

# Bushings for Inspection Jigs

## Stepped Straight

Applicable Pins: (Round Edge Type) P.1806-1809

Material	Hardness	Surface Treatment	(1) Straight		(2) With Shoulder T Dimension Selectable		(3) Shoulder/T, H Dimension Configurable	
			Type	Material Code	Type	Material Code	Type	Material Code
Standard Type D <sub>h0.02</sub>	JIS-SKS93 Tool Steel or Equivalent	50-60 HRC min.	—	S <sub>+0.03</sub> D	S <sub>+0.03</sub> DT	S <sub>+0.03</sub> D	—	—
	JIS-SKS93 Tool Steel or Equivalent	50-60 HRC min.	Electroless Nickel Plating	KJB S <sub>07</sub>	KJB S <sub>07</sub>	KJBF S <sub>07</sub>	—	—
	304 Stainless Steel	—	—	KJBH DS	KJBH —	KJBFH —	—	—
Press Fit Type D <sub>96</sub>	JIS-SKS93 Tool Steel or Equivalent	50-60 HRC min.	—	—	S <sub>+0.03</sub> KJBP S <sub>07</sub>	DT	S <sub>07</sub> KJBPFH	D
	304 Stainless Steel	—	—	—	—	—	—	—

  

**(1) Straight**

**(2) Shouldered, T Dim. Selectable**

**(3) Shouldered, T, H Dim. Configurable**

S	H7
3.00-6.00	+0.012 0
6.01-10.00	+0.015 0
10.01-18.00	+0.018 0
18.01-21.00	+0.021 0

① 1. Press Fit Type has a 1-3mm guide part (D<sub>h0.03</sub>).  
② 2. When wall is 2mm or less ((D-P)/2≥2), R is 0.5.

### Select Type, Material Code & D Dimension

Type	Part Number		All Types				(2) T Selectable Type Only		(3) T, H Configurable Type Only			
	Material Code		0.01 mm Increment		1 mm Increment		R	T <sub>+0.05</sub> Selection	H	T <sub>+0.01</sub> 0.1 mm Increment	H 1 mm Increment	
	Straight	T Selectable	P	S	L	B						
Standard	KJB KJBH	KJBF KJBFH	8	4.00-6.00	3-25	5-25	1.0				10-14	
Press Fit	D DM DS	DT DTS	10	4.00-8.00	L <sub>≤Px3</sub> No R for L3 and L4.	B <sub>≤Sx2.5</sub> When S≥3.59	2.0	2 3 5	D+4	2.0-5.5	12	5.00-10.00
			16	8.00-14.00							14-20	
			20	10.00-18.00							18-26	
			25	15.00-23.00							22-37	
											27-40	

③ 3. For 304 Stainless Steel, there must be a 2mm or greater wall thickness ((D-P)/2≥2).

**Part Number Example**

Part Number - P - S - L - B - T - H

KJBDT12 - P8.00 - S4.00 - L10 - B5 - T3

KJBFDT12 - P8.00 - S4.00 - L10 - B5 - T3.5 - H15

**Part Number Alterations**

Part Number - P - S - L - B - T - H (FC / PKC...etc.)

KJBD12 - P8.00 - S4.00 - L10 - B5 - FC

Alterations	Code	Spec.
Groove (For adhesive reservoir)	FC	Adds groove for accumulating adhesives. ① D≥P+3: Applicable only when a wall of 1.5 mm or thicker is remaining. ② Applicable when L+B≥10 for Straight Type, L+B≥15 for Shoulder Type.
Groove (Retaining)	NC	Adds groove for retaining. ① D≥P+3: Applicable only when a wall of 1.5 mm or thicker is remaining. ② Applicable when L+B≥10 for Straight Type, L+B≥15 for Shoulder Type.
Radius R Chamfered	RN	Adds C Chamfering (0.5 or less) to R.
Radius R Square Corner	CRN	Replaces R with square corner. ① Edge may be burred. ② Combination with TKC and LKC is not available.
Additional Surface Treatment (Black Oxide)	STC	Adds Black Oxide Surface Treatment. ① Applicable to material SKS93 (except electroless nickel plating) only.
P Dimension Tolerance	PKC	Changes P dimension tolerance to H7.
Shoulder Thickness Tolerance	TKC	Changes shoulder thickness tolerance to ±0.01. ① Applicable to With Shoulder T Dimension Selectable Type only. ② Combination with alteration CRN and LKC is not available.
L+B Dimension Tolerance	LKC	Changes L+B dimension tolerance to $\frac{0}{-0.05}$ . ① Combination with TKC and CRN is not available. ② Tolerance is not for L dimension only.
Flats Machining	HT	Adds a flat on bushing. ① No flat on shoulder part.

# Bushings for Inspection Jigs

## D-Shape

Applicable Pins: (D-Shaped Tip Type) P.1808-1812, 1818-1819

Material	Hardness	Surface Treatment	1Straight		2Shouldered		P	H7
			Type	Material Code	Type	Material Code		
SKS93 Tool Steel (JIS) Equivalent	50-60 HRC min.	—	(P <sub>+0.03</sub> /F <sub>0</sub> <sup>+0.05</sup> ) KJB	SK	(P <sub>+0.03</sub> /F <sub>0</sub> <sup>+0.05</sup> ) KJB	STK	3.00-6.00	+0.012 0
SKS93 Tool Steel (JIS) Equivalent	50-60 HRC min.	Electroless Nickel Plating	(P <sub>H7</sub> /F <sub>0</sub> <sup>+0.03</sup> ) KJBH	SKM	(P <sub>H7</sub> /F <sub>0</sub> <sup>+0.03</sup> ) KJBH	—	6.01-10.00	+0.015 0
304 Stainless Steel	—	—	—	SKS	—	—	10.01-18.00	+0.018 0
440C or 420 Stainless Steel	45-50 HRC min.	—	—	SKC	—	—	18.01-21.00	+0.021 0

① Refer to the price list to select the available combination.

**(1) Straight**

**(2) With Shoulder**

### Select Type, Material Code & D Dimension

Type	Part Number		D	All Types			(2) Shouldered Type only	
	Material Code	Material Code		P (0.01mm Increment)	F (F<P/2) 0.1mm Increment	L 1mm Increment	T	H
(P <sub>+0.03</sub> /F <sub>0</sub> <sup>+0.05</sup> ) KJB (P <sub>H7</sub> /F <sub>0</sub> <sup>+0.03</sup> ) KJBH	SK SKM SKS SKC	STK STKC	② 8	3.00-5.00	0.3-2.4	5-25	2 3 5	D+4
			10	3.00-7.00	0.3-3.0			
			12	3.00-9.00	0.5-4.0			
			16	4.00-13.00	0.5-6.0			
			20	6.00-17.00	1.0-8.0			
25	8.00-21.00	2.0-10.0						

① 1. There must be 1 mm or greater wall thickness between D bore part and dowel hole (D/2-F≥3). For 304 Stainless Steel, there must be a 2 mm or greater wall thickness (D/2-F≥4).  
② 2. For 304 Stainless Steel, there must be a 2 mm or greater wall thickness between D bore part and outer dia. (D-P/2≥2). ③ 3. D=8 is not available for 304 Stainless Steel Straight Type.

**Part Number Example**

Part Number - P - F - L - T

KJBSTK12 - P8.00 - F3.0 - L10 - T3

D	Available Types									
	1Straight					2Shouldered				
	P <sub>+0.03</sub> F <sub>0</sub> <sup>+0.05</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>+0.03</sub> F <sub>0</sub> <sup>+0.05</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>	P <sub>H7</sub> F <sub>0</sub> <sup>+0.03</sup>
8	•	•	•	•	•	•	•	•	•	•
10	•	•	•	•	•	•	•	•	•	•
12	•	•	•	•	•	•	•	•	•	•
16	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•

**Part Number Alterations**

Part Number - P - F - L - T - (FC / NC...etc.)

KJBSK12 - P8.00 - F2.0 - L10 - T3 - FC

Alterations	Code	Spec.
Groove (For Adhesive Reservoir)	FC	Adds groove for accumulating adhesives. ① D≥P+3: Applicable only when a wall of 1.5 mm or thicker is remaining. ② Applicable when L≥10 for Straight Type, L≥15 for Shoulder Type.
Groove (Retaining)	NC	Adds groove for retaining. ① D≥P+3: Applicable only when a wall of 1.5 mm or thicker is remaining. ② Applicable when L≥10 for Straight Type, L≥15 for Shoulder Type.
Additional Surface Treatment (Black Oxide)	STC	Adds Black Oxide Surface Treatment. ① Only applicable to material SKS93 (except electroless nickel plating).
Shoulder Thickness Tolerance	TKC	Changes shoulder thickness tolerance to ±0.01. ① Applicable to With Shoulder Type only. ② Combination with alteration LKC is not available.
Changes L Dimension Tolerance	LKC	Changes L dimension tolerance to $\frac{0}{-0.05}$ . ① Combination with TKC is not available.