

SBTシリーズ

タップホルダ(正転式)

TAP HOLDER
(Clockwise Rotation)

特 徴

●トルクリミッタ装置付

止まりネジ穴加工など底に突き当たっても安全クラッチが働きタップを折損から守るばかりか、被削材アルミニウムから、ステンレスまでの切削トルクに調整できる広範 困なトルク調整が可能です。(トルク調整はメーカーにて対応)

●フロート装置付

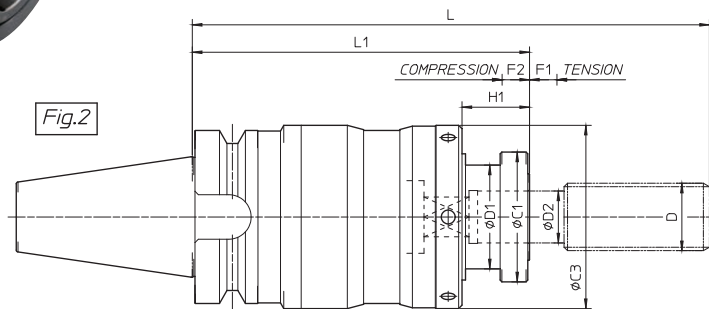
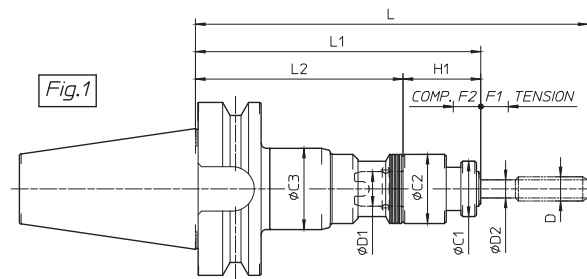
N/C工作機械には、正転、逆転時に起るピッチ誤差を自動的に補正し何回くり返してもネジ山がつぶれたりクロスしたりすることは皆無で、精度の高いネジ穴が得られます。

FEATURES

●Torque limiter collets are available.

Tapping torque can be adjusted to prevent tap breakage.

●Accurate thread are made with the tension-compression mechanism,compensating pitch error of the machining center.



※SBTタイプはBT2面拘束主軸対応ツーリングです。(BTタイプも対応致します)

| MODEL | FIG. | D | φD1 | φD2 | L1 | L2 | φC1 | φC2 | φC3 | H1 | F1 | F2 | TAP COLLET | N/W (kg) | |
|-------|------------|---|---------|-----|----------|-----|-----|-----|-----|-----|----|----|------------|-----------|-----|
| SBT40 | -TPC20-150 | 1 | M4~M14 | 20 | 5 ~ 12.5 | 150 | 105 | 32 | 40 | 47 | 45 | 15 | 15 | TCC20-(D) | 1.9 |
| | -TPC29-195 | 1 | M12~M27 | 29 | 8.5 ~ 20 | 195 | 140 | 45 | 55 | 63 | 55 | 15 | 15 | TCC29-(D) | 2.6 |
| SBT50 | -TPC20-165 | 1 | M4~M14 | 20 | 5 ~ 12.5 | 165 | 120 | 32 | 40 | 47 | 45 | 15 | 15 | TCC20-(D) | 4.3 |
| | -TPC29-195 | 1 | M12~M27 | 29 | 8.5 ~ 20 | 195 | 140 | 45 | 55 | 63 | 55 | 15 | 15 | TCC29-(D) | 5.0 |
| | -TPC40-225 | 1 | M18~M39 | 40 | 14 ~ 30 | 225 | 150 | 60 | 80 | 85 | 75 | 20 | 20 | TCC40-(D) | 6.2 |
| | -TPC60-195 | 2 | M39~M52 | 60 | 30 ~ 42 | 195 | - | 75 | - | 106 | 39 | 20 | 20 | TCC60-(D) | 8.1 |

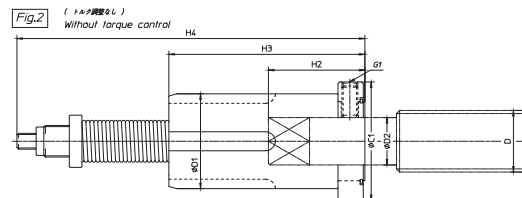
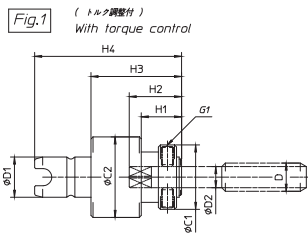
注 :1. FIG1 のトルク調整はタップコレット(TCC)にて行なう。
注 :2. FIG2 のトルク調整はタップホルダ(本体)にて行なう。

NOTE :1. TPC20,TPC29 & TPC40 of Fig.1 → Torque is adjusted by tap collet.
2. TPC60 of Fig.2 → Torque is adjusted by holder.

SBTシリーズ

TCC型タップコレット

TAP COLLET (Type TCC)



| MODEL | FIG. | D | φD1 | φD2 | φC1 | H1 | H3 | H4 | G1 | N/W (kg) |
|-----------|------|---------|-----|-----|-----|----|-----|-----|----------|----------|
| TCC20-(D) | 1 | M4~M14 | 20 | 40 | 32 | 20 | 45 | 73 | M4・M5・M6 | 0.35 |
| TCC29-(D) | 1 | M12~M27 | 29 | 55 | 45 | 25 | 55 | 90 | M5・M6・M8 | 0.84 |
| TCC40-(D) | 1 | M18~M39 | 40 | 80 | 60 | 40 | 75 | 123 | M10 | 2.0 |
| TCC60-(D) | 2 | M39~M52 | 60 | - | 75 | - | 124 | 219 | M10 | 3.5 |

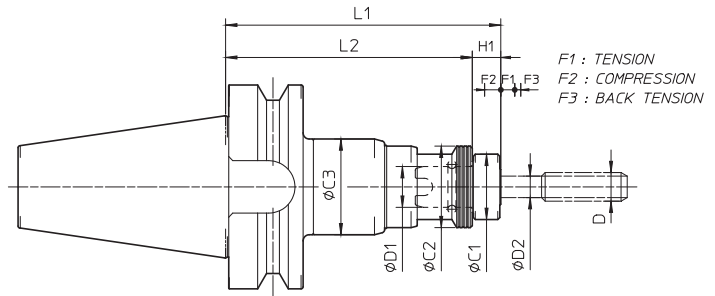
※SBT タイプはBT2 面拘束主軸対応ツールリングです。(BT タイプも対応致します)

| MODEL | M(JIS B 4430-1972) | | | | UNC(JIS B 4432-1972) | | | | PF PT(JIS B 4445,4446-1967) | | | | | | | | | | | | | |
|-----------|--------------------|-----|-----|-----|----------------------|----|----|--------|-----------------------------|--------|-----|-----|-----|-------|-------|-----|-----|-----|----|----|----|--|
| | D | D2 | L | | H2 | | D | D2 | L | | H2 | | D | D2 | L | | H2 | | | | | |
| TCC20-(D) | M4 | 5 | 195 | | | | | | | | | | | | | | | | | | | |
| | M4.5 | 5 | 198 | | | | | | | | | | | | | | | | | | | |
| | M5 | 5.5 | 203 | | 22 | | | 10U | 5.5 | 203 | | | | | | | | | | | | |
| | M6 | 6 | 205 | | | | | 1/4U | 6 | 205 | | | | | | | | | | | | |
| | | | | | | | | 5/16U | 6.1 | 212 | | | | | | | | | | | | |
| | M7 | 6.2 | 207 | | | | | | | | | | | | | | | | | | | |
| | M8 | 6.2 | 212 | | | | | | | | | | | | | | | | | | | |
| | M9 | 7 | 214 | | 23 | | | | 3/8U | 7 | 217 | | | | | | | | | | | |
| | M10 | 7 | 217 | | | | | | | | | | | | | | | | | | | |
| | M11 | 8 | 222 | | | | | | 7/16U | 8 | 221 | | | | PF1/8 | 8 | 196 | | 24 | | | |
| M12 | 8.5 | 223 | 248 | | 24 | 29 | | | | | | | | | | | | | | | | |
| | | | | | | | | 1/2U | 9 | 225 | 250 | | | | | | | | | | | |
| M14 | 10.5 | 228 | 252 | | 25 | 31 | | 9/16U | 10.5 | 230 | 254 | | | | | | | | | | | |
| | | | | | | | | | | | | | | PF1/4 | 11 | 202 | 226 | | 25 | 31 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| M16 | 12.5 | 235 | 257 | | 25 | 33 | | 5/8U | 12 | 235 | 258 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| TCC29-(D) | M18 | 14 | | 261 | 291 | | 34 | 3/4U | 14 | | 266 | 296 | | 34 | 34 | | 226 | 256 | | 34 | 34 | |
| | M20 | 15 | | 266 | 295 | | 35 | | | | | | | | | | | | | | | |
| | M22 | 17 | | 276 | 304 | | 36 | 7/8U | 17 | | 276 | 304 | | 34 | 36 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| TCC29-(D) | M24 | 19 | | 281 | 302 | | 34 | 43 | | | | | | | | | | | | | | |
| | M27 | 20 | | 291 | 312 | | | | 1U | 20 | 286 | 307 | | 34 | 43 | | | | | | | |
| | | | | | | | | | 1 1/8U | 22 | | 315 | | | 45 | | | | | | | |
| | M30 | 23 | | | 315 | | 45 | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 1/4U | 24 | | 323 | | 47 | | | | | | | |
| TCC60-(D) | M33 | 25 | | | 323 | | 47 | | | | | | | | | | | | | | | |
| | | | | | | | | | 1 3/8U | 26 | | 333 | | 47 | | | | | | | | |
| | M36 | 28 | | | 331 | | 49 | | | | | | | | | | | | | | | |
| | M39 | 30 | | 340 | 299 | | 50 | 61 | 1 1/2U | 30 | | 335 | 294 | | 50 | 61 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| M42 | 32 | | | 305 | | | 65 | | | | | | | | | | | | | | | |
| M45 | 35 | | | 305 | | | 70 | 1 3/4U | 35 | | 300 | | | | | | | | | | | |
| M48 | 38 | | | 308 | | | 72 | | | | | | | | | | | | | | | |
| | | | | | | | | | 2U | 40 | | 315 | | | | | | | | | | |
| M52 | 42 | | | 315 | | | 75 | | | | | | | | | | | | | | | |

SBTシリーズ

自動定寸装置付タップホルダ

DEPTH CONTROL TAP HOLDER



※SBTタイプはBT2面拘束主軸対応ツーリングです。(BTタイプも対応致します)

| MODEL | D | φD1 | φD2 | L1 | L2 | φC1 | φC2 | φC3 | H1 | F1 | F2 | F3 | TAP COLLET | N/W (kg) | |
|-------|------------|----------|-----|--------|-----|-----|-----|-----|----|----|-----|----|------------|----------|-----|
| SBT40 | -ADC20-150 | M2.5~M16 | 20 | 3~12.5 | 123 | 109 | 32 | 40 | 47 | 14 | 6 | 14 | 2 | TC20-(D) | 1.6 |
| | -ADC29-195 | M12~M27 | 29 | 8.5~20 | 163 | 143 | 45 | 55 | 63 | 20 | 8 | 18 | 7 | TC29-(D) | 2.6 |
| SBT50 | -ADC20-165 | M2.5~M16 | 20 | 3~12.5 | 138 | 124 | 32 | 40 | 47 | 14 | 6.8 | 8 | 3 | TC20-(D) | 4.2 |
| | -ADC29-195 | M12~M27 | 29 | 8.5~20 | 163 | 143 | 45 | 55 | 63 | 20 | 8 | 18 | 7 | TC29-(D) | 4.9 |
| | -ADC40-225 | M18~M39 | 40 | 14~30 | 173 | 153 | 60 | 80 | 80 | 20 | 10 | 18 | 9 | TC40-(D) | 6 |

(ネジ深さ制限装置) 設定方法 (Depth limit device) How to set

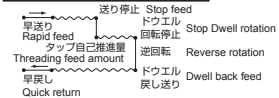
- ADC形は、ネジ深さが自動的に決まる制限装置を組み込んでいる為、ネジ深さが正確に決まります。タップ立て深さのバラツキ精度±0.1。
- タップコレットは、トルクリミッタを取り除いたTC型タップコレットをご使用下さい。また、従来のTCCコレット(トルクリミッタ付)もご使用できます。
- テンション、コンプレッションのフロート機構の働きによりタップピッチと機械送りの誤差を自動的に補正し、精度の高いネジ立てが出来ます。

- The ADC taper, in which the limit device is incorporated to determine thread depth automatically, can decide thread depth accurately. Variations in accuracy of depth tapping is ±0.1.
- Please use TC type tap, which has no torque limiter. In addition, traditional TCC collet having torque limiter can be used.
- It automatically corrects the error in the machine and feed tap pitch by the action of the float mechanism (tension-compression), which can make it tapping with high accuracy.

通し穴プログラム例 Example: through-hole program



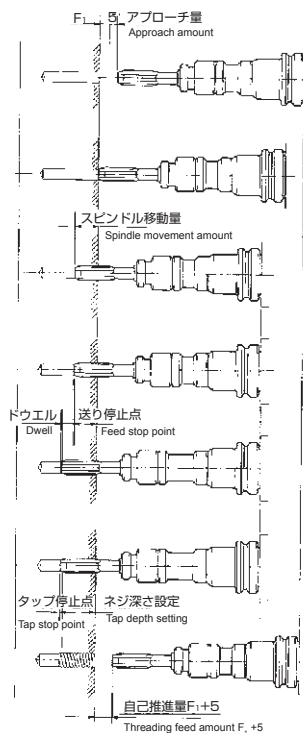
止り穴プログラム例 Example: blind hole program



ドウェル時間の計算法 Calculation method of dwell time

【例】タッパー：ADC20(自己推進量6) [Example] taper: ADC20 (threading feed amount 6)
 タップ：M12×1.75 Tap: M12×1.75
 回転数：180min⁻¹(3RPS) Rotational speed: 180min⁻¹(3RPS)

$$\text{ドウェル時間} = \frac{6}{1.75 \times 180/60} \times 2 = 2.3 \text{秒} \\ \text{Dwell time} = 2.3 \text{seconds}$$



①アプローチ量設定 ① approach amount setting

F1-5mmに設定の事、タップの進む速さと同じか若干遅めに設定して下さい。 Set to F1-5mm. Set slightly slower or equal to the speed of travel of the tap.

②ネジ立て開始 ② Start tapping

③スピンドル移動量 ③ Spindle movement amount

ネジ深さ設定量により自己推進量F1を引いた寸法。 Amount obtained by subtracting the threading feed amount (F1) by the tap depth setting amount.

④送り停止点 ④ Feed stop point

機械の送りを止め主軸回転のみ(ドウェル)を与える。 Stop the feed of the machine, and let only the spindle (Dwell) turn.

⑤ドウェル時間 ⑤ Dwell time

$$\text{ドウェル時間} = \frac{\text{タッパー自己推進量(mm)}}{\text{タップのP(mm)} \times \text{主軸回転数(R,P,S)}} \times 2 \\ \text{Dwell time} = \frac{\text{Tapper threading feed amount (mm)}}{\text{Tap Pitch(mm)} \times \text{Rotation (R,P,S)}} \times 2$$

⑥タップ停止点 ⑥ Tap stop point

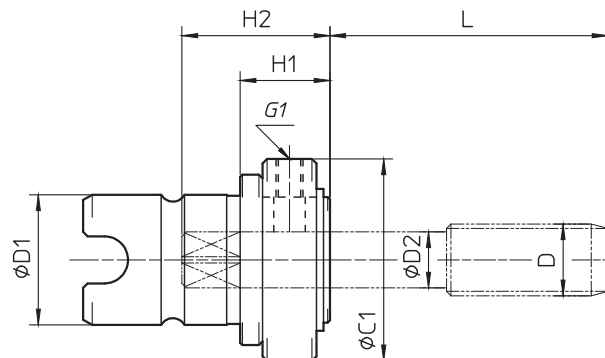
機械主軸回転停止、主軸逆回転(ドウェル)戻し送り(タップの戻す速さと同じに設定) Stop spindle rotation, reverse spindle rotation (Dwell), and feed back (setting to the same as the rate at which the tap is fed back).

⑦ネジ立完了 ⑦ Tapping complete

SBTシリーズ

TC型タップコレット

TAP COLLET (Type TC)



| MODEL | D | φD1 | φC1 | H1 | G1 | N/W (kg) |
|----------|---------|-----|-----|----|----------|----------|
| TC20-(D) | M3~M16 | 20 | 32 | 14 | M4・M5・M6 | 0.14 |
| TC29-(D) | M12~M27 | 29 | 45 | 20 | M6・M8 | 0.33 |
| TC40-(D) | M18~M39 | 40 | 60 | 20 | M10 | 0.70 |

TC20タップコレット TAP COLLET

| | | TC20-(D) | | | | | | | | | | | | | | | | | |
|----|-------|----------|------|------|------|-------|-----|------|----|------|----|------|----|------|----|------|----|------|---|
| D | M | - | *M2 | M3 | M4 | M5 | M6 | - | M8 | M10 | | M12 | - | M14 | | M16 | | | |
| | UNC | - | No.4 | - | No.8 | No.10 | 1/4 | 5/16 | - | 3/8 | - | 7/16 | - | 1/2 | - | 9/16 | - | 5/8 | - |
| | PT・PF | | | | | | | | | P1/8 | | | | | | P1/4 | | | |
| D2 | | 3 | 4 | 5 | 5.5 | 6 | 6.1 | 6.2 | 7 | 8 | | 8.5 | 9 | 10.5 | | 11 | 12 | 12.5 | |
| H2 | | 19.5 | 20.5 | 21.5 | 22 | | 23 | | | 24 | | 25 | 26 | | 27 | 28 | | | |
| L | | 24.5 | 23.5 | 25.5 | 30.5 | 38 | 40 | 47 | 52 | 31 | 56 | 58 | 60 | 62 | 64 | 35 | 68 | 67 | |

TC29タップコレット TAP COLLET

| | | TC29-(D) | | | | | | | | | | | | | | | | | |
|----|-------|----------|-----|------|------|----|------|------|-----|-----|------|-----|----|------|----|------|----|-----|---|
| D | M | M12 | - | M14 | | | | M16 | M18 | | | M20 | - | M22 | - | M24 | - | M27 | - |
| | UNC | - | 1/2 | - | 9/16 | - | 5/8 | | | 3/4 | | 7/8 | | | | | | 1 | |
| | PT・PF | | | | | | P1/4 | | | | P3/8 | | | P1/2 | - | P5/8 | | | |
| D2 | | 8.5 | 9 | 10.5 | | 11 | 12 | 12.5 | | 14 | | 15 | 17 | 18 | | 19 | | 20 | |
| H2 | | 29 | 30 | 31 | | 32 | 33 | | 34 | | 35 | 36 | 37 | | 38 | | | | |
| L | | 53 | 55 | 57 | 59 | 30 | 63 | 62 | 66 | 71 | 31 | 70 | 79 | 43 | 82 | 44 | 92 | 87 | |

TC40タップコレット TAP COLLET

| | | TC40-(D) | | | | | | | | | | | | | | | | | | | | |
|----|-------|----------|-----|----|------|----|----|------|----|------|-------|----|-------|----|-------|----|-----|----|-------|--------|-----|-----|
| D | M | | | | | | | | | | | | | | | | | | | | | |
| | UNC | - | 3/4 | - | 7/8 | | | | | 1 | 1 1/8 | - | 1 1/4 | - | 1 3/8 | | | | 1 1/2 | | | |
| | PT・PF | | | | P3/8 | | | P1/2 | - | P5/8 | | | P3/4 | - | P7/8 | | | P1 | - | P1 1/8 | - | |
| D2 | | 14 | | 15 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 26 | 28 | 30 | | | | | | | |
| H2 | | 34 | | 35 | 36 | 42 | | 43 | | 45 | | 47 | | 49 | 51 | | | | | | | |
| L | | 66 | 71 | 31 | 70 | 79 | 38 | 77 | 39 | 87 | 82 | 90 | 40 | 98 | 43 | 98 | 106 | 46 | 106 | 51 | 114 | 109 |

注：1. チャックレンチは付属していません。 NOTE:1.For JIS standard taps only. *mark tap collet is manufactured to order.

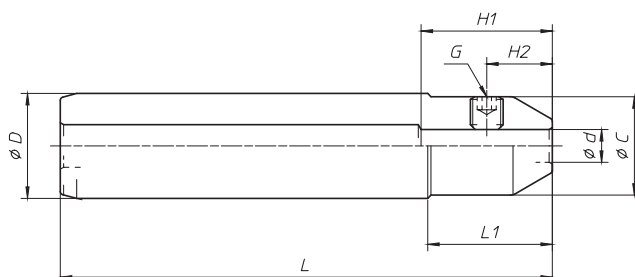
STシリーズ

サイドロックアーバ

SIDE LOCK ARBOR

センタースルー対応

Thru-the-tool Coolant Available

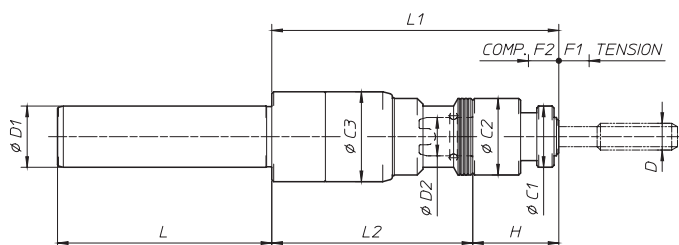


| MODEL | | ϕD | $\phi d(H6)$ | L | L1 | ϕC | H1 | H2 | G | N/W (kg) |
|-------|----------|----------|--------------|-----|----|----------|----|----|-----|----------|
| ST25 | -S06-120 | 25 | 6 | 120 | 30 | 20 | 30 | 13 | M6 | 0.38 |
| | -S08-120 | | 8 | | | | | 15 | | |
| | -S10-120 | | 10 | | | | | 20 | | |
| ST32 | -S06-150 | 32 | 6 | 150 | 38 | 20 | 30 | 13 | M6 | 0.72 |
| | -S08-150 | | 8 | | | | | 15 | | |
| | -S10-150 | | 10 | | | | | | | |
| | -S12-150 | | 12 | | - | 32 | 40 | 20 | M10 | 0.77 |

STシリーズ

タップホルダ(正回転)

TAP HOLDER(Clockwise Rotation)



| MODEL | | $\phi D1$ | $\phi D2$ | L | L1 | L2 | $\phi C1$ | $\phi C2$ | $\phi C3$ | H | F1 | F2 | D | TAP COLLET CODE | N/W (kg) |
|-------|------------|-----------|-----------|-----|-----|-----|-----------|-----------|-----------|----|----|----|---------|-----------------|----------|
| ST32 | -TPC20-150 | 32 | 20 | 112 | 150 | 105 | 32 | 40 | 47 | 45 | 15 | 15 | M4-M14 | CODE | 1.5 |
| | -TPC29-175 | | 29 | | 175 | 120 | 45 | 55 | 63 | 55 | | | M12-M27 | TCC29-◎ | 2.5 |
| ST42 | -TPC20-150 | 42 | 20 | 117 | 150 | 105 | 32 | 40 | 47 | 45 | 15 | 15 | M4-14 | TCC20-◎ | 2.1 |
| | -TPC29-175 | | 29 | | 175 | 120 | 45 | 55 | 63 | 55 | | | M12-M27 | TCC29-◎ | 3.0 |