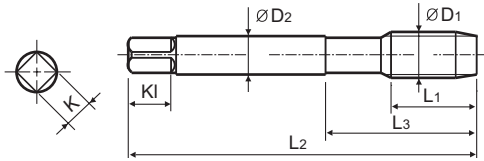


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR10

► High performance on various ductile materials



Material groups **MU** HSS PM UNC UNF H 60° 2P~3P X Coating p.7

Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (ϕd_1) | |
|-----------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|---------------------------------------|------|
| | | | | L1 | L2 | L3 | ϕD_2 | K | KI | | Z | Inch |
| 5/16 - 18 | | TRR10445GS | H5 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.3 |
| 5/16 - 18 | | TRR10447GS | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.3 |
| 5/16 - 24 | | TRR10465GS | H5 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| 5/16 - 24 | | TRR10467GS | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| 3/8 - 16 | | TRR10485GS | H5 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 8.8 |
| 3/8 - 16 | | TRR10487GS | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 8.8 |
| 3/8 - 24 | | TRR10505GS | H5 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 9.0 |
| 3/8 - 24 | | TRR10507GS | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 9.0 |
| 7/16 - 14 | | TRR10525GS | H5 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.3 |
| 7/16 - 14 | | TRR10528GS | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.3 |
| 7/16 - 20 | | TRR10545GS | H5 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.6 |
| 7/16 - 20 | | TRR10548GS | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.6 |
| 1/2 - 13 | | TRR10565GS | H5 | .768 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.8 |
| 1/2 - 13 | | TRR10568GS | H8 | .768 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.8 |
| 1/2 - 20 | | TRR10585GS | H5 | .768 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 12.1 |
| 1/2 - 20 | | TRR10588GS | H8 | .768 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 12.1 |
| 9/16 - 12 | | TRR10600GS | H10 | .835 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.4 |
| 9/16 - 12 | | TRR10607GS | H7 | .835 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.4 |
| 9/16 - 18 | | TRR10620GS | H10 | .835 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.7 |
| 9/16 - 18 | | TRR10627GS | H7 | .835 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.7 |

► NEXT PAGE

◎ : 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 |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 20 | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | |

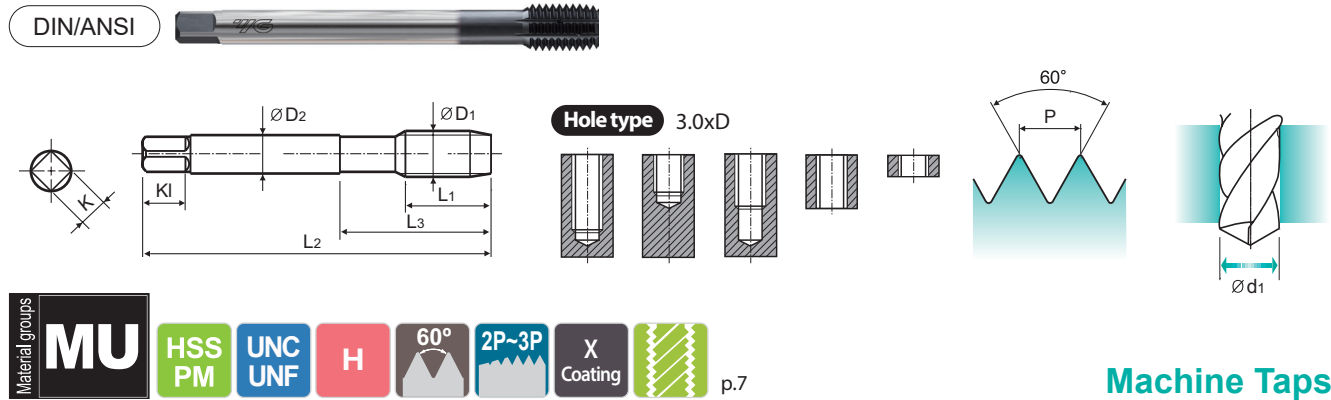
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-----|-------------------|
| | 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 |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR10

► High performance on various ductile materials



Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe Z | Tapping Drill Diameter (Ød1) | |
|-------------|-----|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|------------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| 5/8 - 11 | | TRR10640GS | H10 | .909 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 14.9 |
| 5/8 - 11 | | TRR10647GS | H7 | .909 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 14.9 |
| 5/8 - 18 | | TRR10660GS | H10 | .909 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| 5/8 - 18 | | TRR10667GS | H7 | .909 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| 3/4 - 10 | | TRR10700GS | H10 | .799 | 4.92 | 2.441 | .590 | .442 | .69 | 8 | - | 17.9 |
| 3/4 - 10 | | TRR10707GS | H7 | .799 | 4.92 | 2.441 | .590 | .442 | .69 | 8 | - | 17.9 |
| 3/4 - 16 | | TRR10720GS | H10 | .626 | 4.33 | 2.441 | .590 | .442 | .69 | 8 | - | 18.4 |
| 3/4 - 16 | | TRR10727GS | H7 | .626 | 4.33 | 2.441 | .590 | .442 | .69 | 8 | - | 18.4 |
| 7/8 - 9 | | TRR10748GS | H8 | .890 | 5.51 | 2.638 | .697 | .523 | .75 | 8 | - | 21.0 |
| 7/8 - 9 | | TRR1074AGS | H11 | .890 | 5.51 | 2.638 | .697 | .523 | .75 | 8 | - | 21.0 |
| 7/8 - 14 | | TRR10768GS | H8 | .713 | 4.92 | 2.638 | .697 | .523 | .75 | 8 | - | 21.4 |
| 7/8 - 14 | | TRR1076AGS | H11 | .713 | 4.92 | 2.638 | .697 | .523 | .75 | 8 | - | 21.4 |
| 1" - 8 | | TRR10788GS | H8 | 1.000 | 6.30 | 2.992 | .800 | .600 | .81 | 8 | - | 24.0 |
| 1" - 8 | | TRR1078AGS | H11 | 1.000 | 6.30 | 2.992 | .800 | .600 | .81 | 8 | - | 24.0 |
| 1" - 12 | | TRR10808GS | H8 | .835 | 5.51 | 2.992 | .800 | .600 | .81 | 8 | - | 24.5 |
| 1" - 12 | | TRR1080AGS | H11 | .835 | 5.51 | 2.992 | .800 | .600 | .81 | 8 | - | 24.5 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | | |
| 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 | | | | | |
| Material Description | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

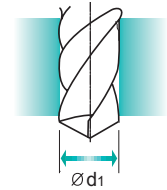
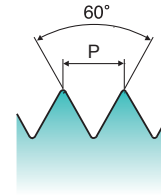
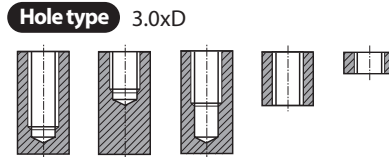
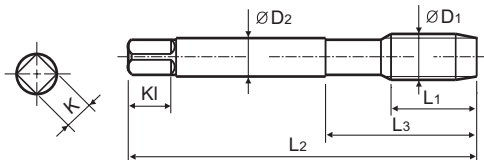


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR12

► High performance on various ductile materials



Material groups **MU** HSS PM M/MF D 60° 2P~3P X Coating p.7

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (ϕd_1) | |
|------|--------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|---------------------------------------|--------|
| | | | | L1 | L2 | L3 | ϕD_2 | K | KI | | Inch | Metric |
| M2 | x 0.4 | TRR12133GS | D3 | .315 | 1.77 | .362 | .141 | .110 | .19 | 4 | - | 1.8 |
| M2 | x 0.4 | TRR12135GS | D5 | .315 | 1.77 | .362 | .141 | .110 | .19 | 4 | - | 1.8 |
| M2.5 | x 0.45 | TRR12173GS | D3 | .354 | 1.97 | .425 | .141 | .110 | .19 | 4 | - | 2.3 |
| M2.5 | x 0.45 | TRR12175GS | D5 | .354 | 1.97 | .425 | .141 | .110 | .19 | 4 | - | 2.3 |
| M3 | x 0.5 | TRR12203GS | D3 | .236 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.8 |
| M3 | x 0.5 | TRR12205GS | D5 | .236 | 2.21 | .709 | .141 | .110 | .19 | 4 | - | 2.8 |
| M3.5 | x 0.6 | TRR12224GS | D4 | .283 | 2.21 | .787 | .141 | .110 | .19 | 4 | - | 3.2 |
| M3.5 | x 0.6 | TRR12226GS | D6 | .283 | 2.21 | .787 | .141 | .110 | .19 | 4 | - | 3.2 |
| M4 | x 0.7 | TRR12244GS | D4 | .331 | 2.48 | .827 | .168 | .131 | .25 | 4 | - | 3.7 |
| M4 | x 0.7 | TRR12246GS | D6 | .331 | 2.48 | .827 | .168 | .131 | .25 | 4 | - | 3.7 |
| M4.5 | x 0.75 | TRR12264GS | D4 | .354 | 2.75 | .984 | .194 | .152 | .25 | 4 | - | 4.2 |
| M4.5 | x 0.75 | TRR12266GS | D6 | .354 | 2.75 | .984 | .194 | .152 | .25 | 4 | - | 4.2 |
| M5 | x 0.8 | TRR12284GS | D4 | .378 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.6 |
| M5 | x 0.8 | TRR12287GS | D7 | .378 | 2.75 | .984 | .194 | .152 | .25 | 5 | - | 4.6 |
| M6 | x 1.0 | TRR12315GS | D5 | .394 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.6 |
| M6 | x 1.0 | TRR12318GS | D8 | .394 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.6 |
| M7 | x 1.0 | TRR12345GS | D5 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 5 | - | 6.6 |
| M7 | x 1.0 | TRR12348GS | D8 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 5 | - | 6.6 |

► NEXT PAGE

◎ : 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 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | |

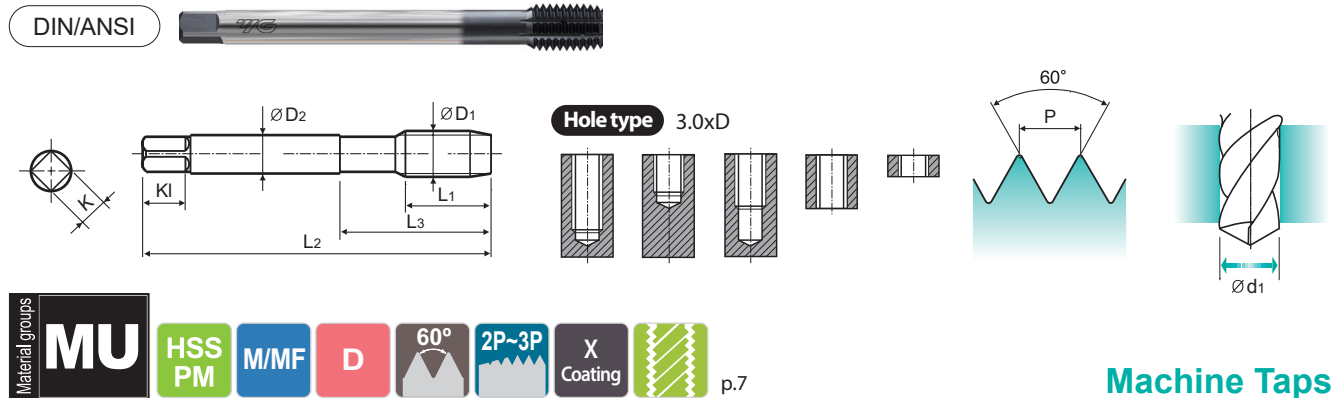
| ISO | N | | | | | | | | | | S | | | | | | H | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-------------------|--------------------|
| | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR12

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter ($\varnothing D_1$) |
|-------------------|--------|------------|--------|---------------|----------------|-------------|-------------------|-------------|---------------|-------------|--|
| $\varnothing D_1$ | P | | | L1 | L2 | L3 | $\varnothing D_2$ | K | KI | Z | Inch Metric |
| M8 | x 1.25 | TRR12365GS | D5 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.5 |
| M8 | x 1.25 | TRR12369GS | D9 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.5 |
| M8 | x 1.0 | TRR12375GS | D5 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.6 |
| M8 | x 1.0 | TRR12378GS | D8 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.6 |
| M10 | x 1.5 | TRR12420GS | D10 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.4 |
| M10 | x 1.5 | TRR12426GS | D6 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.4 |
| M10 | x 1.25 | TRR12435GS | D5 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.5 |
| M10 | x 1.25 | TRR12439GS | D9 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.5 |
| M12 | x 1.75 | TRR12506GS | D6 | .669 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - 11.2 |
| M12 | x 1.75 | TRR1250AGS | D11 | .669 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - 11.2 |
| M12 | x 1.5 | TRR12516GS | D6 | .669 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - 11.3 |
| M12 | x 1.5 | TRR1251AGS | D11 | .669 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - 11.3 |
| M14 | x 2.0 | TRR12547GS | D7 | .787 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - 13.1 |
| M14 | x 2.0 | TRR1254BGS | D12 | .787 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - 13.1 |
| M14 | x 1.5 | TRR12556GS | D6 | .787 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - 13.3 |
| M14 | x 1.5 | TRR1255AGS | D11 | .787 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - 13.3 |
| M16 | x 2.0 | TRR12607GS | D7 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - 15.1 |
| M16 | x 2.0 | TRR1260BGS | D12 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - 15.1 |
| M16 | x 1.5 | TRR12616GS | D6 | .787 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - 15.3 |
| M16 | x 1.5 | TRR1261AGS | D11 | .787 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - 15.3 |

► NEXT PAGE

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 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 | | | | | |
| Material Description | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

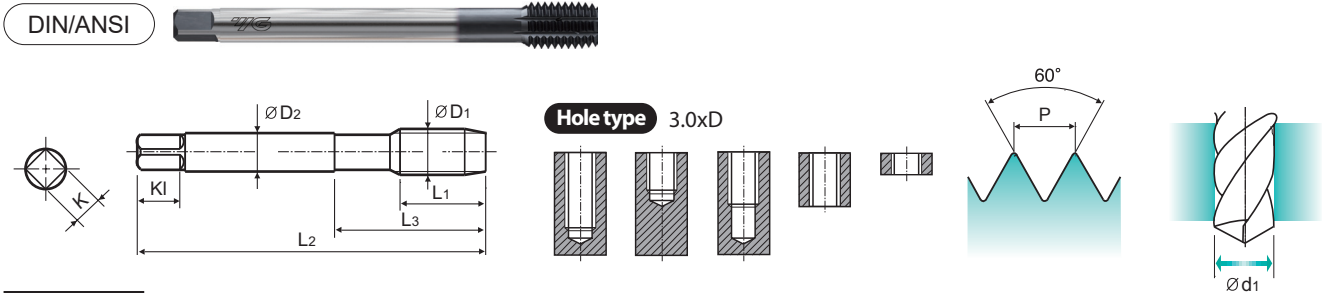


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR12

► High performance on various ductile materials



Material groups **MU** HSS PM M/MF D 60° 2P~3P X Coating p.7

Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|------|-------|------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| M18 | x 2.5 | TRR12657GS | D7 | .787 | 4.92 | 2.165 | .542 | .406 | .63 | 8 | - | 16.9 |
| M18 | x 2.5 | TRR1265BGS | D12 | .787 | 4.92 | 2.165 | .542 | .406 | .63 | 8 | - | 16.9 |
| M18 | x 1.5 | TRR12676GS | D6 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 8 | - | 17.3 |
| M18 | x 1.5 | TRR1267AGS | D11 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 8 | - | 17.3 |
| M20 | x 2.5 | TRR12707GS | D7 | .787 | 5.51 | 2.433 | .652 | .489 | .69 | 8 | - | 18.9 |
| M20 | x 2.5 | TRR1270BGS | D12 | .787 | 5.51 | 2.433 | .652 | .489 | .69 | 8 | - | 18.9 |
| M20 | x 1.5 | TRR12726GS | D6 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 8 | - | 19.3 |
| M20 | x 1.5 | TRR1272AGS | D11 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 8 | - | 19.3 |
| M22 | x 2.5 | TRR1274BGS | D12 | .787 | 5.51 | 2.654 | .697 | .523 | .75 | 8 | - | 20.9 |
| M22 | x 1.5 | TRR1276AGS | D11 | .591 | 4.92 | 2.654 | .697 | .523 | .75 | 8 | - | 21.3 |
| M24 | x 3.0 | TRR1278EGS | D15 | .945 | 6.30 | 2.693 | .760 | .570 | .75 | 8 | - | 22.7 |
| M24 | x 1.5 | TRR1280AGS | D11 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 8 | - | 23.3 |

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | |

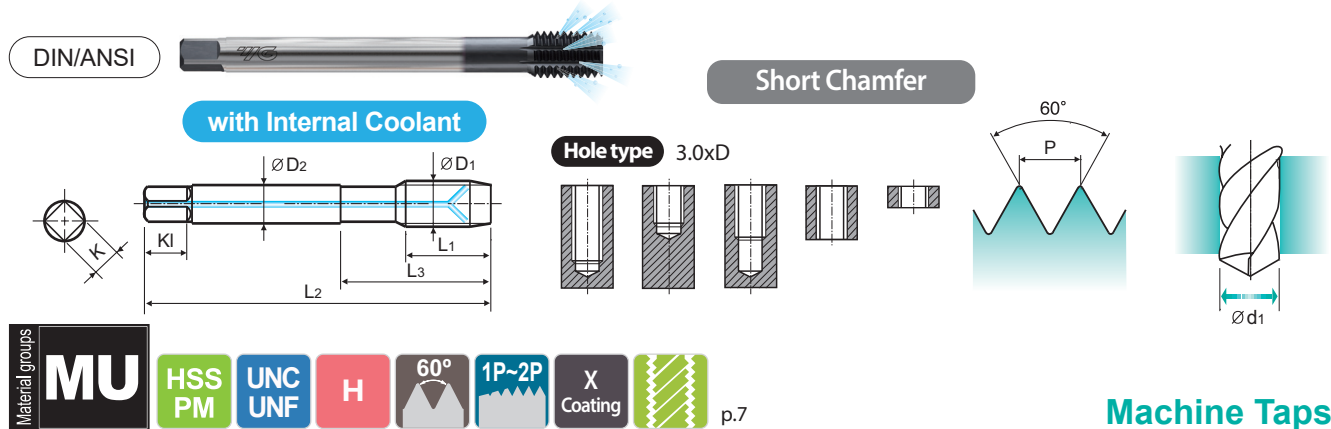
| ISO | N | | | | | | | | | | S | | | | | | H | | | | | |
|-------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-----|-------------------|--------------------|
| | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR15

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-------------|-----|--------------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 1/4 - 20 | | TRR15406GSP | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.8 |
| 1/4 - 28 | | TRR15426GSP | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | 15/64 | - |
| 5/16 - 18 | | TRR15447GSP | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.3 |
| 5/16 - 24 | | TRR15467GSP | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| 3/8 - 16 | | TRR15487GSP | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 8.8 |
| 3/8 - 24 | | TRR15507GSP | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 9.0 |
| 7/16 - 14 | | TRR15528GSP | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.3 |
| 7/16 - 20 | | TRR15548GSP | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.6 |
| 1/2 - 13 | | TRR15568GSP | H8 | .768 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.8 |
| 1/2 - 20 | | TRR15588GSP | H8 | .768 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 12.1 |
| 9/16 - 12 | | TRR15600GSP | H10 | .835 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.4 |
| 9/16 - 18 | | TRR15620GSP | H10 | .835 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.7 |
| 5/8 - 11 | | TRR15640GSP | H10 | .909 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 14.9 |
| 5/8 - 18 | | TRR15660GSP | H10 | .909 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| 3/4 - 10 | | TRR15700GSP | H10 | .799 | 4.92 | 2.441 | .590 | .442 | .69 | 8 | - | 17.9 |
| 3/4 - 16 | | TRR15720GSP | H10 | .626 | 4.33 | 2.441 | .590 | .442 | .69 | 8 | - | 18.4 |
| 7/8 - 9 | | TRR1574AGSP | H11 | .890 | 5.51 | 2.638 | .697 | .523 | .75 | 8 | - | 21.0 |
| 7/8 - 14 | | TRR1576AGSP | H11 | .713 | 4.92 | 2.638 | .697 | .523 | .75 | 8 | - | 21.4 |
| 1" - 8 | | TRR1578AGSP | H11 | 1.000 | 6.30 | 2.992 | .800 | .600 | .81 | 8 | - | 24.0 |
| 1" - 12 | | TRR1580AGSP | H11 | .835 | 5.51 | 2.992 | .800 | .600 | .81 | 8 | - | 24.5 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | | |
| 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 | | | | | |
| Material Description | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

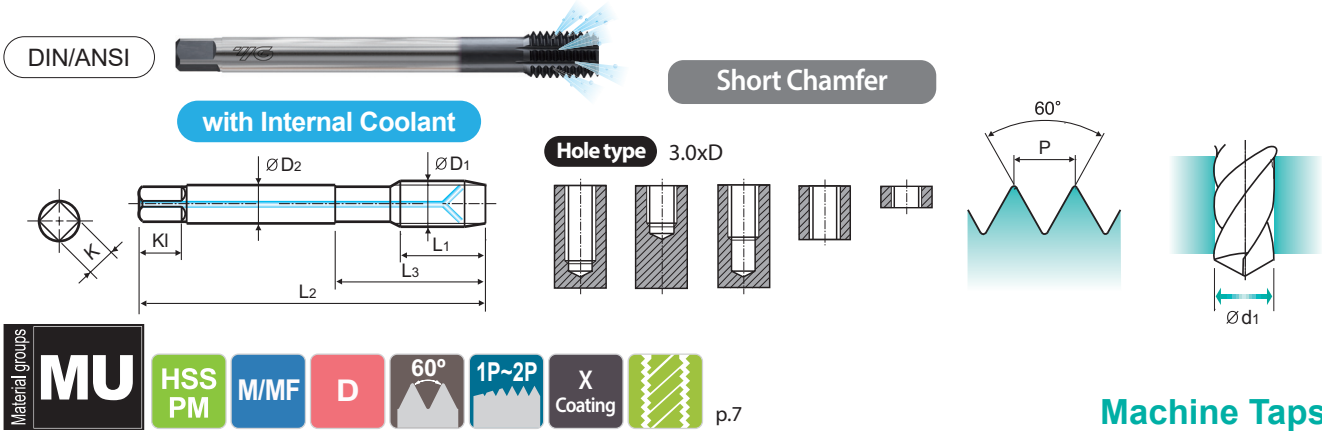


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR17

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|------------|-------|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| M6 x 1.0 | | TRR17318GSP | D8 | .394 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.6 |
| M7 x 1.0 | | TRR17348GSP | D8 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 5 | - | 6.6 |
| M8 x 1.25 | | TRR17369GSP | D9 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| M8 x 1.0 | | TRR17378GSP | D8 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.6 |
| M10 x 1.5 | | TRR17420GSP | D10 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - | 9.4 |
| M10 x 1.25 | | TRR17439GSP | D9 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - | 9.5 |
| M12 x 1.75 | | TRR1750AGSP | D11 | .669 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.2 |
| M12 x 1.5 | | TRR1751AGSP | D11 | .669 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 11.3 |
| M14 x 2.0 | | TRR1754BGSP | D12 | .787 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.1 |
| M14 x 1.5 | | TRR1755AGSP | D11 | .787 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.3 |
| M16 x 2.0 | | TRR1760BGSP | D12 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 15.1 |
| M16 x 1.5 | | TRR1761AGSP | D11 | .787 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| M18 x 2.5 | | TRR1765BGSP | D12 | .787 | 4.92 | 2.165 | .542 | .406 | .63 | 8 | - | 16.9 |
| M18 x 1.5 | | TRR1767AGSP | D11 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 8 | - | 17.3 |
| M20 x 2.5 | | TRR1770BGSP | D12 | .787 | 5.51 | 2.433 | .652 | .489 | .69 | 8 | - | 18.9 |
| M20 x 1.5 | | TRR1772AGSP | D11 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 8 | - | 19.3 |
| M22 x 2.5 | | TRR1774BGSP | D12 | .787 | 5.51 | 2.654 | .697 | .523 | .75 | 8 | - | 20.9 |
| M22 x 1.5 | | TRR1776AGSP | D11 | .591 | 4.92 | 2.654 | .697 | .523 | .75 | 8 | - | 21.3 |
| M24 x 3.0 | | TRR1778EGSP | D15 | .945 | 6.30 | 2.693 | .760 | .570 | .75 | 8 | - | 22.7 |
| M24 x 1.5 | | TRR1780AGSP | D11 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 8 | - | 23.3 |

◎ : 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 | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 | | |
| Recommended | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | |

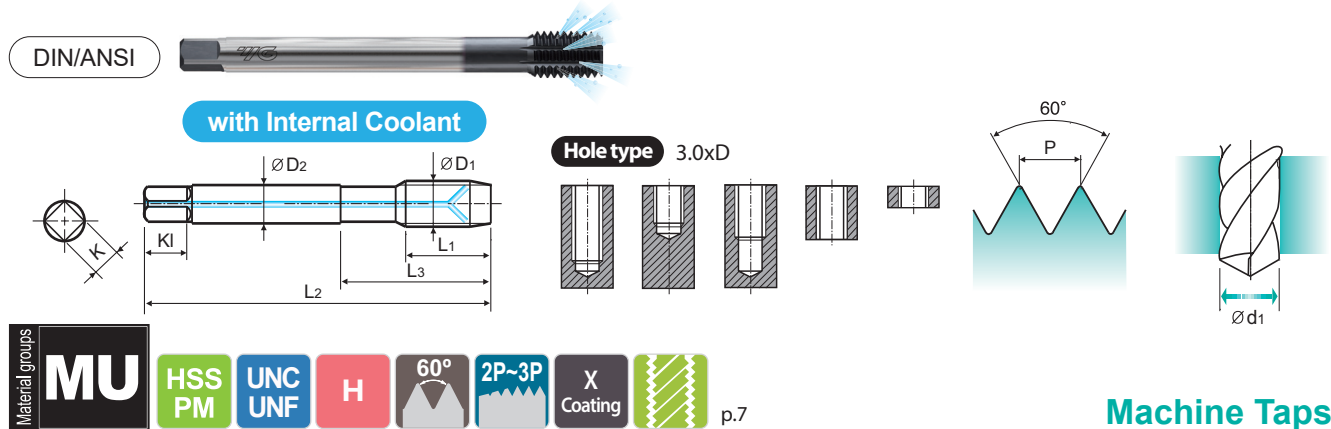
| ISO | N | | | | | | | | | | S | | | | | | H | | | | | | | |
|----------------------|------------------------|-----|------------------------|----|-----|---|----|-----|------------------------|----|-----------------------------|-----|-----|-----|-----|-------|-----------------|-----|----------------|-----|-------------------|--|--------------------|--|
| | 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 | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR14

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size ØD1 | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-------------|-----|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch | Metric |
| 1/4 - 20 | | TRR14404GSP | H4 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.8 |
| 1/4 - 20 | | TRR14406GSP | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - | 5.8 |
| 1/4 - 28 | | TRR14424GSP | H4 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | 15/64 | - |
| 1/4 - 28 | | TRR14426GSP | H6 | .500 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | 15/64 | - |
| 5/16 - 18 | | TRR14445GSP | H5 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.3 |
| 5/16 - 18 | | TRR14447GSP | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.3 |
| 5/16 - 24 | | TRR14465GSP | H5 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| 5/16 - 24 | | TRR14467GSP | H7 | .555 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - | 7.5 |
| 3/8 - 16 | | TRR14485GSP | H5 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 8.8 |
| 3/8 - 16 | | TRR14487GSP | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 8.8 |
| 3/8 - 24 | | TRR14505GSP | H5 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 9.0 |
| 3/8 - 24 | | TRR14507GSP | H7 | .626 | 3.94 | 1.575 | .381 | .286 | .44 | 8 | - | 9.0 |
| 7/16 - 14 | | TRR14525GSP | H5 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.3 |
| 7/16 - 14 | | TRR14528GSP | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.3 |
| 7/16 - 20 | | TRR14545GSP | H5 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.6 |
| 7/16 - 20 | | TRR14548GSP | H8 | .713 | 3.94 | 1.693 | .323 | .242 | .41 | 8 | - | 10.6 |
| 1/2 - 13 | | TRR14565GSP | H5 | .768 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.8 |
| 1/2 - 13 | | TRR14568GSP | H8 | .768 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - | 11.8 |
| 1/2 - 20 | | TRR14585GSP | H5 | .768 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 12.1 |
| 1/2 - 20 | | TRR14588GSP | H8 | .768 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - | 12.1 |

► NEXT PAGE

◎ : 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 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 | | | | | | | | | | | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

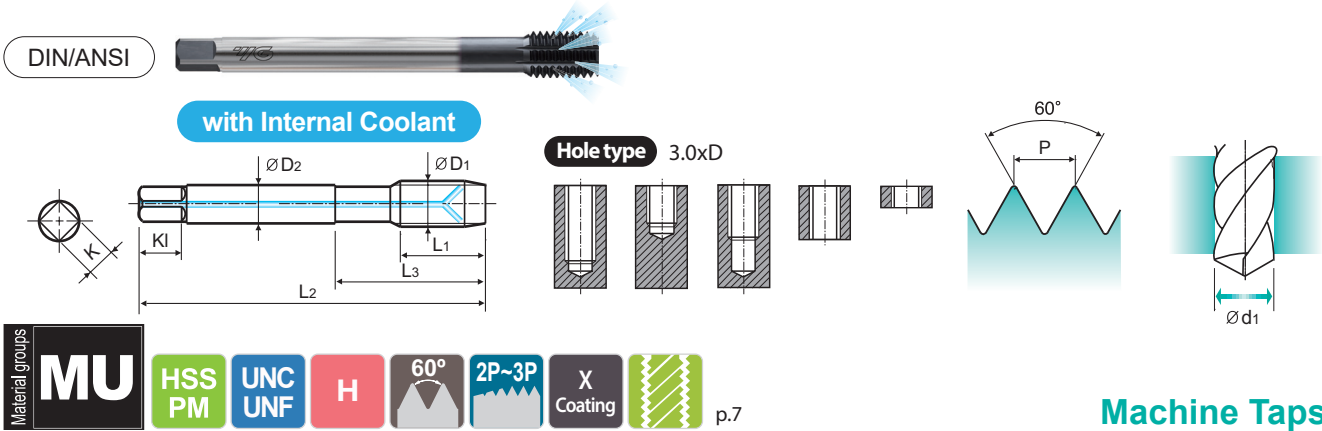


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR14

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | TPI | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-----------|-----|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|--------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Inch | Metric |
| 9/16 - 12 | | TRR14600GSP | H10 | .835 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.4 |
| 9/16 - 12 | | TRR14607GSP | H7 | .835 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - | 13.4 |
| 9/16 - 18 | | TRR14620GSP | H10 | .835 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.7 |
| 9/16 - 18 | | TRR14627GSP | H7 | .835 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - | 13.7 |
| 5/8 - 11 | | TRR14640GSP | H10 | .909 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 14.9 |
| 5/8 - 11 | | TRR14647GSP | H7 | .909 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 14.9 |
| 5/8 - 18 | | TRR14660GSP | H10 | .909 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| 5/8 - 18 | | TRR14667GSP | H7 | .909 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| 3/4 - 10 | | TRR14700GSP | H10 | .799 | 4.92 | 2.441 | .590 | .442 | .69 | 8 | - | 17.9 |
| 3/4 - 10 | | TRR14707GSP | H7 | .799 | 4.92 | 2.441 | .590 | .442 | .69 | 8 | - | 17.9 |
| 3/4 - 16 | | TRR14720GSP | H10 | .626 | 4.33 | 2.441 | .590 | .442 | .69 | 8 | - | 18.4 |
| 3/4 - 16 | | TRR14727GSP | H7 | .626 | 4.33 | 2.441 | .590 | .442 | .69 | 8 | - | 18.4 |
| 7/8 - 9 | | TRR14748GSP | H8 | .890 | 5.51 | 2.638 | .697 | .523 | .75 | 8 | - | 21.0 |
| 7/8 - 9 | | TRR1474AGSP | H11 | .890 | 5.51 | 2.638 | .697 | .523 | .75 | 8 | - | 21.0 |
| 7/8 - 14 | | TRR14768GSP | H8 | .713 | 4.92 | 2.638 | .697 | .523 | .75 | 8 | - | 21.4 |
| 7/8 - 14 | | TRR1476AGSP | H11 | .713 | 4.92 | 2.638 | .697 | .523 | .75 | 8 | - | 21.4 |
| 1" - 8 | | TRR14788GSP | H8 | 1.000 | 6.30 | 2.992 | .800 | .600 | .81 | 8 | - | 24.0 |
| 1" - 8 | | TRR1478AGSP | H11 | 1.000 | 6.30 | 2.992 | .800 | .600 | .81 | 8 | - | 24.0 |
| 1" - 12 | | TRR14808GSP | H8 | .835 | 5.51 | 2.992 | .800 | .600 | .81 | 8 | - | 24.5 |
| 1" - 12 | | TRR1480AGSP | H11 | .835 | 5.51 | 2.992 | .800 | .600 | .81 | 8 | - | 24.5 |

◎ : Excellent ○ : Good

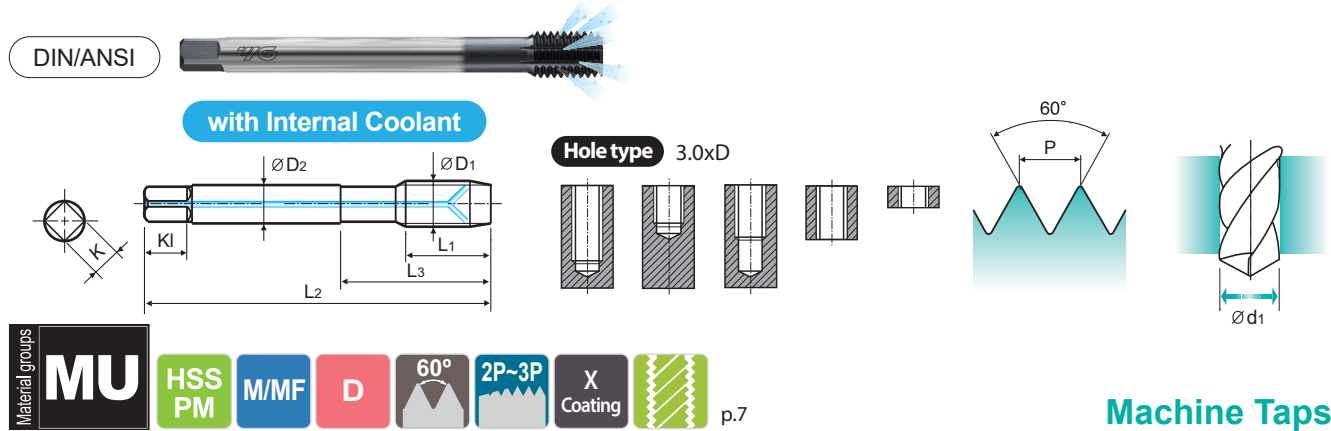
| ISO | P | | | | | | | | | | M | | | | K | | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|--|
| | Non-alloy steel | | | | | Low alloy steel | | | | | High alloyed steel, and tool steel | | Stainless steel | | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | | |
| 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 | |
| Material Description | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | | |

X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR16

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) |
|------|--------|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|
| ØD1 | P | | | L1 | L2 | L3 | ØD2 | K | KI | Z | Inch Metric |
| M6 | x 1.0 | TRR16315GSP | D5 | .394 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - 5.6 |
| M6 | x 1.0 | TRR16318GSP | D8 | .394 | 3.15 | 1.181 | .255 | .191 | .31 | 5 | - 5.6 |
| M7 | x 1.0 | TRR16345GSP | D5 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 5 | - 6.6 |
| M7 | x 1.0 | TRR16348GSP | D8 | .394 | 3.15 | 1.181 | .318 | .238 | .38 | 5 | - 6.6 |
| M8 | x 1.25 | TRR16365GSP | D5 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.5 |
| M8 | x 1.25 | TRR16369GSP | D9 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.5 |
| M8 | x 1.0 | TRR16375GSP | D5 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.6 |
| M8 | x 1.0 | TRR16378GSP | D8 | .472 | 3.54 | 1.378 | .318 | .238 | .38 | 5 | - 7.6 |
| M10 | x 1.5 | TRR16420GSP | D10 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.4 |
| M10 | x 1.5 | TRR16426GSP | D6 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.4 |
| M10 | x 1.25 | TRR16435GSP | D5 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.5 |
| M10 | x 1.25 | TRR16439GSP | D9 | .591 | 3.94 | 1.535 | .381 | .286 | .44 | 8 | - 9.5 |
| M12 | x 1.75 | TRR16506GSP | D6 | .669 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - 11.2 |
| M12 | x 1.75 | TRR1650AGSP | D11 | .669 | 4.33 | 1.929 | .367 | .275 | .44 | 8 | - 11.2 |
| M12 | x 1.5 | TRR16516GSP | D6 | .669 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - 11.3 |
| M12 | x 1.5 | TRR1651AGSP | D11 | .669 | 3.94 | 1.929 | .367 | .275 | .44 | 8 | - 11.3 |
| M14 | x 2.0 | TRR16547GSP | D7 | .787 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - 13.1 |
| M14 | x 2.0 | TRR1654BGSP | D12 | .787 | 4.33 | 1.969 | .429 | .322 | .50 | 8 | - 13.1 |
| M14 | x 1.5 | TRR16556GSP | D6 | .787 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - 13.3 |
| M14 | x 1.5 | TRR1655AGSP | D11 | .787 | 3.94 | 1.969 | .429 | .322 | .50 | 8 | - 13.3 |

► NEXT PAGE

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | M | | | | K | | | | | | | |
|----------------------|------------------------|-----|------------------------|-----|-----|---|-----|-----|------------------------|-----|------------------------------------|-----|-----------------|-----|-----|-------|-----------------|-----|-------------------|-----|---------------------|--------------------|
| Material Description | 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 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | | | | |
| 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 | | | | | |
| Material Description | 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | | |

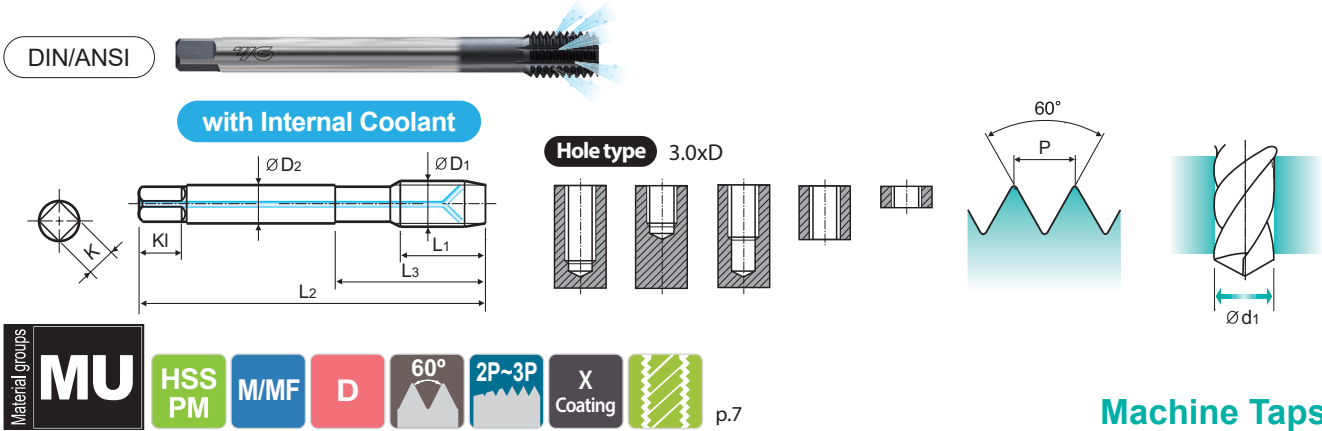


X-Coating, HSS-PM
Forming Taps for Multipurpose

SERIES

TRR16

► High performance on various ductile materials



Machine Taps

Unit: Inch

| Size | Pitch | EDP No. | Limits | Thread Length | Overall Length | Neck Length | Shank Diameter | Square Size | Square Length | No. of Lobe | Tapping Drill Diameter (Ød1) | |
|-----------|-------|-------------|--------|---------------|----------------|-------------|----------------|-------------|---------------|-------------|------------------------------|------|
| | | | | L1 | L2 | L3 | ØD2 | K | KI | | Z | Inch |
| M16 x 2.0 | | TRR16607GSP | D7 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 15.1 |
| M16 x 2.0 | | TRR1660BGSP | D12 | .787 | 4.33 | 2.126 | .480 | .360 | .56 | 8 | - | 15.1 |
| M16 x 1.5 | | TRR16616GSP | D6 | .787 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| M16 x 1.5 | | TRR1661AGSP | D11 | .787 | 3.94 | 2.126 | .480 | .360 | .56 | 8 | - | 15.3 |
| M18 x 2.5 | | TRR16657GSP | D7 | .787 | 4.92 | 2.165 | .542 | .406 | .63 | 8 | - | 16.9 |
| M18 x 2.5 | | TRR1665BGSP | D12 | .787 | 4.92 | 2.165 | .542 | .406 | .63 | 8 | - | 16.9 |
| M18 x 1.5 | | TRR16676GSP | D6 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 8 | - | 17.3 |
| M18 x 1.5 | | TRR1667AGSP | D11 | .591 | 4.33 | 2.165 | .542 | .406 | .63 | 8 | - | 17.3 |
| M20 x 2.5 | | TRR16707GSP | D7 | .787 | 5.51 | 2.433 | .652 | .489 | .69 | 8 | - | 18.9 |
| M20 x 2.5 | | TRR1670BGSP | D12 | .787 | 5.51 | 2.433 | .652 | .489 | .69 | 8 | - | 18.9 |
| M20 x 1.5 | | TRR16726GSP | D6 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 8 | - | 19.3 |
| M20 x 1.5 | | TRR1672AGSP | D11 | .591 | 4.92 | 2.433 | .652 | .489 | .69 | 8 | - | 19.3 |
| M22 x 2.5 | | TRR16747GSP | D7 | .787 | 5.51 | 2.654 | .697 | .523 | .75 | 8 | - | 20.9 |
| M22 x 2.5 | | TRR1674BGSP | D12 | .787 | 5.51 | 2.654 | .697 | .523 | .75 | 8 | - | 20.9 |
| M22 x 1.5 | | TRR16766GSP | D6 | .591 | 4.92 | 2.654 | .697 | .523 | .75 | 8 | - | 21.3 |
| M22 x 1.5 | | TRR1676AGSP | D11 | .591 | 4.92 | 2.654 | .697 | .523 | .75 | 8 | - | 21.3 |
| M24 x 3.0 | | TRR16789GSP | D9 | .945 | 6.30 | 2.693 | .760 | .570 | .75 | 8 | - | 22.7 |
| M24 x 3.0 | | TRR1678EGSP | D15 | .945 | 6.30 | 2.693 | .760 | .570 | .75 | 8 | - | 22.7 |
| M24 x 1.5 | | TRR16806GSP | D6 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 8 | - | 23.3 |
| M24 x 1.5 | | TRR1680AGSP | D11 | .591 | 5.51 | 2.693 | .760 | .570 | .75 | 8 | - | 23.3 |

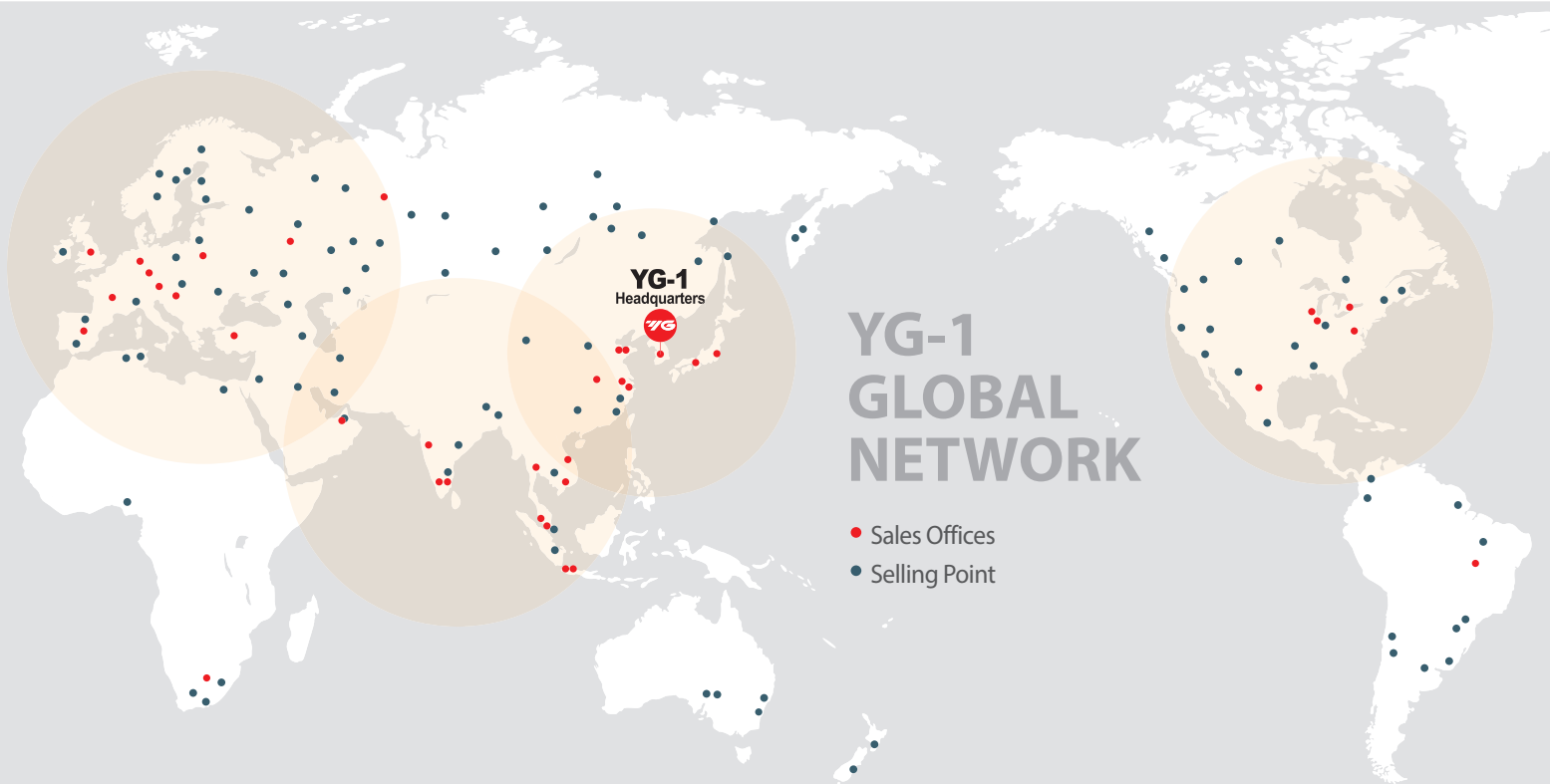
◎ : Excellent ○ : Good

| 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 |
| Material Description | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | |
| HRc | 13 | 25 | 28 | 32 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | 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 | | | |
| Material Description | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| VDI 3323 | | | | | | | | | | | | | | | | | | | | | |
| 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 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | | | | | | | | | | | | | |

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