


# Bushings for Locating Pins

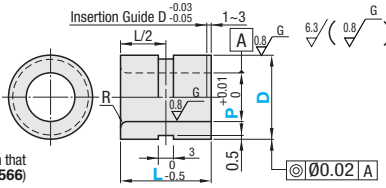
## Retaining, Oval

**Retaining**



Material	Surface Treatment	Hardness	Type	
			p6	m6
SKS3 Equivalent	-	56~60HRC	JBAFPG	JBAFG
SKS3 Equivalent	Black Oxide	56~60HRC	JBAFBPG	JBAFBG
SKS3 Equivalent	Electroless Nickel Plating	56~60HRC	JBAFMPG	JBAFMG
SUS304	-	-	JBAFSPG	JBAFSG
SUS40C Equivalent	-	50~55HRC	JBAFCPG	JBAFCG


For hole machining, please note that inner diameter shrinkage of p6 Type is more than that of m6 Type. (See "Variance of I.D. after Press-fitting Bushings for Locating Pins" on P.1566)



Type	Part Number	D	D Tol.		P	L	R	Unit Price									
			p6	m6				0.01mm Increment	0.1mm Increment	JBAFPG	JBAFBPG	JBAFMPG	JBAFSPG	JBAFCPG			
(p6)	8	8	+0.024	+0.015	4.00~4.50	10.0~13.0	1.0										
	10	10	+0.015	+0.006	4.00~6.50	10.0~20.0											
	12	12	+0.029	+0.018	6.00~8.50												
	15	15	+0.018	+0.007	8.00~10.50												
	18	18	+0.018	+0.007	10.00~12.50												
(m6)	20	20			12.00~13.50	10.0~40.0	2.0										
	22	22	+0.035	+0.021	12.00~13.50												
	25	25	+0.022	+0.008	13.00~15.50												
	26	26			15.00~16.50												
	30	30			16.00~20.50												
	35	35	+0.042	+0.025	20.00~25.00			12.0~60.0	3.0								
			+0.026	+0.009													

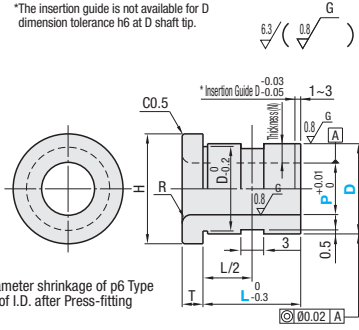
LS-Px3.0

**Shouldered, Retaining**



Material	Surface Treatment	Hardness	Type		
			p6	m6	h6
SKS3 Equivalent	-	56~60HRC	JBHFPG	JBHFG	JBHGG
SKS3 Equivalent	Electroless Nickel Plating	56~60HRC	JBHFMGP	JBHFMG	JBHMG
SUS40C Equivalent	-	50~55HRC	JBHFCPG	JBHFCG	-

The insertion guide is not available for D dimension tolerance h6 at D shaft tip.



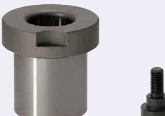
D	p6	m6	h6
8	+0.024	+0.015	-0.009
10	+0.015	+0.006	0
12			
15	+0.029	+0.018	-0.011
18	+0.018	+0.007	0
20			
22			
25	+0.035	+0.021	-0.013
26	+0.022	+0.008	0
30			
35	+0.042	+0.025	-0.016
	+0.026	+0.009	0

For hole machining, please note that inner diameter shrinkage of p6 Type is more than that of m6 Type. (See "Variance of I.D. after Press-fitting Bushings for Locating Pins" on P.1566)

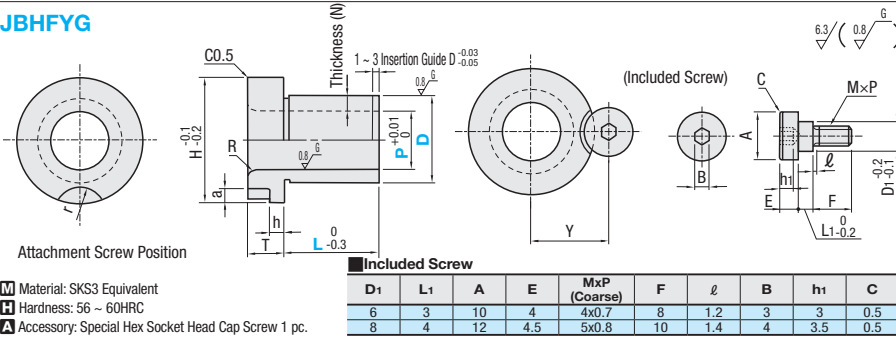
Type	Part Number	D	P	L	Thickness (N)	R	H	T	Unit Price		
									JBHFPG	JBHFMGP	JBHFCPG
(p6)	8	8	4.00~4.50	8.0~10.0	1.75~2.50	1.0	12	3			
	10	10	4.00~6.50	8.0~15.0	1.75~3.00		14				
	12	12	6.00~8.50				16				
	15	15	8.00~10.50				19				
	18	18	10.00~12.50				22				
(m6)	20	20	12.00~13.50	10.0~35.0	2.75~4.00	2.0	26	4			
	22	22	12.00~13.50				30				
	25	25	13.00~15.50				35				
	26	26	15.00~16.50				40				
(h6)	30	30	16.00~20.50	12.0~50.0	4.75~5.50	3.0	35	6			
	35	35	20.00~25.00				40				

L+T≤Px3.0

**Notched, Retaining**



**JBHFG**



Attachment Screw Position

Included Screw

D1	L1	A	E	MxP (Coarse)	F	ℓ	B	h1	C
6	3	10	4	4x0.7	8	1.2	3	3	0.5
8	4	12	4.5	5x0.8	10	1.4	4	3.5	0.5


Material: SKS3 Equivalent  
Hardness: 56~60HRC  
Accessory: Special Hex Socket Head Cap Screw 1 pc.

Type	Part Number	D	D Tolerance	P	L	Thickness (N)	R	H	T	h	a	r	Screw Position Y	Accessory Special Material Screw	Tightening Torque N·cm	Unit Price
12	12		6.00~8.50	10.0~18.0			20	7.5	3			13	M4	225		
15	15	-0.023	8.00~10.50		2.25~3.50	23	14.5									
18	18		10.00~12.50	10.0~30.0	2.75~4.00	26	16									
20	20		12.00~13.50		3.25~4.00	2	28	9	4	7	18	M5	461			
22	22		12.00~13.50		4.25~5.00	30	19									
25	25	-0.027	13.00~15.50	12.0~35.0	4.75~6.00	33	20.5									
26	26		15.00~16.50		4.75~5.50	34	21									
30	30		16.00~20.50	12.0~50.0	4.75~7.00	3	38				23					

L+T≤Px3.0

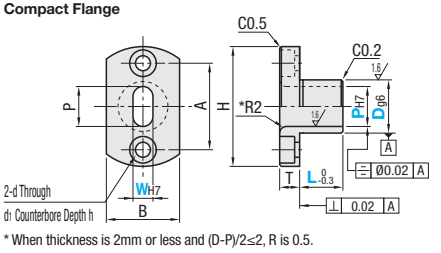
Features: Economy type is priced up to 74% lower than Standard Type with the tolerance of  $+0.3$  for P Dimension/W Dimension and  $-0.2$  for D Dimension.

**Oval - Compact Flange**



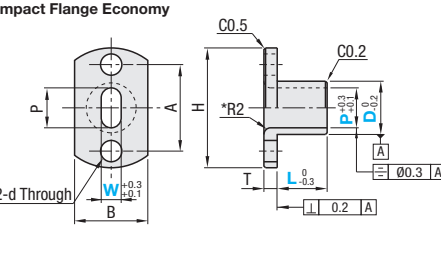
**Compact Flange**

Material	Surface Treatment	Hardness	Type
SKS3	-	56~60HRC	JBEH
Equivalent	Electroless Nickel Plating	56~60HRC	JBEMH



**Compact Flange Economy**

Material	Surface Treatment	Hardness	Type
S45C Equivalent	Electroless Nickel Plating	-	JBFR
			JBFM
		45~50HRC	JBFK
	Electroless Nickel Plating		JBFN



When thickness is 2mm or less and (D-P)/2≤2, R is 0.5.


**Compact Flange**

Type	Part Number	D	D Tolerance	PH7	WH7	L	T	H	A	B	d	d1	h	Unit Price		
														JBEH	JBEMH	
JBEH	10	10	-0.005	4.00~8.00	3.00≤W<P	8~40	L+T≤Px3	5	25	17	12	3.3	6.5	3.5		
	12	12	-0.014	4.00~10.00					28	20	15					
	16	16	-0.017	8.00~14.00					36	26	22					
	20	20	-0.007	10.00~18.00					40	30	25					
	25	25	-0.020	13.00~22.00					44	34	30					
JBEMH	30	30	-0.009	16.00~25.00	56	42	35	6.6	46	40	6.6	11	6.5			
	35	35	-0.025	18.0~25.00	60	46	40									

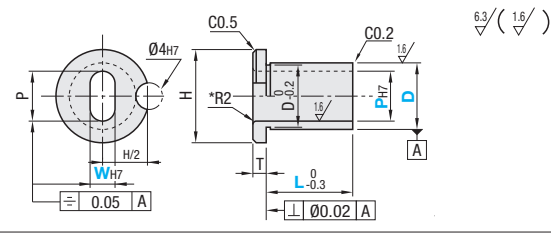
**Compact Flange Economy**

Type	Part Number	D	P	W	L	T	H	A	B	d	Unit Price					
											JBFR	JBFM	JBFK	JBFN		
JBFR	10	10	4.0~8.0	4.0≤W<P	5~40	L+T≤Px3	3	25	17	12	5	25	17			
	12	12	4.0~10.0											28	20	15
	15	15	8.0~13.0											17		
	16	16	8.0~14.0											40	30	20
	18	18	10.0~16.0											22		
	20	20	10.0~18.0											44	34	30
	25	25	13.0~22.0											56	42	35
	30	30	16.0~25.0											60	46	40
	35	35	18.0~25.0													

**Oval - Shouldered (Dowel Pin)**



Material	Surface Treatment	Hardness	Type
SKS3	-	56~60HRC	JBPE
Equivalent	Electroless Nickel Plating	56~60HRC	JBPEM



When thickness is 2mm or less and (D-P)/2≤2, R is 0.5.

**Oval - Shouldered (Dowel Pin)**

Type	Part Number	D	D Tolerance	PH7	WH7	L	T	H	Unit Price	
									JBPE	JBPEM
(p6)	10	10	+0.024	4.00~8.00	3.00≤W<P	8~40	L+T≤Px3	3	14	
	12	12	+0.015	4.00~10.00					16	
	15	15	+0.029	8.00~14.00					20	
	20	20	+0.018	10.00~18.00					26	
	25	25	+0.035	13.00~22.00					30	
(m6)	30	30	+0.022	16.00~25.00	35		5	40		
	35	35	+0.042	18.0~25.00	40					
			+0.026							

Ordering Example

Part Number - P - W - L

JBAFG8 - P4.1 - W - L11  
 JBHG20 - P13.0 - W - L20  
 JBHFG18 - P12.00 - W - L18.0  
 JBF10 - P6.0 - W4.5 - L10  
 JBPE10 - P6.8 - W4.8 - L15

Alterations

Part Number - P - W - L - (HC, RH)

JBAFG18 - P6.0 - W4.5 - L15.0 - HC  
 JBF10 - P6.0 - W4.5 - L10 - RH

Example Notched, Retaining



Alterations	Code	Spec.
Set Screw Groove Depth	HC	Changes the depth of set screw groove depth from 0.5mm to 1.0mm. Ordering Code HC Applicable to Retaining Straight only. Applicable to D dimension 18 or more.
Inner Diameter Radius R	RH	Changes the inner diameter radius R from shoulder side to D dimension end face. Size of R will be the same as R on shoulder side. Ordering Code RH Applicable to Compact Flange, Economy Type only. (D-P)/2-R≥1.7

L-1684