# Locating Pins (Shoulder Thickness Configurable)

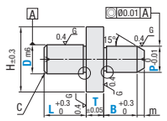
**Locating Pins – Shoulder Thickness Configurable**

RoHS10

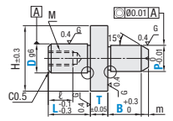
| Material No. | Material | Surface Treatment | Hardness | Type: Standard | Type: Tapped | Type: Threaded | Shape Code |
|---|---|---|---|---|---|---|---|
| (1) | 01 Tool Steel | — | Treated Hardness: 60~63 HRC min. | FPJ | FPU | FPN | AT (Round) DT (Diamond) |
| (2) | 01 Tool Steel | Hard Chrome Plating | Hardness: 50~55 HRC min. Plating Hardness: 750 HV min. | GFPJ | GFPU | GFPN | |
| (3) | 304 Stainless Steel | — | — | SFPJ | SFPU | SFPN | |
| (4) | 304 Stainless Steel | Hard Chrome Plating | Plating Hardness 750 HV min. | HFPJ | HFPU | HFPN | |
| (5) | 440C or 420 Stainless Steel | — | Treated Hardness: 50~55 HRC min. | CFPJ | CFPU | CFPN | |

! 440C or 420 Stainless Steel has an identification groove on D mounting section. ! A machining step remains on the shoulder top for Diamond Shape.

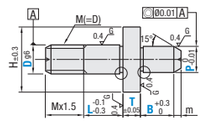
**Standard**



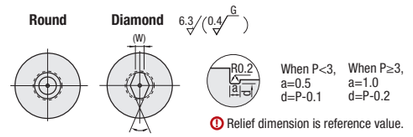
**Tapped**



**Threaded**



**Round** **Diamond**




! Relief dimension is reference value.

## Standard

| Part Number: Type | Shape | D | D Tolerance m6 | P 0.01 mm Increment | L 1 mm Increment | B 0.1 mm Increment | T 0.5 mm Increment | H | C | m | (W) | Available Types for Round Shape (1) FPJAT | (2) GFPJAT | (3) SFPJAT | (4) HFPJAT | (5) CFPJAT | Available Types for Diamond Shape (1) FPJDT | (2) GFPJDT | (3) SFPJDT | (4) HFPJDT | (5) CFPJDT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FPJ GFPJ SFPJ HFPJ CFPJ | AT Round DT Diamond | 2 | +0.008 | 1.00–2.00 | 2–4 | 2.0–10.0 | 1.0–10.0 | 7 | 0.5 | 0.5 | — | • | • | • | • | • | — | — | — | — | — |
| | | 3 | +0.002 | 2.00–4.00 | 3–6 | 2.0–10.0 | | 8 | | 1 | 1.0 | • | • | • | • | • | • | • | • | — | • |
| | | 4 | +0.012 +0.004 | 2.00–5.00 | 4–8 | 2.0–10.0 | | 9 | 1 | | 1.2 | • | • | • | • | • | • | • | • | — | • |
| | | 5 | | 3.00–6.00 | 5–10 | 2.0–15.0 (10.0) | | 10 | | 2 | 1.5 | • | • | • | • | • | • | • | • | — | • |
| | | 6 | | 4.00–7.00 | 5–12 | 2.0–15.0 | | 11 | | | 1.8 | • | • | • | • | • | • | • | • | — | • |
| | | 8 | +0.015 | 5.00–9.00 | 5–16 | 2.0–20.0 (15.0) | | 13 | 1.5 | | 2.2 | • | • | • | • | • | • | • | • | — | • |
| | | 10 | +0.006 | 7.00–11.00 | 8 (10)–20 | 3.0–30.0 (25.0) | | 15 | | 3 | 3 | • | • | • | • | • | • | • | • | — | • |
| | | 12 | +0.018 +0.007 | 7.00–12.00 | 10–24 | 3.0–30.0 (25.0) | | 17 | 2 | | 3.2 | • | • | • | • | • | • | • | • | — | • |
| | | 13 | | 8.00–13.00 | 13–26 | 5.0–30.0 (25.0) | | 18 | | 4 | 3.5 | • | • | • | • | • | • | • | • | — | • |
| | | 16 | | 13.00–16.00 | 16–32 | 5.0–30.0 | | 21 | | | 4 | • | • | • | • | • | • | • | • | — | • |
| | | 20 | +0.021 +0.008 | 16.00–20.00 | 20–40 | 5.0–30.0 | | 25 | 3 | 5 | 5.5 | • | • | • | • | • | • | • | • | — | • |

## Tapped

| Part Number: Type | Shape | D | D Tolerance g6 | P 0.01 mm Increment | L 1 mm Increment | B 0.1 mm Increment | T 0.5 mm Increment | H | m | (W) | M Coarse | ℓ | Available Types for Round Shape (1) FPUAT | (2) GFPUAT | (3) SFPUAT | (4) HFPUAT | (5) CFPUAT | Available Types for Diamond Shape (1) FPUDT | (2) GFPUDT | (3) SFPUDT | (4) HFPUDT | (5) CFPUDT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FPU GFPU SFPU HFPU CFPU | AT Round DT Diamond | 5 | -0.004 -0.012 | 3.00– 6.00 | 7–10 | 2.0–15.0 (10.0) | 1.0–10.0 | 10 | 2 | 1.5 | M2 | 3 | • | • | • | — | • | • | • | • | • | • |
| | | 6 | | 4.00– 7.00 | 6 (9)–12 | 2.0–15.0 | | 11 | | 1.8 | M3 | 5 | • | • | • | — | • | • | • | • | • | • |
| | | 8 | -0.005 -0.014 | 5.00– 9.00 | 8 (12)–16 | 2.0–20.0 (15.0) | | 13 | 3 | 2.2 | M5 | 8 | • | • | • | — | • | • | • | • | • | • |
| | | 10 | | 7.00–12.00 | 10 (12)–20 | 2.0–30.0 (25.0) | | 15 | | 3 | | | • | • | • | — | • | • | • | • | • | • |
| | | 12 | -0.006 -0.017 | 7.00–12.00 | 12–24 | 3.0–30.0 (25.0) | | 17 | | 3.2 | | | • | • | • | — | • | • | • | • | • | • |
| | | 13 | | 8.00–13.00 | 13 (14)–26 | 3.0–30.0 (25.0) | | 18 | 4 | 3.5 | M8 | 10 | • | • | • | • | • | • | • | • | • | • |
| | | 16 | | 13.00–16.00 | 16–32 | 5.0–30.0 | | 21 | | 4 | | | • | • | • | — | • | • | • | • | • | • |
| | | 20 | -0.007 -0.020 | 16.00–20.00 | 20–40 | 5.0–30.0 | | 25 | 5 | 5.5 | | 12 | • | • | • | — | • | • | • | • | • | • |

! L dimension in ( ) is applicable to Diamond Shape. ! Note the strength of under-head part. **P.1542** ! Please confirm pilot hole depth on **P.1542**. Holes may go through.
* The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on MISUMI 2019 catalog **P.4015**). Not applicable when using locking agents or spring washers.

## Threaded

| Part Number: Type | Shape | D | D Tolerance g6 | P 0.01 mm Increment | L 1 mm Increment | B 0.1 mm Increment | T 0.5 mm Increment | H | m | (W) | *Tightening Torque N-cm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FPN GFPN SFPN HFPN CFPN | AT Round DT Diamond | 3 | -0.002 -0.008 | 2.00–4.00 | 0–6 | 2.0–10.0 | 1.0–10.0 | 8 | 1 | 1.0 | 98 |
| | | 4 | -0.004 -0.012 | 2.00–5.00 | 0–8 | 2.0–10.0 | | 9 | | 1.2 | 225 |
| | | 5 | | 3.00–6.00 | 0–10 | 2.0–15.0 (10.0) | | 10 | 2 | 1.5 | 461 |
| | | 6 | | 4.00–7.00 | 0–10 | 2.0–15.0 | | 11 | | 1.8 | 784 |
| | | 8 | -0.005 -0.014 | 5.00–9.00 | 0–10 | 2.0–20.0 (15.0) | | 13 | 3 | 2.2 | 1911 |
| | | 10 | | 7.00–11.00 | 0–15 | 3.0–30.0 (25.0) | | 15 | | 3 | 3783 |
| | | 12 | -0.006 -0.017 | 7.00–12.00 | 0–15 | 3.0–30.0 (25.0) | | 17 | | 3.2 | 6605 |
| | | 16 | | 13.00–16.00 | 0–20 | 5.0–30.0 | | 21 | 4 | 4 | 16366 |
| | | 20 | -0.007 -0.020 | 16.00–20.00 | 0–20 | 5.0–30.0 | | 25 | 5 | 5.5 | 32928 |

**Part Number Example**

Part Number: Type | Shape | D - P - L - B - T - H

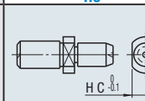
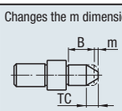
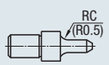
FPJ ATD 12 - P9.98 - L15 - B5.5 - T12 - H13

* The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on MISUMI 2019 catalog **P.4015**). Not applicable when using locking agents or spring washers.

**Part Number Alterations**

Part Number - P - L - B - T - H - (HC, TC, RC, TKC)

GFPJATD12 - L20 - T16.0
GFPNATD12 - P8.50 - L15 - B10.0 - T13 - H16.0 - RC
GFPUATD12 - L20 - H16.0

| Alterations | Wrench Flats Alteration | Length of Tapered Point | Underhead Fillet | Shoulder Thickness Tolerance |
|---|---|---|---|---|
| Code | HC | TC | RC | TKC |
| Spec. |  HC=0.5 mm Increment<br>! HC>D, HC>P<br>**Ordering Code:** HC10.0 | Changes the m dimension. **Ordering Code:** TC8 (1 mm Increment)<br>  <br>D TC: 2 1; 3 2–5; 4 2–7; 5 3–9; 6 3–11; 8 4–14; 10 4–18; 12 4–20; 13 5–22; 16 5–22; 20 6–23<br>! B+m≥TC+2 (Straight Part min. 2 mm)<br>! Applicable when P≥2.00. ! P/2-TCxtan15°(=0.27)>0.5 (Tip Ø1.0min.)<br>! B Dimension changes when TC is specified. (Changed B dimension = B+m-TC) | Changes the relief to R0.5.<br>**Ordering Code:** RC<br>  <br>! Applicable when H-P≥2. | Changes shoulder thickness tolerance T±0.05 to $T^{+0.02}_{0}$<br>**Ordering Code:** TKC |



# Locating Pins (Shoulder Diameter & Thickness Configurable)

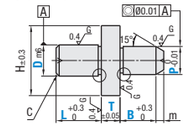
**Locating Pins – Shoulder Diameter & Thickness Configurable**

RoHS10

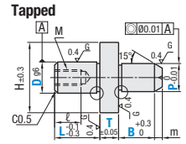
| Material No. | Material | Surface Treatment | Hardness | Type: Standard | Type: Tapped | Type: Threaded | Shape Code |
|---|---|---|---|---|---|---|---|
| (1) | 01 Tool Steel Equivalent | — | Treated Hardness: 60~63 HRC min. | FPJ | FPU | FPN | ATD (Round) DTD (Diamond) |
| (2) | 01 Tool Steel Equivalent | Hard Chrome Plating | Hardness: 50~55 HRC min. Plating Hardness: 750 HV min. | GFPJ | GFPU | GFPN | |
| (3) | 304 Stainless Steel Equivalent | — | — | SFPJ | SFPU | SFPN | |
| (4) | 304 Stainless Steel Equivalent | Hard Chrome Plating | Plating Hardness 750 HV min. | — | HFPU | HFPN | |
| (5) | 440C or 420 Stainless Steel | — | Treated Hardness: 50~55 HRC min. | CFPJ | CFPU | CFPN | |

! 440C or 420 Stainless Steel has an identification groove on D mounting section. ! A machining step remains on the shoulder top for Diamond Shape.

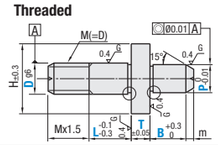
**Standard**



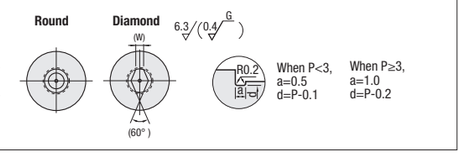
**Tapped**



**Threaded**



**Round** **Diamond**




## Standard

| Part Number: Type | Shape | D | D Dimension Tolerance m6 | P 0.01 mm Increment | L 1 mm Increment | B 0.1 mm Increment | T 0.1 mm Increment | H 0.5 mm Increment | C | m | (W) | Available Types for Round Shape (1) FPJATD | (2) GFPJATD | (3) SFPJATD | (5) CFPJATD | Available Types for Diamond Shape (1) FPJDTD | (2) GFPJDTD | (3) SFPJDTD | (5) CFPJDTD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FPJ GFPJ SFPJ CFPJ | ATD Round DTD Diamond | 2 | +0.008 | 1.00–2.00 | 2–4 | 2.0–10.0 | 1.0–15.0 | 5.0–10.0 | 0.5 | 0.5 | — | • | • | • | • | — | — | — | — |
| | | 3 | +0.002 | 2.00–4.00 | 3–6 | 2.0–10.0 | | 6.0–12.0 | | 1 | 1.0 | • | • | • | • | • | • | — | • |
| | | 4 | +0.012 +0.004 | 2.00–5.00 | 4–8 | 2.0–10.0 | | 7.0–13.0 | 1 | | 1.2 | • | • | • | • | • | • | — | • |
| | | 5 | | 3.00–6.00 | 5–10 | 2.0–15.0 (10.0) | | 8.0–14.0 | | 2 | 1.5 | • | • | • | • | • | • | — | • |
| | | 6 | | 4.00–7.00 | 5–12 | 2.0–15.0 | | 9.0–15.0 | | | 1.8 | • | • | • | • | • | • | — | • |
| | | 8 | +0.015 | 5.00–9.00 | 5–16 | 2.0–20.0 (15.0) | | 11.0–17.0 | 1.5 | | 2.2 | • | • | • | • | • | • | — | • |
| | | 10 | +0.006 | 7.00–11.00 | 8 (10)–20 | 3.0–30.0 (25.0) | | 13.0–19.0 | | 3 | 3 | • | • | • | • | • | • | — | • |
| | | 12 | +0.018 +0.007 | 7.00–12.00 | 10–24 | 3.0–30.0 (25.0) | | 13.0–20.0 | 2 | | 3.2 | • | • | • | • | • | • | — | • |
| | | 13 | | 8.00–13.00 | 13–26 | 5.0–30.0 (25.0) | | 15.0–21.0 | | 4 | 3.5 | • | • | • | • | • | • | — | • |
| | | 16 | | 13.00–16.00 | 16–32 | 5.0–30.0 | | 18.0–24.0 | | | 4 | • | • | • | • | • | • | — | • |
| | | 20 | +0.021 +0.008 | 16.00–20.00 | 20–40 | 5.0–30.0 | | 21.0–27.0 | 3 | 5 | 5.5 | • | • | • | • | • | • | — | • |

## Tapped

| Part Number: Type | Shape | D | D Tolerance g6 | P 0.01 mm Increment | L 1 mm Increment | B 0.1 mm Increment | T 0.1 mm Increment | H 0.5 mm Increment | m | (W) | M Coarse | *Tightening Torque N-cm | ℓ | Available Types for Round Shape (1) FPUATD | (2) GFPUATD | (3) SFPUATD | (4) HFPUATD | (5) CFPUATD | Available Types for Diamond Shape (1) FPUATD | (2) GFPUATD | (3) SFPUATD | (4) HFPUATD | (5) CFPUATD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FPU GFPU SFPU HFPU CFPU | ATD Round DTD Diamond | 5 | -0.004 -0.012 | 3.00– 6.00 | 7–10 | 2.0–15.0 (10.0) | 1.0–15.0 | 8.0–14.0 | 2 | 1.5 | M2 | — | 3 | • | • | • | • | • | • | • | • | • | — |
| | | 6 | | 4.00– 7.00 | 6 (9)–12 | | | 9.0–15.0 | | 1.8 | M3 | 98 | 5 | • | • | • | • | • | • | • | • | • | — |
| | | 8 | -0.005 -0.014 | 5.00– 9.00 | 8 (12)–16 | 2.0–20.0 (15.0) | | 11.0–17.0 | | 2.2 | M5 | 461 | 8 | • | • | • | • | • | • | • | • | • | — |
| | | 10 | | 7.00–12.00 | 10 (12)–20 | 2.0–30.0 (25.0) | | 13.0–19.0 | 3 | 3 | | | | • | • | • | • | • | • | • | • | • | — |
| | | 12 | -0.006 -0.017 | 7.00–12.00 | 12–24 | 3.0–30.0 (25.0) | | 13.0–20.0 | | 3.2 | | | | • | • | • | • | • | • | • | • | • | — |
| | | 13 | | 8.00–13.00 | 13 (14)–26 | 3.0–30.0 (25.0) | | 15.0–21.0 | 4 | 3.5 | M8 | 1911 | 10 | • | • | • | • | • | • | • | • | • | — |
| | | 16 | | 13.00–16.00 | 16–32 | 5.0–30.0 | | 18.0–24.0 | | 4 | | | 12 | • | • | • | • | • | • | • | • | • | — |
| | | 20 | -0.007 -0.020 | 16.00–20.00 | 20–40 | 5.0–30.0 | | 21.0–27.0 | 5 | 5.5 | | | | • | • | • | • | • | • | • | • | • | — |

! L dimension in ( ) is applicable to Diamond Shape. ! Note the strength of under-head part. **P.1542** ! Please confirm pilot hole depth on **P.1542**. Holes may go through.
* The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on MISUMI 2019 catalog **P.4015**). Not applicable when using locking agents or spring washers.

## Threaded

| Part Number: Type | Shape | D | D Tol. g6 | P 0.01 mm Increment | L 1 mm Increment | B 0.1 mm Increment | T 0.1 mm Increment | H 0.5 mm Increment | m | (W) | *Tightening Torque N-cm | Available Types for Round Shape (1) FPNATD | (2) GFPNATD | (3) SFPNATD | (4) HFPNATD | (5) CFPNATD | Available Sizes Diamond Shape (1) FPNATD | (2) GFPNATD | (3) SFPNATD | (4) HFPNATD | (5) CFPNATD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FPN GFPN SFPN HFPN CFPN | ATD Round DTD Diamond | 3 | -0.002 -0.008 | 2.00–4.00 | 0–6 | 2.0–10.0 | 1.0–15.0 | 6.0–12.0 | 1 | 1.0 | 98 | • | • | • | • | • | • | — | • | • | • |
| | | 4 | -0.004 -0.012 | 2.00–5.00 | 0–8 | 2.0–10.0 | | 7.0–13.0 | | 1.2 | 225 | • | • | • | • | • | • | — | • | • | • |
| | | 5 | | 3.00–6.00 | 0–10 | 2.0–15.0 (10.0) | | 8.0–14.0 | 2 | 1.5 | 461 | • | • | • | • | • | • | — | • | • | • |
| | | 6 | | 4.00–7.00 | 0–10 | 2.0–15.0 | | 9.0–15.0 | | 1.8 | 784 | • | • | • | • | • | • | — | • | • | • |
| | | 8 | -0.005 -0.014 | 5.00–9.00 | 0–10 | 2.0–20.0 (15.0) | | 11.0–17.0 | | 2.2 | 1911 | • | • | • | • | • | • | — | • | • | • |
| | | 10 | | 7.00–11.00 | 0–15 | 3.0–30.0 (25.0) | | 13.0–19.0 | 3 | 3 | 3783 | • | • | • | • | • | • | — | • | • | • |
| | | 12 | -0.006 -0.017 | 7.00–12.00 | 0–15 | 3.0–30.0 (25.0) | | 13.0–20.0 | | 3.2 | 6605 | • | • | • | • | • | • | — | • | • | • |
| | | 16 | | 13.00–16.00 | 0–20 | 5.0–30.0 | | 18.0–24.0 | 4 | 4 | 16366 | • | • | • | • | • | • | — | • | • | • |
| | | 20 | -0.007 -0.020 | 16.00–20.00 | 0–20 | 5.0–30.0 | | 21.0–27.0 | 5 | 5.5 | 32928 | • | • | • | • | • | • | — | • | • | • |

**Part Number Example**

Part Number: Type | Shape | D - P - L - B - T - H

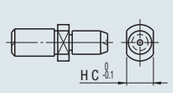
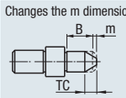
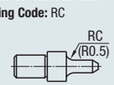
FPU ATD 12 - P9.98 - L15 - B5.5 - T12 - H13

* The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on MISUMI 2019 catalog **P.4015**). Not applicable when using locking agents or spring washers.

**Part Number Alterations**

Part Number - P - L - B - T - H - (HC, TC, RC, TKC)

GFPJATD12 - L20 - T16.0
GFPNATD12 - P8.50 - L15 - B10.0 - T13 - H16.0 - RC
GFPUATD12 - L20 - H16.0

| Alterations | Wrench Flats Alteration | Length of Tapered Point | Underhead Fillet | Shoulder Thickness Tolerance |
|---|---|---|---|---|
| Code | HC | TC | RC | TKC |
| Spec. |  HC=0.5 mm Increment<br>! HC>D, HC>P<br>**Ordering Code:** HC10.0 | Changes the m dimension. **Ordering Code:** TC8 (1 mm Increment)<br>  <br>D TC: 2 1; 3 2–5; 4 2–7; 5 3–9; 6 3–11; 8 4–14; 10 4–18; 12 4–20; 13 5–22; 16 5–22; 20 6–23<br>! B+m≥TC+2 (Straight Part min. 2 mm)<br>! Applicable when P≥2.00. ! P/2-TC x tan15°(=0.27)>0.5 (Tip Ø1.0min.)<br>! B Dimension changes when TC is specified. (Changed B dimension = B+m-TC) | Changes the relief to R0.5.<br>**Ordering Code:** RC<br>  <br>! Applicable when H-P≥2. | Changes shoulder thickness tolerance T±0.05 to $T^{+0.02}_{0}$<br>**Ordering Code:** TKC |