


# Bushings for Locating Pins (Flanged)

Standard / Thin Wall

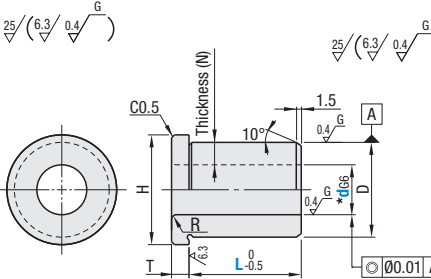
Locating Pins/Bushings for Locating Pins

**Standard Type**



**RoHS 10**

Type		Material	Surface Treatment	Hardness
p6	m6			
JBH	JBHM	O1 Tool Steel or Equivalent	—	60 HRC min.
JBHN	JBHMN	O1 Tool Steel or Equivalent	Electroless Nickel Plating	60 HRC min.
JBHC	JBHMC	440C or 420 Stainless Steel	—	50 HRC min.



**RoHS 10**

Tolerance of d dimension 2–6 of electroless nickel plated products is H7.


For hole machining, please note that inner diameter shrinkage of p6 Type is larger than that of m6 Type.

(See "Variance of Inner Diameter after Press-fit of Bushings for Locating Pins" on P.1680.)

Type	d	D Tolerance		L Selection	Thickness (N)	R	H	T	D	D Tolerance			Compliance with Standard				
		No Surface Treatment	Electroless Nickel Plating							p6	m6	JBH	JBHN	JBHC	JBHM	JBHMN	JBHMC
(p6)	2	+0.008	+0.010	5 6 8 10 12	1.5	0.8	9	2.5	5	+0.020	+0.012	.	.	.			
	3	+0.002	0	5 6 8 *10 12	2		11		7	5	+0.012	+0.004	.	.	.		
	4	+0.012	+0.012	*5 6 8 10 12 15 *16 20	2		12		8	5	+0.024	+0.015	.	.	.		
	5			5 6 8 10 12 15 16 20	2.5		14		3	10	+0.015	+0.006	.	.	.		
	6			5 6 8 10 12 15 16 20 25	2		16		4	12	+0.029	+0.018	.	.	.		
8	+0.014	+0.014	6 8 10 12 15 16 20 25	2.5	1	19	15	19	+0.018	+0.007	.	.	.				
10	+0.005	+0.005		8 10 12 15 16 20 25 30		3	22	18	22	.	.	.	.				
(m6)	12	+0.017	+0.017	10 12 15 16 20 25 30	4.5	2	26	26	26	+0.035	+0.021	.	.	.			
	13			10 *12 *15 *16 *20 *25 *30	5		30	5	25	+0.022	+0.008	.	.	.			
	15			10 12 15 16 20 25 30	5		35	6	30	+0.042	+0.025	.	.	.			
	16			12 15 16 20 25 30	5		3	40	35	+0.026	+0.009	.	.	.			
	20			16 20 25 *30 35	5			40	6	35	.	.	.				
	25																

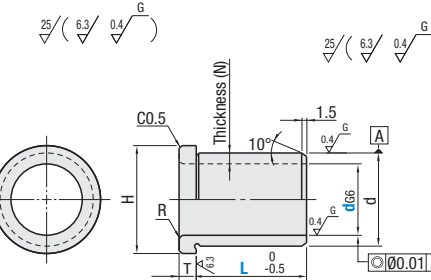
L dimension with \* is not applicable to JBHMC.

**Thin Wall**



**RoHS 10**

Type		Material	Surface Treatment	Hardness
p6	m6			
JBHUP	JBHU	52100 Bearing Steel or O1 Tool Steel or Equivalent	—	58 HRC min.
JBHUNP	JBHUN	52100 Bearing Steel or O1 Tool Steel or Equivalent	Electroless Nickel Plating	58 HRC min.
JBHUCP	JBHUC	440C or 420 Stainless Steel	—	50–55 HRC min.



**RoHS 10**

Tolerance of d dimension 3–6 of electroless nickel plated products is H7.

For hole machining, please note that inner diameter shrinkage of p6 Type is larger than that of m6 Type.

(See "Variance of Inner Diameter after Press-fit of Bushings for Locating Pins" on P.1680.)

Type	d	D Tolerance		L Selection	Thickness (N)	R	H	T	D	D Tolerance			Compliance with Standard				
		No Surface Treatment	Electroless Nickel Plating							p6	m6	JBHU	JBHUN	JBHUC	JBHUP	JBHUNP	JBHUCP
(p6)	3	+0.008	+0.010	6 8 10 12	1	0.5	9	2.5	5	+0.020	+0.012	.	.	.			
	4	+0.002	0	6 8 10 12 15 16			10		7	5	+0.012	+0.004	.	.	.		
	5	+0.012	+0.012	6 8 10 12 *15 *16 20			11		7	7	6	+0.024	+0.015	.	.	.	
	6	+0.004	0	6 8 10 12 *15 16 20			12		8	8	6	+0.015	+0.006	.	.	.	
	8	+0.014	+0.014	6 8 10 12 *15 16 20			14		10	10	6	+0.029	+0.018	.	.	.	
10	+0.005			+0.005	6 8 10 12 15 16 20	17	4	13	+0.018	+0.007	.	.	.				
12	8 10 12 15 16 *20			15	19	15	19	+0.018	+0.007	.	.	.					
(m6)	13	+0.017	+0.017	10 12 15 16 20	2	1	21	5	17	+0.035	+0.021	.	.	.			
	15			10 12 15 16 20	2		24		5	19	+0.022	+0.008	.	.	.		
	16			12 15 16 20 *25	2.5		26		21	21	+0.042	+0.025	.	.	.		
	20			12 15 16 20 25	3		31		6	26	+0.026	+0.009	.	.	.		
	25			20 25	3		36		6	31	+0.026	+0.009	.	.	.		

L dimension with \* is not applicable to JBHUC.  
d13 value unavailable for parts JBHUC, JBHUCP

**Part Number Example**  
Part Number: JBH5 - L: 8  
Part Number: JBHUN12 - L: 12




# Bushings for Locating Pins (Flanged Configurable)

Standard

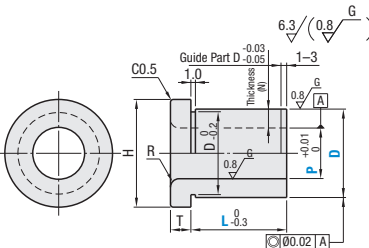
Locating Pins/Bushings for Locating Pins

**Standard Type**



**RoHS 10**

Type			Material	Surface Treatment	Hardness
p6	m6	h7			
JBHFP	JBHF	JBHFH	O1 Tool Steel or Equivalent	—	56–60 HRC min.
JBHFBP	JBHFB	JBHFBH		Black Oxide	56–60 HRC min.
JBHFMP	JBHFM	JBHFMH		Electroless Nickel Plating	56–60 HRC min.
JBHFSP	JBHFS	JBHFSSH	304 Stainless Steel	—	—
JBHFCP	JBHFC	JBHFCH	440C or 420 Stainless Steel	—	50–55 HRC min.



**RoHS 10**

For hole machining, please note that inner diameter shrinkage of p6 Type is larger than that of m6 Type.



(See "Variance of Inner Diameter after Press-fitting Bushings for Locating Pins" on P.1680.)

Type	D	D Tolerance			P	L	Thickness (N)	R	H	T										
											0.01 mm Increment	0.1 mm Increment								
		p6	m6	h7																
(p6)	5	+0.020	+0.012	0	2.20–2.50	3.0–3.5	1.25–1.40	0.8	9	2.5										
	6	+0.012	+0.004	–0.012			1.75–2.50													
	7	+0.024	+0.015	0	2.20–3.50	3.0–6.0	1.75–2.50	0.8	11	12										
	8				3.00–4.50	3.0–10.0	1.75–2.50													
	9				3.00–4.50		1.75–2.50													
	10	+0.015	+0.006	–0.015	4.00–6.50	3.0–15.0	1.75–3.00	1.0	13.5	14										
	11				4.00–6.50		1.75–3.00													
	(m6)	12	+0.029	+0.018	0	6.00–8.50	3.0–15.0	1.75–3.00	2.0	16	17									
		13										+0.018	+0.007	–0.018	17	18				
		14													8.00–10.50	5.0–35.0	2.25–3.50	19	20	
15		18																		19
16		10.00–12.50				2.75–4.00	2.75–4.00	21							22					
17																12.00–13.50	4.25–5.00	4.75–6.00	26	26
18																				
(h7)		19				+0.035	+0.021	0							13.00–15.50	5.0–35.0	4.75–5.50	2.0	26	28
	20	15.00–16.50	4.75–5.50	4.75–5.50	30				30											
	21									16.00–16.50	5.0–50.0	4.75–7.00	35	35						
	22	16.00–20.50	5.0–50.0	4.75–7.00	36				36											
	23									16.00–20.50	5.0–50.0	4.75–7.00	38	38						
	24																			

L+T≤P×2.5 when P≤3.59 L+T≤P×3.0 when P≥3.60

**Part Number Example**  
Part Number: JBHF25 - P: P14.00 - L: L20.0

**Part Number Alterations**  
Part Number: JBHF12 - P: P8.00 - L: L12.0 - RC

Alterations	Code	Spec.
Inner Diameter Radius R 	RC	Machines Radius R on both sides. Thickness 1.5 mm or more. Size of R will be the same as R on shoulder side with D dimension 10 or more. Ordering Code: RC
Shoulder Thickness 	TC	1 mm Increment Ordering Code: TC4 3≤TC≤T O.A.L. becomes short as much as T-TC. Applicable when D≥12.




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Thin Wall

Locating Pins/Bushings for Locating Pins

Locating Pins/Bushings for Locating Pins

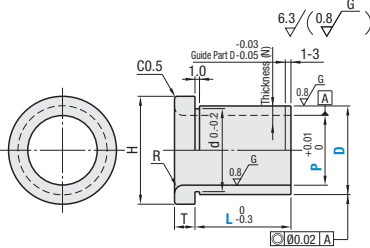
**Thin Wall**



**RoHS10**

Type			Material	Surface Treatment	Hardness
p6	m6	h7			
<b>JBHUFP</b>	<b>JBHUF</b>	<b>JBHUFH</b>	JIS SKS93	—	56-60 HRC min.
<b>JBHUFBP</b>	<b>JBHUFB</b>	<b>JBHUFBH</b>	JIS SKS93	Black Oxide	56-60 HRC min.
<b>JBHUFMP</b>	<b>JBHUFM</b>	<b>JBHUFMH</b>	JIS SKS93	Electroless Nickel Plating	56-60 HRC min.
<b>JBHUFCP</b>	<b>JBHUF</b>	<b>JBHUFCH</b>	440C or 420 Stainless Steel	—	50-55 HRC min.

⊕ For hole machining, please note that inner diameter shrinkage of p6 Type is larger than that of m6 Type.  
(See "Variance of Inner Diameter after Press-fit of Bushings for Locating Pins" on P.1680.)



Type	D	Part Number			P 0.01 mm Increment	L 0.1 mm Increment	Thickness (N)	R	H	T
		D Tolerance								
		p6	m6	h7						
(p6)	5	+0.020	+0.012	0	2.20-3.00	3.0-5.0	1.00-1.40	0.5 or less	9	2.5
	6	+0.012	+0.004	-0.012	3.00-4.00	3.0-5.5	1.00-1.50		11	
	7				3.51-5.00	3.0-6.0	1.00-1.74		12	
	8	+0.024	+0.015	0	4.51-6.00	3.0-10.0	1.00-2.24		13.50	
	9	+0.015	+0.006	-0.015	4.51-7.00		1.00-1.74		14	
	10				6.51-8.00	3.0-15.0	1.00-1.50		15	
	11				8.00-9.00	5.0-35.0	1.50-1.74		16	
	12				8.51-9.00		1.50-2.24		17	
	13				8.51-10.00		1.50-2.50		18	
	14	+0.029	+0.018	0	9.00-11.00		1.50-2.24		19	
15	+0.018	+0.007	-0.018	10.51-12.00	1.75-2.75		20			
16				10.51-12.50	2.00-3.24		21			
17				10.51-13.00	2.00-2.74		22			
18				10.51-14.00	2.50-3.25		24			
19				12.51-14.00	5.0-35.0		2.50-3.24	26		
20				13.51-15.00			2.50-3.75	28		
21				13.51-15.00		2.50-4.24	30			
22				13.51-17.00		2.50-4.75	33			
23				13.51-18.00		2.50-5.25	35			
24				13.51-19.00		3.00-4.74	1.5			
25	+0.035	+0.021	0	15.51-19.00		3.00-4.74		36		
26	+0.022	+0.008	-0.021	16.51-20.00		3.00-5.00		38		
27				17.51-21.00		3.00-5.00		40		
28				18.01-22.00		3.50-5.24		6		
29				19.01-23.00	3.50-5.00	36				
30				20.51-24.00	3.50-5.00	38				
31				20.51-24.00	3.50-5.00	40				
32				22.01-25.00	3.50-5.00	6				
33	+0.042	+0.025	0	23.01-26.00	3.50-5.00				36	
34	+0.026	+0.009	-0.025	24.01-27.00	3.50-5.00		38			
35				25.01-29.00	3.00-4.99		40			



⊕ L+T≤Px2.5 when P≤3.59 L+T≤Px3.0 when P≥3.60

**Part Number Example**

Part Number: **JBHUFM15** - P **11.00** - L **20.0**

**Part Number Alterations**

Part Number: **JBHFM12** - P **8.00** - L **12.0** - (RC, TC)

Alterations	Code	Spec.
 <p>Inner Diameter Radius R</p>	<b>RC</b>	Machines Radius R on both sides. Thickness 1.5 mm or more Size of R will be the same as R on shoulder side with D dimension 10 or more. <b>Ordering Code: RC</b>
 <p>Shoulder Thickness</p>	<b>TC</b>	1 mm Increment <b>Ordering Code: TC4</b> $3 \leq TC \leq T$ ⊕ O.A.L. becomes short as much as T-TC. ⊕ Applicable when D≥12.