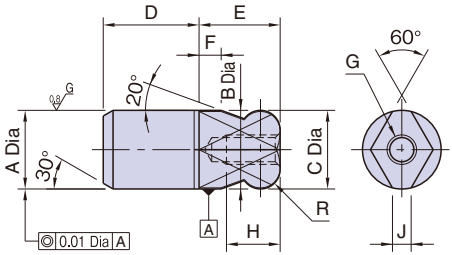
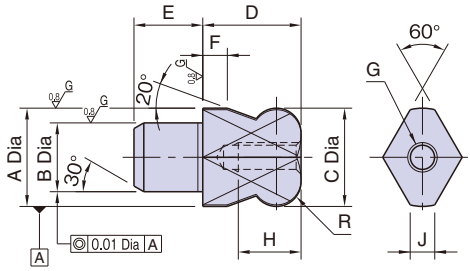
BJ792 DIAMOND LOCATING PINS



Material : SK95 steel
Heat Treat : Quenched and tempered
Precision ground

Part Number	A (n6)	B (g6)	C ($^{-0.01}_{-0.05}$)	D	E	F	G	H	J	R	Weight (g)
BJ792-08001	8	8	8	10	8	2	M3x0.5	6	1.9	R2	5
BJ792-10001	10	10	10	13	10	2.5			2.5	R2.5	11
BJ792-12001	12	12	12	15	12	3	M4x0.7	8		R3	17
BJ792-16001	16	16	16	20	16	4	M5x0.8	10	4.3	R4	44

BJ793 DIAMOND LOCATING PINS



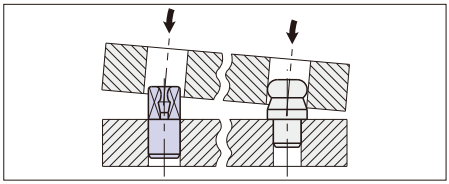
Material : SK95 steel
Heat Treat : Quenched and tempered
Precision ground

Part Number	A (g6)	B (n6)	C ($^{-0.01}_{-0.05}$)	D	E	F	G	H	J	R	Weight (g)
BJ793-10001	10	7	10	10	7	2.5	M3x0.5	6	2.5	R2.5	5
BJ793-12001	12	8	12	12	8	3	M4x0.7	8		R3	8
BJ793-16001	16	12	16	16	12	4	M5x0.8	10	4.3	R4	23

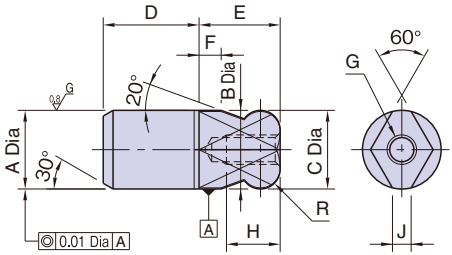
Features:

The round head of these pins facilitates setting a workpiece.
Use NKL Pin Extractors to pull out these pins.

How To Use



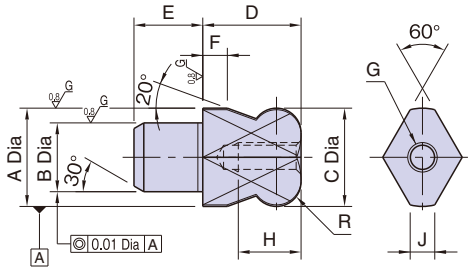
BJ792 DIAMOND LOCATING PINS



Material : SK95 steel
Heat Treat : Quenched and tempered
Precision ground

Part Number	A (n6)	B (g6)	C ($^{-0.01}_{-0.05}$)	D	E	F	G	H	J	R	Weight (g)
BJ792-08001	8	8	8	10	8	2	M3x0.5	6	1.9	R2	5
BJ792-10001	10	10	10	13	10	2.5			2.5	R2.5	11
BJ792-12001	12	12	12	15	12	3	M4x0.7	8		R3	17
BJ792-16001	16	16	16	20	16	4	M5x0.8	10	4.3	R4	44

BJ793 DIAMOND LOCATING PINS



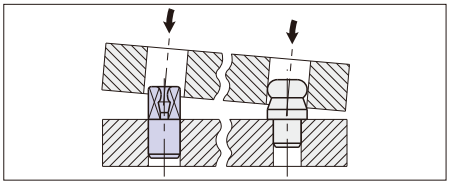
Material : SK95 steel
Heat Treat : Quenched and tempered
Precision ground

Part Number	A (g6)	B (n6)	C ($^{-0.01}_{-0.05}$)	D	E	F	G	H	J	R	Weight (g)
BJ793-10001	10	7	10	10	7	2.5	M3x0.5	6	2.5	R2.5	5
BJ793-12001	12	8	12	12	8	3	M4x0.7	8		R3	8
BJ793-16001	16	12	16	16	12	4	M5x0.8	10	4.3	R4	23

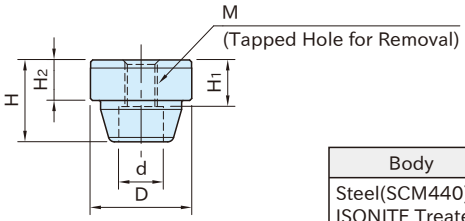
Features:

The round head of these pins facilitates setting a workpiece.
Use NKL Pin Extractors to pull out these pins.

How To Use



CP720 FLEX LOCATOR PINS

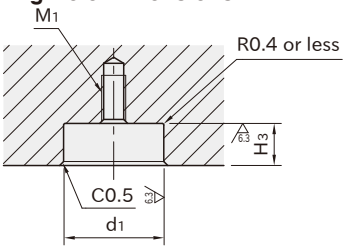


Body
Steel(SCM440) ISONITE Treated (Nitrocarburized)

Part Number	D (g6)	H_2	H	M	H_1	d	Weight (g)	Proper Flex Locator Bushings
CP720-16032	16	5.5	11.5	M 5X0.8 (Prepared Hole ϕ 4.2)	6	8	18	CP725-16032
CP720-25050	25	10	20	M 8X1.25 (Prepared Hole ϕ 6.8)	11.5	11	49	CP725-25050
CP720-38070	38	15	29.5	M10X1.5 (Prepared Hole ϕ 8.5)	18	14	176	CP725-38070
CP720-56095	56	22	43.5	M16X2 (Prepared Hole ϕ 14)	28.5	20	569	CP725-56095

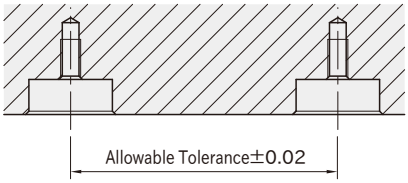
How To Use

Mouting Hole Dimensions

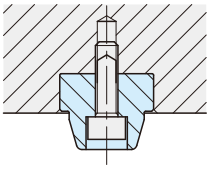


Part Number	d_1 (H7)	H_3 (±0.05)	M_1
CP720-16032	16	6	M 4X0.7
CP720-25050	25	10.5	M 6X1
CP720-38070	38	15.5	M 8X1.25
CP720-56095	56	22.5	M12X1.75

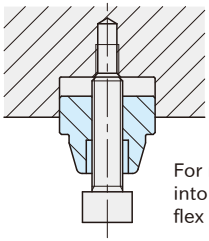
Spacing Tolerance



How to Install and Remove



Use a socket-head cap screw to fix the flex locator pin.



For removal, insert a screw into the tapped hole of the flex locator pin and screw it.

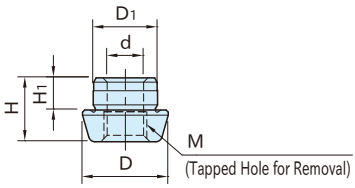
Reference

- Mechanism of FLEX LOCATORS
- How To Install FLEX LOCATORS (Blind)
- How To Use FLEX LOCATORS (Blind)

CP721 FLEX LOCATOR PINS

RoHS

IMAO



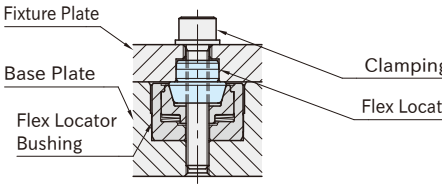
Body
Steel(SCM440) ISONITE Treated (Nitrocarburized)

Part Number	D1 (p6)	H1	D	H	M	d	Weight (g)	Proper Flex Locator Bushings
CP721-12025	12	4.5	15	10	M10×1.5 Depth3.5	8.5	6	CP726-12025
CP721-15032	15	7.5	20	15	M12×1.75Depth4.5	10.2	16	CP726-15032
CP721-20045	20	10	30	20	M16×2 Depth5.5	14	47	CP726-20045

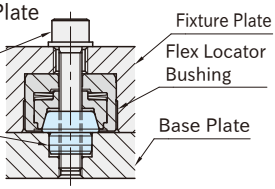
How To Use

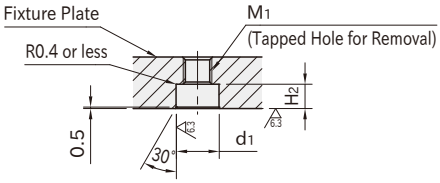
■Mounting Hole Dimensions for Press Fit

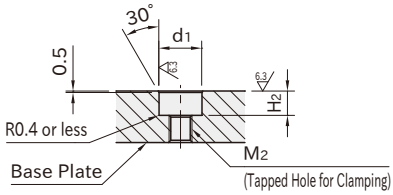
Installation of the Flex Locator Pins on the Fixture Plate



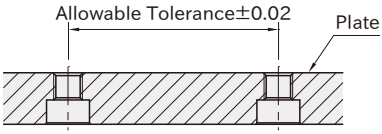
Installation of the Flex Locator Pins on the Base Plate







■Spacing Tolerance



Part Number	d1 (H6)	H2	M1	M2
CP721-12025	12	5.5	M 8×1.25	M 6×1
CP721-15032	15	8.5	M10×1.5	M 8×1.25
CP721-20045	20	11	M14×1.5	M12×1.75

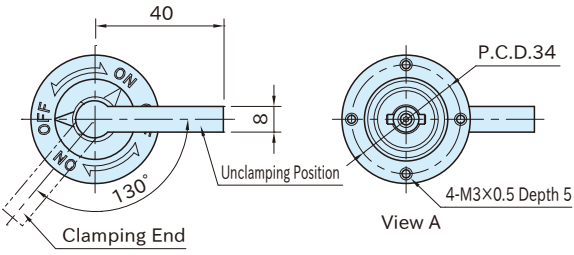
Reference

- Mechanism of FLEX LOCATORS
- How To Install FLEX LOCATORS (Through)
- How To Use FLEX LOCATORS (Through)

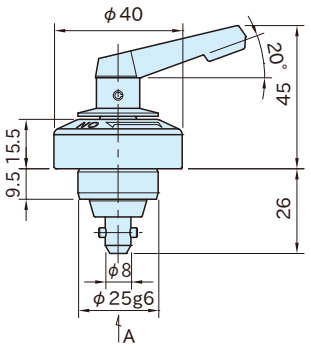
CP722 ONE-TOUCH FLEX LOCATOR CLAMPERS

Body / Shank	Tapered Pin	Handle	Pin
Steel(SCM440) Black Oxide Finished	SCM440 ISONITE Treated (Nitrocarburized)	Die cast zinc(ZDC1) ZDC1 Silver-gray painted	SUS303 Stainless steel

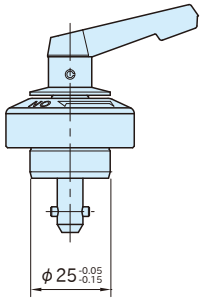
CP722-0840R-06



CP722-0840R-06N



CP722-0840R-06



CP722-0840R-06N

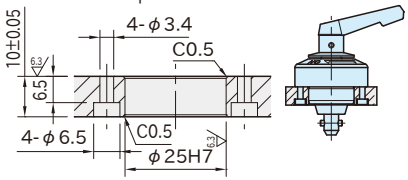
Part Number	Tapered Pin	Clamping Force (N)	Lifting Force (N) (*)	Weight (g)	Proper One-Touch Flex Locator Bushing
CP722-0840R-06	With	600	100	220	CP727-0840R
CP722-0840R-06N	Without	700	—	215	

*) The lifting force is the power of the inner spring of the body to push up the movable tapered pin.

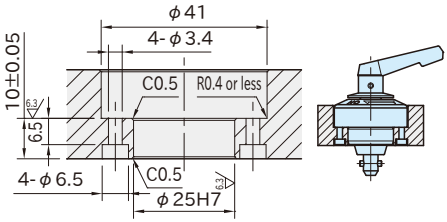
How To Use

■Mounting Hole Dimensions

Can be used with plates of 10mm - 22mm thickness.



Installation on 10mm-thick Plate



Installation on 10mm-22mm Thick Plate
Drill a counterbored hole.

Reference

・Mechanism of FLEX LOCATORS
・How To Use ONE-TOUCH FLEX LOCATORS

Furnished Part:

4 of M3×0.5-10L Hex Socket-Head Cap Screw

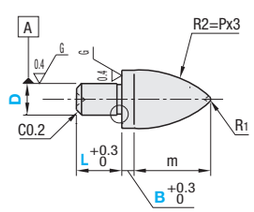
Locating Pins - Large Head, Bullet Nose, Compact

Press Fit, Threaded

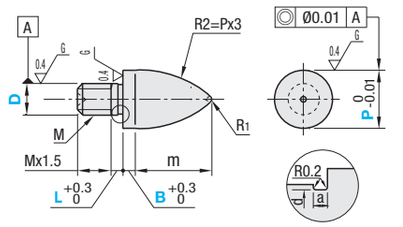
Features: R shape at insertion guide enables smooth insertion of workpiece. Compact Type with specifiable shorter L dimension.

Material No.	Material	Surface Treatment	Hardness	Type	Shape Code
①	SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	FPCH	A (Press Fit, m6) PA (Press Fit, p6) NA (Threaded)
②	SKS3 Equivalent	Hard Chrome Plating Plating Thickness: 3μm or more	Treated Hardness: 50 ~ 55HRC Plating Hardness: 750HV ~	GFPCH	
③	SKS3 Equivalent	-	-	BFPCH	
④	SUS304	-	-	SFPCH	
⑤	SUS304	Hard Chrome Plating Plating Thickness: 3μm or more	Plating Hardness: 750HV ~	HFPCH	
⑥	SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	CFPCH	

• Press Fit



• Threaded



Relief dimension is a reference value.

$m=\sqrt{(3P-R_1)^2-\left(\frac{5P}{2}\right)^2}+R_1$

m dimension is the value before grinding.
Centering holes may shorten the actual length.

Polished, centering hole is sometimes not available for SUS304.

Locating Pins for Height Adjusting with shorter B fixed dimension is also available. P.1660

RoHS

Press Fit

Type	Shape Code	D	D dim. Tolerance m6	D dim. Tolerance p6	P 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	R_1
FPCH GFPCH BFPCH SFPCH HFPCH CFPCH	A (m6) PA (p6)	2	+0.008 +0.002	+0.012 +0.006	3.00~4.00	2~10	1.0~5.0	1
		3			3.50~6.00			
		4	+0.012 +0.004	+0.020 +0.012	4.50~7.00	3~10		
		5			5.50~8.00			
		6			6.50~10.00			
		8	+0.015 +0.006	+0.024 +0.015	8.50~13.00			2
		10			10.50~15.00			

Threaded

Type	Shape Code	D	D dim. Tolerance g6	P 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	R_1	M (Coarse)	*Tightening Torque N·cm
FPCH GFPCH BFPCH SFPCH HFPCH CFPCH	NA	3	-0.002 -0.008	3.50~6.00	2~10	1.0~5.0	1	M3	147
		4	-0.004 -0.012	4.50~7.00				M4	333
		5		5.50~8.00	3~10			M5	676
		6		6.50~10.00				M6	1156
		8	-0.005 -0.014	9.00~13.00				M8	2803
		10		11.00~15.00			2	M10	5557

* Tightening torque (reference) will be within Strength Class of Tightening Torque on Technical Data P. 2297 (10.9). Not applicable when using locking materials or lock washers.

Ordering Example

Part Number								
Type	Shape	D	-	P	-	L	-	B
FPCH	A	3	-	P4.20	-	L6	-	B2.0
SFPCH	PA	5	-	P6.00	-	L4	-	B3.5

Press Fit

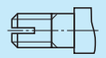
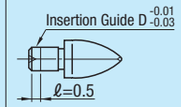
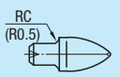
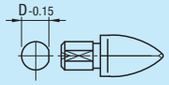
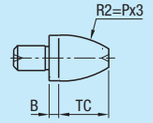
D	Unit Price ①SKS3 Hardened FPCHA FPCHPA	②Hard SKS3 GFPCHA GFPCHPA	③SKS3 BFPCHA BFPCHPA	④SUS304 SFPCHA SFPCHPA	⑤Hard SUS304 HFPCHA HFPCHPA	⑥SUS440C CFPCHA CFPCHPA
2						
3						
4						
5						
6						
8						
10						

Threaded

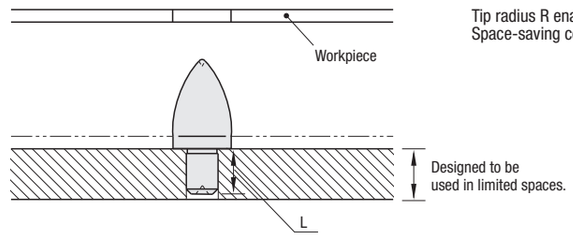
D	Unit Price ①SKS3 Hardened FPCHNA	②Hard SKS3 GFPCHNA	③SKS3 BFPCHNA	④SUS304 SFPCHNA	⑤Hard SUS304 HFPCHNA	⑥SUS440C CFPCHNA
3						
4						
5						
6						
8						
10						

Alterations

Part Number	-	P	-	L	-	B	-	(DRC, GDC, RC, AC, TC)
CFPCHPA3	-	P4.00	-	L4	-	B1.0	-	AC

Alterations	Screwdriver Slot	Insertion Guide	Sphere Tip	Air Vent	Tip Length
					
Code	DRC	GDC	RC	AC	TC
Spec.	Width 0.8mm Depth 1mm Applicable to Threaded only. Applicable when B≥2.0.	Adds the insertion guide. Ordering Code GDC Not applicable when L=2. Not applicable to D=2. Not applicable to Threaded.	Changes the relief to R0.5. Ordering Code RC Applicable when P-D≥2 Not applicable when L=2.	Adds an air vent. Ordering Code AC Not applicable to Threaded. Applicable when L≥4 or B≥4.0.	Changes tip length. Ordering Code TC5 (1mm Increment) P/2≤TC≤P

Example



Tip radius R enables smooth insertion of workpiece.
Space-saving compact type with shorter mounting part (L dimension).

Locating Pins - Large Head, Tapered

Press Fit

For products uncovered by e-Catalog Standard, see P.131.

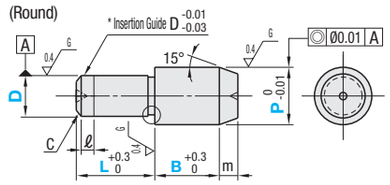
Features: Tapered Head Standard Type. Press Fit. Economical and there is a variety of selections to choose from. Same day shipping available.

RoHS

Material No.	Material	Surface Treatment	Hardness	P Selectable Type	P Selectable D Tolerance and Shape	P, L, B Configurable Type	P, L, B Configurable D Tolerance and Shape
(1)	SKS3 Equivalent	-	Treated Hardness: 60~63HRC	JP	<Round> BB (m6) BPB (p6)	FP	<Round> BA (m6) BPA (p6) BG (g6)
(2)	SKS3 Equivalent	Hard Chrome Plating: Plating Thickness 3µm or more	Treated Hardness: 50 ~ 55HRC / Plating Hardness: 750HV ~	GJP		GFP	
(3)	SKS3 Equivalent	-	-	BJP		BFP	
(4)	SUS304*	-	-	SJP	<Diamond> DB (m6) DPB (p6)	SFP	<Diamond> BD (m6) BPD (p6) DG (g6)
(5)	SUS304	Hard Chrome Plating: Plating Thickness 3µm or more	Plating Hardness: 750HV ~	HJP		HFP	
(6)	SUS440C Equivalent	-	Treated Hardness: 50~55HRC	CJP		CFP	

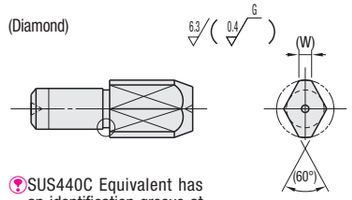
* For P Selectable Type, it is SUS304 equivalent.

(Round)



* The insertion guide is applicable to tolerance p6 only.

(Diamond)



SUS440C Equivalent has an identification groove at any position on D part.
Polished, centering hole is sometimes not available for SUS304.

When D<3 a=0.5 d=D-0.1
When D≥3 a=1.0 d=D-0.2

Relief dimension is a reference value.

■P Selectable

Type	D Tolerance and Shape	D	D dim. Tolerance m6	D dim. Tolerance p6	P Selection	L	B	C	m	ℓ	(W)
JP GJP BJP SJP HJP CJP	<Round> BB (m6) BPB (p6) <Diamond> DB (m6) DPB (p6) Applicable when D≥2	1	+0.008 +0.002	+0.012 +0.006	2	3	3	0.1	0.5	0	-
		2			3 4	4		0.5	1		1.2
		3			4 5 6	5	5		2	1	1.5
		4	+0.012 +0.004	+0.020 +0.012	5 6		6	1	3		1.8
		5			6 8	10					2.2
		6			8 10		8				3
		8	+0.015 +0.006	+0.024 +0.015	10 12 13	15		1.5	4		3.5
		10			12 13 15		10	2			4
		12	+0.018 +0.007	+0.029 +0.018	13 15 16						5
		13			15 16	22				2	5.5
		16			20 25			3	5		7
		20	+0.021 +0.008	+0.035 +0.022	25 30	30	15				9

■P, L, B Configurable

Type	D Tolerance and Shape	D	D dim. Tolerance m6	D dim. Tolerance p6	D dim. Tolerance g6	P 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	C	m	ℓ	(W)
FP GFP BFP SFP HFP CFP	<Round> BA (m6) BPA (p6) BG (g6) <Diamond> BD (m6) BPD (p6) DG (g6)	1	+0.008 +0.002	+0.012 +0.006	-0.002 -0.008	1.20(1.50) ~3.00(2.50)	2·3	1.0~5.0	0.1	0.5	0	0.6
		2				2.50~6.00(4.00)	2~6	1.0~15.0(10.0)	0.5	1		1.2
		3				3.50~8.00	3~10	1.0~15.0(10.0)		2	1	1.5
		4	+0.012 +0.004	+0.020 +0.012	-0.004 -0.012	4.50~8.00	3(4)~14	1.0~15.0(10.0)	1	3		1.8
		5				5.50~10.00	5~15	1.0~15.0(10.0)				2.2
		6				6.50~10.00	5~15	1.0~30.0(25.0)				3
		8	+0.015 +0.006	+0.024 +0.015	-0.005 -0.014	8.50~15.00	5(6) ~16	1.0~30.0(25.0)	1.5	4		3.5
		10				11.00~17.00	5(10) ~20	3.0~30.0(25.0)	2			4
		12	+0.018 +0.007	+0.029 +0.018	-0.006 -0.017	13.00~18.00	6(10) ~24	3.0~30.0(25.0)				5
		13				14.00~20.00	7(12) ~26	5.0~30.0(25.0)			2	5.5
		16				17.00~27.00	8(15) ~32	5.0~30.0	3	5		7
		20	+0.021 +0.008	+0.035 +0.022	-0.007 -0.020	22.00~30.00	10(15)~40	5.0~30.0				9

P, L, B dimensions in ( ) are applicable to Diamond Shape.

Ordering Example

Part Number	Type	D Tol. Shape	D		P		L		B
	JP	BB	6	-	10				
	FP	BA	10	-	P12.02	-	L10	-	B3.2
	FP	BD	12	-	P13.97	-	L12	-	B5

■(4) Price List for Large Qty. Order of SUS304 (301~500 pcs.)

D	Round Shape SFPBA SFPBPA SFPBG	Diamond Shape SFPBD SFPBPD SFPDG
2		
3		
4		
5		
6		
8		
10		
12		
13		
16		
20		

■P Selectable

D	Unit Price Round Shape (1)Treated SKS3 JPBB JPBPB	(2)Hard SKS3 GJPBB GJPBPB	(3)SKS3 BJPBB BJPBPB	(4)SUS304 SJPBB SJPBPB	(5)Hard SUS304 HJPBB HJPBPB	(6)SUS440C CJPBB CJPBPB	Unit Price Diamond Shape (1)Treated SKS3 JPDB JPDPB	(2)Hard SKS3 GJPDB GJPDPB	(3)SKS3 BJPDB BJPDPB	(4)SUS304 SJPDB SJPDPB	(5)Hard SUS304 HJPDB HJPDPB	(6)SUS440C CJPDB CJPDPB
1							-	-	-	-	-	-
2												
3												
4												
5												
6												
8												
10												
12												
13												
16												
20												

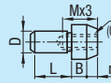
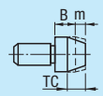
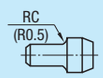
■P, L, B Configurable

D	Unit Price Round Shape (1)Treated SKS3 FPBA FPBPA FPBG	(2)Hard SKS3 GFPBA GFPBPA GFPBG	(3)SKS3 BFPBA BFPBPA BFPBG	(4)SUS304 SFPBA SFPBPA SFPBG	(5)Hard SUS304 HFPBA HFPBPA HFPBG	(6)SUS440C CFPBA CFPBPA CFPBG	Unit Price Diamond Shape (1)Treated SKS3 FPBD FPBPD FPDG	(2)Hard SKS3 GFPBD GFPBPD GFPDG	(3)SKS3 BFPBD BFPBPD BFPDG	(4)SUS304 SFPBD SFPBPD SFPDG	(5)Hard SUS304 HFPBD HFPBPD HFPDG	(6)SUS440C CFPBD CFPBPD CFPDG
1												
2												
3												
4												
5												
6												
8												
10												
12												
13												
16												
20												

Alterations

Part Number		P		L		B		(MH, NTK, TC, RC)
FPBPA10	-	P11.01	-	L12	-	B6.4	-	TC6

Alterations are not available for P Selectable Type.

Alterations Code	Tapping MH	Removal Tap NTK	Length of Tapered Point TC	Sphere Tip RC
Spec.	Adds a tapped hole. Ordering Code MH  Applicable when D≥6 B≥ℓ2+4 M+2 ≤ P - 2 x m x tan15°(≈0.27)	Machines a removal tap hole. Ordering Code NTK 	Changes the m dimension. Ordering Code TC8 (1mm increment) 	Changes the relief to R0.5. Ordering Code RC  Applicable when P-D≥2

D	MH (Coarse)	ℓ2
6	M3	4
8~13	M4	6
16·20	M6	9

Combination with NTK is not available.

D	M (Coarse)	B
6	3	1.0~4.5
8	4	1.0~5.9
10, 12	5	3.0~8.6
13~20	8	5.0~15.2

Applicable only when D≥6.
Combination with MH or TC is not available.
Effective tap length of D depends on B dimension configurable range.
When L+B+m≤Mx3, the tapped holes go through.
When L+B+m≤Mx5, the pilot holes for tapping may go through.

D	TC	D	TC
1	1~ 2	8	5~16
2	2~ 5	10	5~22
3	3~ 9	12	5~22
4	4~11	13	
5	4~11	16	6~23
6	4~13	20	

B+m≥TC+2 (Straight Section min. 2mm)
Applicable when P≥2.00.
P/2 - TC x tan15° (≈0.27) > 0.5 (Tip Ø1.0min.)
B dimension changes when TC is specified. (Changed B dimension = B+m-TC)
Combination with NTK is not available.

Locating Pins - Sphere Large Head

Press Fit

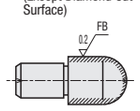
For products uncovered by e-Catalog Standard, see P.131.

Features: The Sphere Head can prevent the mating material from being scratched even when you insert by sliding horizontally against the pin end.

Material No.	Material	Surface Treatment	Hardness	P Selectable Type	P Selectable D Tolerance and Shape	P, L, B Configurable Type	P, L, B Configurable D Tolerance and Shape
(1)	SKS3 Equivalent	-	Treated Hardness: 60~63HRC	JPQ	<Round> B (m6) PB (p6)	FPQ	<Round> A (m6) PA (p6) <Diamond> D (m6) PD (p6)
(2)	SKS3 Equivalent	Hard Chrome Plating	Treated Hardness: 50~55HRC	-		GFPQ	
(3)	SUS304*	-	-	SJPQ		SFPQ	
(4)	SUS304	Hard Chrome Plating	-	-		HFPQ	
(5)	SUS440C Equivalent	-	Treated Hardness: 50~55HRC	CJPQ		CFPQ	
(6)	SKS3 Equivalent	Buffing	Treated Hardness: 60~63HRC	-		MFPQ	
(7)	SKS3 Equivalent	Hard Chrome Plating + Buffing	Treated Hardness: 50~55HRC	-		MGFPQ	
(8)	SUS440C Equivalent	Buffing	Treated Hardness: 50~55HRC	-		MCFPQ	

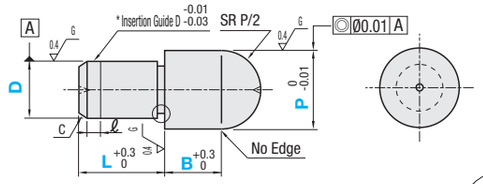
* For P Selectable Type, it is SUS304 equivalent.
Hard Chrome Plating: Plating Thickness 3μm or more, Plating Hardness: 750HV ~

Buffed at ▨ part only. (Except Diamond Cut Surface)

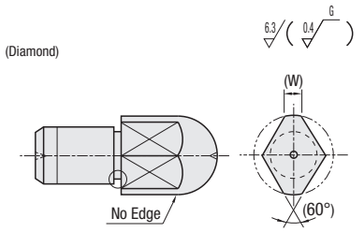


The boundary between Sphere part and B dimension is indistinct.

(Round)



(Diamond)



When D<3 a=0.5 d=D-0.1
When D≥3 a=1.0 d=D-0.2
Relief dimension is a reference value.

Locating Pins for Height Adjusting with shorter B fixed dimension is also available. P.1669

* The insertion guide is applicable to tolerance p6 only.
SUS440C Equivalent has an identification groove at any position on D part.
Polished, centering hole is sometimes not available for SUS304.
When the P dimension is small, a centering hole will cause the sphere section to become small.

P Selectable

Part Number Type	D Tolerance and Shape	D	D Tol. m6	D Tol. p6	P Selection	L	B	C	ℓ
JPQ SJPQ CJPQ	<Round> B (m6) PB (p6)	1	+0.008 +0.002	+0.012 +0.006	2	3	3	0.1	0
		2			3 4	4		0.5	
		3			4 5 6	5	5		1
		4	+0.012 +0.004	+0.020 +0.012	5 6 7		6	1	
		5			6 7 8	10			
		6			7 8 9 10		8		
		8	+0.015 +0.006	+0.024 +0.015	9 10 11 12	15		1.5	
		10			12 13		10	2	

P, L, B Configurable

Part Number Type	D Tolerance and Shape	D	D Tol. m6	D Tol. p6	P 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	C	ℓ	(W)
FPQ GFPQ SFPQ HFPQ CFPQ	<Round> A (m6) PA (p6)	1	+0.008 +0.002	+0.012 +0.006	1.50~3.00(2.50)	2, 3	1.5~5.0	0.1	0	-
		2			2.50~6.00(4.00)	2~6	1.5~15.0(10.0)	0.5		1.2
		3			3.50~8.00	3~10	1.5~15.0(10.0)		1	1.5
		4	+0.012 +0.004	+0.020 +0.012	4.50~8.00	3(4)~14	1.5~15.0(10.0)	1		1.8
		5			5.50~10.00	5~15	1.5~15.0(10.0)			2.2
		6			6.50~10.00	5~15	1.5~30.0(15.0)			3.0
(Buff Finished) MFPQ MGFPQ MCFPQ Applicable when D≥5.	<Diamond> D (m6) PD (p6) Applicable when D≥2	8	+0.015 +0.006	+0.024 +0.015	8.50~15.00	5(6)~16	1.5~30.0(15.0)	1.5		3.5
		10			11.00~17.00	5(10)~20	3.0~30.0(25.0)	2		4.0
		12	+0.018 +0.007	+0.029 +0.018	13.00~18.00	6(10)~24	3.0~30.0(25.0)			5.0
		13			14.00~20.00	7(12)~26	5.0~30.0(25.0)		2	5.5
		16			17.00~27.00	8(15)~32	5.0~30.0	3		7.0
		20	+0.021 +0.008	+0.035 +0.022	22.00~30.00	10(15)~40	5.0~30.0			9.0

P, L, B dimensions in ( ) are applicable to Diamond Shape.

Ordering Example

Part Number									
Type	D Tol.	D	-	P	-	L	-	B	
JPQ	B	4	-	5					
FPQ	A	4	-	P5.00	-	L5	-	B2.5	
MFPQ	PA	12	-	P15.98	-	L12	-	B5.5	

P Selectable

D	Unit Price Round Shape (1)Treated SKS3 JPQB JPQPB	(3)SUS304 SJPQB SJPQPB	(5)SUS440C CJPQB CJPQPB
1			
2			
3			
4			
5			
6			
8			
10			

(3)Price List for Large Qty. Order of SUS304 (301~500 pcs.)

D	Round Shape SFPQA SFPQPA	Diamond Shape SFPQD SFPQPD
2		
3		
4		
5		
6		
8		
10		
12		
13		
16		
20		

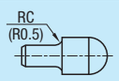
P, L, B Configurable

D	Unit Price Round Shape (1)Treated SKS3 FPQA FPQPA	(2)Hard SKS3 GFPQA GFPQPA	(3)SUS304 SFPQA SFPQPA	(4)Hard SUS304 HFPQA HFPQPA	(5)SUS440C CFPQA CFPQPA	(6)Treated SKS3 + Buffed MFPQA MFPQPA	(7)Hard SKS3 + Buffed MGFPQA MGFPQPA	(8)SUS440C + Buffed MCFPQA MCFPQPA	Unit Price Diamond Shape (1)Treated SKS3 FPQD FPQPD	(2)Hard SKS3 GFPQD GFPQPD	(3)SUS304 SFPQD SFPQPD	(4)Hard SUS304 HFPQD HFPQPD	(5)SUS440C CFPQD CFPQPD	(6)Treated SKS3 + Buffed MFPQD MFPQPD	(7)Hard SKS3 + Buffed MGFPQD MGFPQPD	(8)SUS440C + Buffed MCFPQD MCFPQPD
1						-	-	-	-	-	-	-	-	-	-	-
2						-	-	-						-	-	-
3						-	-	-						-	-	-
4						-	-	-						-	-	-
5																
6																
8																
10																
12																
13																
16																
20																

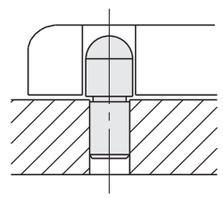
Alterations

Part Number	-	P	-	L	-	B	-	(RC)
FPQA4	-	P6.50	-	L5	-	B2.5	-	RC

Alterations are not available for P Selectable Type.

Alteration	Sphere Tip
	
Code	RC
Spec.	Changes the relief to R0.5. Ordering Code RC Applicable when P-D≥2

Example



Pins with sphere head prevent damages on mating parts.

Locating Pins - Sphere Large Head

Tapped

For products uncovered by e-Catalog Standard, see P.131.

Features: Sphere Large Head with the shape designed to be mounted from back using bolts. Improved maintainability compared to Press Fit Type.

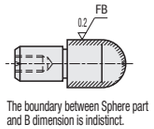
(Buff Finished)

RoHS

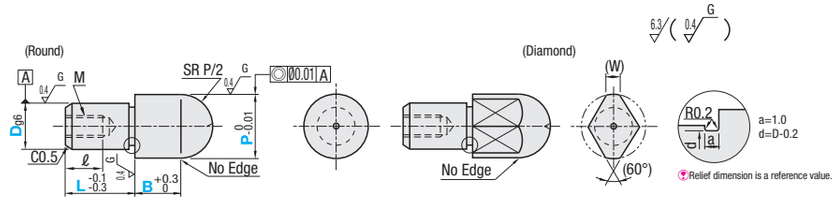
Material No.	Material	Surface Treatment	Hardness	P Selectable Type	P Selectable Shape Code	P, L, B Configurable Type	P, L, B Configurable Shape Code
(1)	SKS3 Equivalent	-	Treated Hardness: 60~63HRC	JPQT	BB (Round)	FPQT	A (Round) D (Diamond)
(2)	SKS3 Equivalent	Hard Chrome Plating	Treated Hardness: 50~55HRC	-		GFPQT	
(3)	SUS304*	-	-	SJPQT		SFPQT	
(4)	SUS304	Hard Chrome Plating	-	-		HFPQT	
(5)	SUS440C Equivalent	-	Treated Hardness: 50~55HRC	CJPQT		CFPQT	
(6)	SKS3 Equivalent	Buffing	Treated Hardness: 60~63HRC	-		MFPQT	
(7)	SKS3 Equivalent	Hard Chrome Plating + Buffing	Treated Hardness: 50~55HRC	-		MGFPQT	
(8)	SUS440C Equivalent	Buffing	Treated Hardness: 50~55HRC	-		MCFPQT	

* For P Selectable Type, it is SUS304 equivalent.
Hard Chrome Plating: Plating Thickness 3μm or more, Plating Hardness: 750HV ~

Buffed at ▨ part only. (Except Diamond Cut Surface)



The boundary between Sphere part and B dimension is indistinct.



Relief dimension is a reference value.

Polished, centering hole is sometimes not available for SUS304.
SUS440C Equivalent has an identification groove at any position on D part.

P Selectable

Part Number Type		D	D dim. Tolerance g6	P Selection	L	B	M (Coarse)	* Tightening Torque N・cm	ℓ
JPQT SJPQT CJPQT	BB (Round)	6	-0.004 -0.012	7 8 9 10	10	8	M3	147	5
		8	-0.005 -0.014	9 10 11 12 13	15	10	M5	676	8
		10		11 12 13 15					
		12	-0.006 -0.017	15 16					
		16		18 19 20 24 25	22		M8	2803	12

P, L, B Configurable

Part Number Type		D	D dim. Tolerance g6	P 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	M (Coarse)	* Tightening Torque N・cm	ℓ	(W)
FPQT GFPQT SFPQT HFPQT CFPQT (Buff Finished) MFPQT MGFPQT MCFPQT	A (Round) D (Diamond)	5	-0.004 -0.012	5.50~8.00	5(9)~10	1.5~15.0(12.0)	M2	-	3	2.2
		6		6.50~10.00	6(9)~12	1.5~15.0(12.0)	M3	147	5	3
		6T					M2.6	-	4	
		8	-0.005 -0.014	8.50~15.00	8(12)~16	1.5~30.0(15.0)	M5	676	8	3.5
		8T			6(12)~16		M4	333	6	
		10		11.00~17.00	10(12)~20	3.0~30.0(20.0)	M5	676	8	4
		10T			6(12)~16		M4	333	6	
		12	-0.006 -0.017	13.00~18.00	12~24	3.0~30.0(20.0)	M5	676	8	5
		12T			8(12)~18		M4	333	6	
		13		14.00~20.00	13(14)~26	5.0~30.0(20.0)	M8	2803	10	5.5
		13T			8(14)~20		M6	1156	9	
		16		17.00~27.00	16~32	5.0~30.0(27.0)	M8	2803	12	7
		16T			10(14)~24		M6	1156	9	
		20	-0.007 -0.020	22.00~30.00	20~40	5.0~30.0	M8	2803	12	9
		20T			12(18)~30		M6	1156	9	

Pins of D dimension with T have one size smaller thread diameter and larger wall thickness. (Actual D dimension is the number without "T".)
L, B dimensions in ( ) are applicable to Diamond Shape.
Note the strength of under-head part. P.1618
Please confirm pilot hole depth on P.1618. Holes may go through.

* Tightening torque (reference) is of Tightening Torque Strength Class (10.9) indicated on Technical Data P.2365. Not applicable when using locking materials or lock washers.

Ordering Example

Part Number	-	P	-	L	-	B
JPQTBB6	-	9				
MFPQTA6	-	P10.00	-	L10	-	B5.0

P Selectable

D	Unit Price Round Shape (1)Treated SKS3 JPQTBB	(3)SUS304 SJPQTBB	(5)SUS440C CJPQTBB
6			
8			
10			
12			
16			

(3)Price List for Large Qty. Order of SUS304 (301~500 pcs.)

D	Round Shape SFPQTA	Diamond Shape SFPQTD
5		
6		
6T		
8		
8T		
10		
10T		
12		
12T		
13		
13T		
16		
16T		
20		
20T		

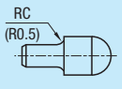
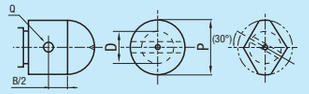
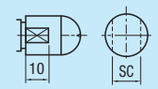
P, L, B Configurable

D	Unit Price Round Shape (1)Treated SKS3 FPQTA	(2)Hard SKS3 GFPQTA	(3)SUS304 SFPQTA	(4)Hard SUS304 HFPQTA	(5)SUS440C CFPQTA	(6)Treated SKS3 + Buffed MFPQTA	(7)Hard SKS3 + Buffed MGFPQTA	(8)SUS440C + Buffed MCFPQTA	Unit Price Diamond Shape (1)Treated SKS3 FPQTD	(2)Hard SKS3 GFPQTD	(3)SUS304 SFPQTD	(4)Hard SUS304 HFPQTD	(5)SUS440C CFPQTD	(6)Treated SKS3 + Buffed MFPQTD	(7)Hard SKS3 + Buffed MGFPQTD	(8)SUS440C + Buffed MCFPQTD
5												-				
6																
6T																
8																
8T																
10																
10T																
12																
12T																
13																
13T																
16																
16T																
20																
20T																

Alterations

Part Number	-	P	-	L	-	B	-	(RC, LAC, SC)
FPQTA6	-	P10.00	-	L10	-	B5	-	RC

Alterations are not available for P Selectable Type. Combination with RC, LAC or SC is not available.

Alteration	Sphere Tip	Wrench Hole Machining	Wrench Flats
			
Code	RC	LAC	SC
Spec.	Changes the relief to R0.5. Ordering Code RC Applicable when P-D≥2	Machines wrench holes. Ordering Code LAC Diamond Shape Hole is drilled on the diamond head vertically but with arbitrary orientation of their diamond surfaces against those of the diamond head. Applicable when Q+1.5≤B.	SC = 1mm Increment P-3≤SC≤P-1, SC≥D When B≤11, adds wrench flats on the tip.

D	B Applicable Dimension
5	5.0~
6 6T	
8 8T	
10 10T	
12 12T	
13 13T	
16 16T	10.0~
20 20T	

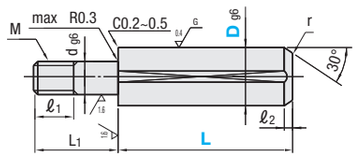
Wrench Hole Dimensions P	Q
5.50~9.99	2
10.00~16.99	3.5
17.00~	5

Locating Pins
Air Vent, Threaded / Tapped

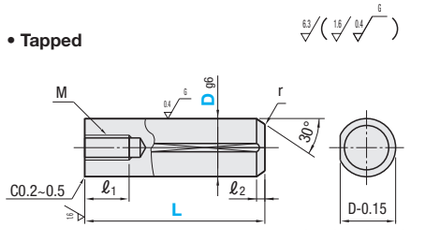
Features: Air vent enables easy insertion of pins.

Material	Hardness	Type	
		Threaded	Tapped
SUJ2	Treated Hardness: 45 ~ 50HRC	LPN	LPT
SUS304 Equivalent	-	SLPN	SLPT
SUS440C Equivalent	Treated Hardness: 50 ~ 55HRC	CLPN	CLPT

• Threaded



• Tapped



Threaded

Part Number Type	D dim. Tolerance g6		L	L1	dg6		M (Coarse)	Tightening Torque N·cm	ℓ1	ℓ2	r	Unit Price LPN	SLPN	CLPN
LPN SLPN CLPN	5	-0.004 -0.012	10 12 15 20 25 30	12	3	-0.002 -0.008	M3	147	7	1	1			
	6		10 12 15 20 25 30	15	4	-0.004 -0.012	M4	333	10					
	8	-0.005 -0.014	10 12 15 20 25 30		5		M5	676		1.5	1.5			
	10		15 20 25 30	20	6		M6	1156	15					
	12	-0.006 -0.017	15 20 25 30							2	2			

L=10, 12 are applicable to SLPN and CLPN only.
* Tightening torque (reference) will be within Strength Class of Tightening Torque on Technical Data ☞ P. 2297 (10.9). Not applicable when using locking materials or lock washers.

Tapped

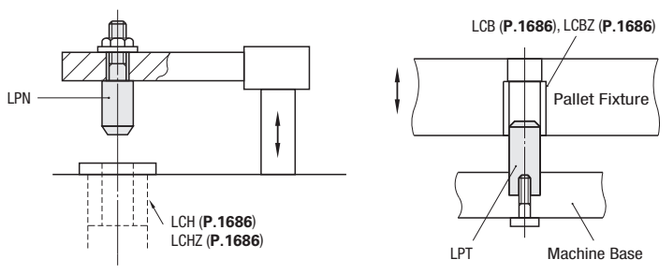
Part Number Type	D dim. Tolerance g6		L	M (Coarse)	Tightening Torque N·cm	ℓ1	ℓ2	r	Unit Price LPT	SLPT	CLPT
LPT SLPT CLPT	5	-0.004 -0.012	10 12 15 20 25 30	M3	147	6	1	1			
	6		10 12 15 20 25 30	M4	333	8					
	8	-0.005 -0.014	12 15 20 25 30	M5	676		1.5	1.5			
	10		20 25 30	M6	1156	10					
	12	-0.006 -0.017	20 25 30				2	2			

ℓ1=6 only when D=6, L=10. The pilot hole for tapping may go through.
* Tightening torque (reference) will be within Strength Class of Tightening Torque on Technical Data ☞ P. 2297 (10.9). Not applicable when using locking materials or lock washers.

Ordering Example

Part Number	-	L
LPN5	-	15
LPT6	-	20

Example



Locating Pins
Plastic, Small Diameter / Plastic, Screw Mounted

Features: Having a metal core, it is less prone to be broken when used for side locating. ☞ Characteristic of Resin P.2-953, 954

Plastic, Small Diameter

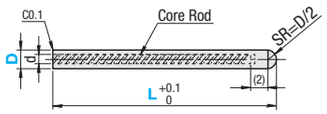
Part Number Insertion Guide Shape, Tolerance	Material Code	Material
SNS (Sphere, Standard Tolerance)	BB	Bakelite (Black)
SNP (Sphere, Selectable Tolerance)	PM	Polyacetal (White)
SPS (Flat, Standard Tolerance)	EC	Conductive MC Nylon CDR6 (Black)
SNSH (Small Head, Standard Tolerance)	PK	PEEK (Natural Ivory)

Some combinations are not available. Refer to the price list to select the available combination.
Core rod material is SUS304.
There is a flat part of Ø0.2 or below at the tip of Straight, Sphere and Small Head Type.
MC Nylon of flat is not available.
The outer diameter tolerance is the result of measurement at room temperature (20°C).

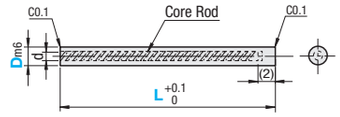
d	K
0.4	8.5
0.7	10
1.0	16

• Core Rod Length
Straight, Sphere: The smaller of the followings. L-(D/2+(2) or the value of row K in the table above
Straight, Flat: The smaller of the followings. L-(2) or the value of row K in the table above
Small Head: The smaller of the followings. (L+B)-(P/2+(2)) or the value of row K in the table above

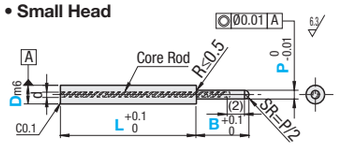
• Straight, Sphere



• Straight, Flat



• Small Head



Sphere, Flat, Standard Tolerance

Part Number Insertion Guide Shape	Material Code	D 0.1mm Increment	D dim. Tolerance m6	L 0.5mm Increment	d	Unit Price SNSBB	SNSPM	SNSEC	SNSPK	SPSBB	SPSPM	SPSPK
SNS (Sphere)	BB PM EC (Sphere only) PK	1.0~2.0	+0.008 +0.002	5.0~20.0	0.7							
SPS (Flat)		2.1~3.0			1.0							

Sphere, Selectable Tolerance

Part Number Insertion Guide Shape	Material Code	D Tolerance	D 0.01mm Increment	L 0.1mm Increment	d	Unit Price SNPBB	SNPPM	SNPEC	SNPPK
SNP	BB PM EC PK	M (m6) G (g6) H (h7)	1.00~2.00	5.0~20.0	0.7			-	
			2.01~3.00		1.0			-	

Small Head, Standard Tolerance

Part Number Insertion Guide Shape	Material Code	D 0.1mm Increment	D dim. Tolerance m6	L 0.1mm Increment	P 0.1mm Increment	B 0.1mm Increment	d	Unit Price SNSHBB	SNSHPM	SNSHEC	SNSHPK
SNSH	BB PM EC PK	1.1~2.0	+0.008 +0.002	5.0~18.5	1.0~1.9 (D>P)	1.5~10.0 (B-P/2≥1.0)	0.4	-			-
		2.1~3.0			1.0~2.9 (D>P)		0.7	-			-

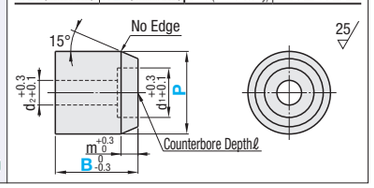
When D≤2, L+B≤15 When D>2, L+B≤20

Ordering Example

Part Number	-	D	-	L	-	P	-	B
SPSBB	-	D1.5	-	L7.5				
SNSHPM	-	D1.5	-	L10.0	-	P1.0	-	B1.5

Plastic, Screw Mounted

Type		Material	Operating Ambient Temperature
JPAJ (Standard Grade)	FPAJ (Precision Grade)	Polyacetal (White)	-45~95°C
JPEAJ (Standard Grade)	FPEAJ (Precision Grade)	PEEK (Natural Ivory)	-50~250°C



Ordering Example

Part Number	-	P	-	B
JPAJ3	-	P8	-	B15

Part Number Type	No.	P (Standard Grade) 1mm Increment	Tolerance	P (Precision Grade) 0.1mm Increment	Tolerance	B 1mm Increment	m	d1	d2	ℓ	Applicable Screw	Unit Price JPAJ	JPEAJ	FPAJ	FPEAJ
JPAJ FPAJ JPEAJ FPEAJ	3	8~10	0 -0.2	8.0~10.0	0 -0.05	10~25	2	6.5	3.5	4.5	M3				
	4	10~12		10.0~12.0		15~35	3	8.0	4.5	5.5	M4				
	5	12~16		12.0~16.0		15~50	4	9.5	5.5	6.5	M5				

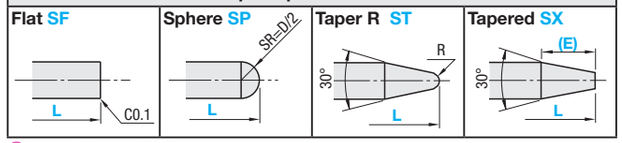
Characteristics of Polyacetal and PEEK ☞ P.2-953, 954

Small Diameter Locating Pins - High Hardness Stainless Steel
Solid

Features: Locating Pins for Micromachining less than Ø3. Corrosion-resistant and rigid. Suitable for locating Base, etc.

Material	Hardness	TYPE			
		Flat	Sphere	Taper R	Tapered
High Hardness Stainless Steel	35HRC~	SFKKS	SPKKS	STKKS	SXKKS

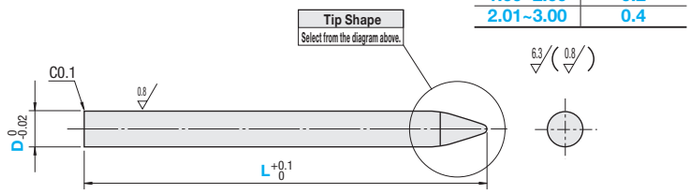
Tip Shape Selectable



No Joint Edge on Tip Shape

R Part Dimension

D	R
1.00~2.00	0.2
2.01~3.00	0.4



Chamfering of mounting portion and change of tolerance are available as alterations.

RoHS

Part Number	D 0.01mm Increment	L 0.1mm Increment	E (Taper only) 0.5mm Increment
Flat SFKKS / Sphere SPKKS / Taper R STKKS / Tapered SXKKS	1.00~2.00	3.0~30.0	0.5~2.5
	2.01~3.00	3.0~30.0	0.5~2.5

For Taper R Type, L-1≥1.85D-2.75R For Tapered, L≥E+1 D≥E

Ordering Example

Part Number	-	D	-	L	-	E	
SPKKS	-	D1.51	-	L20.2			(Sphere)
SXKKS	-	D2.28	-	L10.5	-	E2	(Tapered)

D	Unit Price	
	Flat SFKKS	Sphere SPKKS
1.00~2.00		
2.01~3.00		

D	Unit Price	
	Taper R Type STKKS	Tapered SXKKS
1.00~2.00		
2.01~3.00		

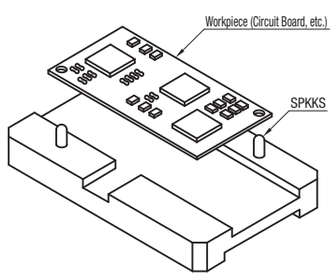
Alterations

Part Number	D	L	E		(GDC, CC)	
SFKKS	D1.51	L10.0		-	CC	(Flat)
SXKKS	D2.01	L20.0	E1.5	-	GDC	(Tapered)

Combination of GDC and CC is not available.

Alterations Code	Insertion Guide GDC	C Chamfered Size CC
Spec.	Adds the insertion guide. Ordering Code GDC Insertion Guide D -0.01 -0.03 1 Machines one side only for Flat Type. Applicable to D≥2.01, L≥5.0	D dimension C chamfering 0.1 is changed to 0.3. Ordering Code CC C0.3 Applicable to D≥1.50

Example

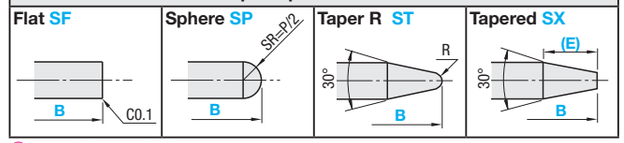


Small Diameter Locating Pins - High Hardness Stainless Steel
Small Head

Features: Useful for attachment as you can change the mounting side diameter and the locating side diameter. We reduced the price drastically compared to the conventional products.

Material	Hardness	TYPE			
		Flat	Sphere	Taper R	Tapered
High Hardness Stainless Steel	35HRC~	SFSKKS	SPSKKS	STSKKS	SXSKKS

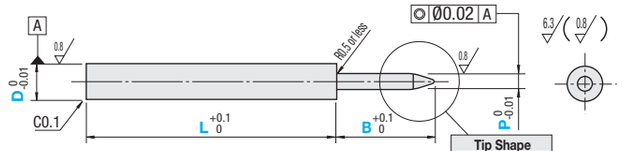
Tip Shape Selectable



No Joint Edge on Tip Shape

R Part Dimension

D	R
1.01~2.00	0.2
2.01~3.00	0.4



Chamfering of mounting portion and change of tolerance are available as alterations.

RoHS

Part Number	D 0.01mm Increment	L 0.1mm Increment	P 0.01mm Increment	B 0.1mm Increment
Flat SFSKKS / Sphere SPSKKS	0.51~1.00	3.0~20.0	0.50~0.99 (D>P)	1.5~5.0 (B-P/2≥1.0)
	1.01~2.00	3.0~20.0	0.50~1.99 (D>P)	1.5~10.0 (B-P/2≥1.0)
	2.01~3.00	3.0~20.0	1.00~2.99 (D>P)	1.5~10.0 (B-P/2≥1.0)

Part Number	D 0.01mm Increment	L 0.1mm Increment	P 0.01mm Increment	B 0.1mm Increment	E 0.5mm Increment
Taper R STSKKS	1.01~2.00	3.0~20.0	0.50~1.99 (D>P)	1.5~10.0 (B-P/2≥1.0)	0.5~2.5
Tapered SXSKKS	2.01~3.00	3.0~20.0	1.00~2.99 (D>P)	1.5~10.0 (B-P/2≥1.0)	0.5~2.5

For Taper R: B-1≥1.85P-2.75R For Tapered: B≥E+1, P≥E

Ordering Example

Part Number	-	D	-	L	-	P	-	B	-	E	
SPSKKS	-	D1.50	-	L10.0	-	P0.90	-	B1.5			(Sphere)
SXSKKS	-	D1.50	-	L10.0	-	P1.20	-	B2.0	-	E0.5	(Tapered)

D	Unit Price	
	Flat SFSKKS	Sphere SPSKKS
0.51~2.00		
2.01~3.00		

D	Unit Price	
	Taper R Type STSKKS	Tapered SXSKKS
1.01~2.00		
2.01~3.00		

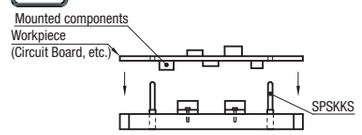
Alterations

Part Number	D	L	P	B	E		(GDC, CC)	
SFSKKS	D2.50	L20.0	P2.00	B5.0		-	CC	(Flat)
SXSKKS	D2.50	L20.0	P2.00	B5.0	E1.5	-	GDC	(Tapered)

Combination of GDC and CC is not available.

Alterations Code	Insertion Guide GDC	C Chamfered Size CC
Spec.	Adds the insertion guide. Ordering Code GDC Insertion Guide D -0.01 -0.03 1 Applicable to D≥2.01, L≥5.0	D dimension C chamfering 0.1 is changed to 0.3. Ordering Code CC C0.3 Applicable to D≥1.50

Example

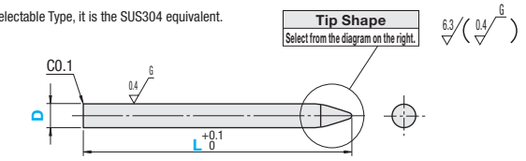


Small Diameter Locating Pin
Straight

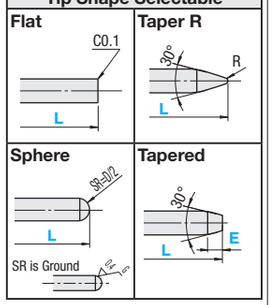
Features: Locating pins with Ø3 or less pin diameter. Selectable from 4 types of tip shape.

Material	Hardness	Type											
		L Selectable			L Configurable				L Configurable and Tolerance Selectable				
		Flat	Sphere	Tapered	Flat	Sphere	Taper R	Tapered	Flat	Sphere	Taper R	Tapered
SK95 (SK4) Equivalent	Treated Hardness: 50 ~ 58HRC	SFKT	SPKT	SXKT	SFST	SPST	STST	SXST	SFFPT	SPPT	STPT	SXFPT
*SUS304	-	SFKS	SPKS	SXKS	SFSS	SPSS	STSS	SXSS	SFPS	SPPS	STPS	SXFPS
SUS440C Equivalent	Treated Hardness: 50 ~ 55HRC	-	-	-	SFSXC	SPSXC	STSXC	SXSXC	SFPXC	SPPXC	STPXC	SXFPXC
SUS304 (SR Parts Polished)	-	-	-	-	-	SPSSG	-	-	-	-	-	-
SKD61 (SR Parts Polished)	Treated Hardness: 40 ~ 52HRC	-	-	-	-	SPSDG	-	-	-	-	-	-

* For L Selectable Type, it is the SUS304 equivalent.



Tip Shape Selectable



L Selectable

Part Number	D	d dim. Tolerance	L Selection	E
Flat: SFKT SFKS / Sphere: SPKT SPKS / Tapered: SXKT SXKS	1	0 -0.005	3 4 5 6 10	0.5
	1.5		5 6 8	
	2		5 6 8 10 12 15	
	3		5 6 8 10 12 15	1

L Configurable

Part Number	D 0.1mm Increment	d dim. Tolerance	L 0.5mm Increment	E 0.5mm Increment	R
Flat: SFST SFSS SFSXC / Sphere: SPST SPSS SPSXC SPSSG SPSDG / Taper R: STST SSTS STSXC / Tapered: SXST SXSS SXSXC	1.0~2.0	0 -0.005	3.0~30.0	0.5~2.5	0.2
	2.1~3.0				0.4

For Taper R, L-1≥(Dx1.85)-(Rx2.75) For Tapered, L≥E+1 D≥E

L Configurable and Tolerance Selectable

Part Number: Type	D Tolerance	D 0.01mm Increment	L 0.1mm Increment	E 0.5mm Increment	R
Flat: SFFPT SFPS SFPXC / Sphere: SPPT SPPS SPPXC / Taper R: STPT STPS STPXC / Tapered: SXFPT SXFPS SXFPXC	P +0.005 0	0.50~1.00	3.0~30.0	0.5~2.5	-
	Q ±0.002	1.01~2.00			0.2
	R 0 -0.005				
	H 0 -0.01	2.01~3.00			0.4

For Taper R, L-1≥(Dx1.85)-(Rx2.75) For Tapered, L≥E+1 D≥E

Ordering Example

L Selectable

Part Number - D - L
SPKS - D1 - L5

L Configurable

Part Number - D - L - E
SPST - D1.5 - L8.5 (Sphere)
SXST - D1.5 - L5.0 - E1.0 (Tapered)

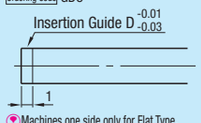
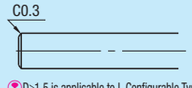
L Configurable and Tolerance Selectable

Part Number: Type, D Tol. - D - L - E
SPPT P - D0.55 - L5.0 (Sphere)
SXFPT P - D2.82 - L5.0 - E2.5 (Tapered)

Alterations

Part Number - D - L - E - (GDC, CC)
SFST - D2.0 - L10 - CC

Combination of GDC and CC is not available. Not applicable to L Selectable Type.

Alterations Code	Insertion Guide	C Chamfered Size
	GDC	CC
Spec.	Adds the insertion guide. Ordering Code GDC  Machines one side only for Flat Type. Applicable when D≥2.1 and L≥5.0 for L Configurable Type. Applicable when D≥2.01 and L≥5.0 for L Configurable and Tolerance Selectable Type.	D dimension C chamfering 0.1 is changed to 0.3. Ordering Code CC  D≥1.5 is applicable to L Configurable Type. D≥1.50 is applicable to L Configurable and Tolerance Type.

L Selectable

D	Unit Price: Flat SFKT	Flat SFKS	Sphere SPKT	Sphere SPKS	Tapered SXKT	Tapered SXKS
1						
1.5						
2						
3						

L Configurable

D	Unit Price: Flat SFST	Flat SFSS	Flat SFSXC	Sphere SPST	Sphere SPSS	Sphere SPSXC	Sphere SPSSG	Sphere SPSDG	Taper R Type STST	Taper R Type STSS	Taper R Type STSXC	Tapered SXST	Tapered SXSS	Tapered SXSXC
1.0~2.0														
2.1~3.0														

L Configurable and Tolerance Selectable

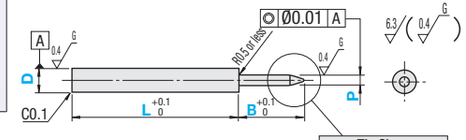
D	Unit Price: Flat SFFPT	Flat SFPS	Flat SFPXC	Sphere SPPT	Sphere SPPS	Sphere SPPXC	Taper R Type STPT	Taper R Type STPS	Taper R Type STPXC	Tapered SXFPT	Tapered SXFPS	Tapered SXFPXC
0.50~1.00			-			-	-	-	-	-	-	-
1.01~2.00												
2.01~3.00												

Small Diameter Locating Pin
Small Head

Small Head / Press Fit

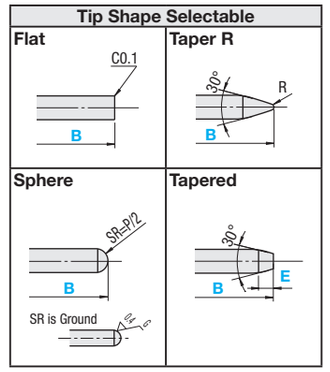
Material	Hardness	Type									
		L Selectable	L Configurable				L Configurable and Tolerance Selectable				
		Sphere	Flat	Sphere	Taper R	Tapered	Flat	Sphere	Taper R	Tapered	
SK95 (SK4) Equivalent	50~58HRC	SPKHT	SFSHT	SPSHT	STSHT	SXSHT	SFPHT	SPPHT	STPHT	SXPHT	
SUS304	-	SPKHS	SFSHS	SPSHS	STSHS	SXSHS	SFPHS	SPPHS	STPHS	SXPHS	
SUS440C Equivalent	50~55HRC	-	SFSHC	SPSHC	STSHC	SXSHC	SHPHC	SPPHC	STPHC	SXPHC	
SKD61 (SR Parts Polished)	40~52HRC	-	-	SPSHDG	-	-	-	-	-	-	
SUS304 (SR Parts Polished)	-	-	-	SPSHSG	-	-	-	-	-	-	

Material code SG and DG are applicable to L Configurable Type of Sphere only.
L Selectable Type is applicable to Sphere only.



Chamfering of mounting portion and change of tolerance are available as alterations.

Tip Shape Selectable



L Selectable

Part Number	D	D dim. Tolerance	L Selection	P	P Dim. Tolerance	B
SPKHT	2	0 -0.005	3 5 10	0.95	0 -0.01	2
SPKHS	3		3 8 10	1.95		4

L Configurable

Part Number	D 0.1mm Increment	d dim. Tolerance	L 0.5mm Increment	P 0.1mm Increment	P Dim. Tolerance	B 0.5mm Increment	E 0.5mm Increment	R
Flat: SFSHT SFSHS SFSHC / Sphere: SPSHT SPSHS SPSHC SPSHDG SPSHSG / Taper R: STSHT STSHS STSHC / Tapered: SXSHT SXSHS SXSHC	1.0~2.0	0 -0.005	3.0~20.0	0.9~1.9 (D>P)	0 -0.01	1.5~10.0 (B-P/2≥1.0)	0.5~2.5	0.2
	2.1~3.0			1.9~2.9 (D>P)				0.4

For Taper R Type, B-1≥1.85P-2.75R For Tapered: B≥E+1, P≥E

L Configurable and Tolerance Selectable

Part Number: Type	D Tolerance	P Tolerance	D 0.01mm Increment	L 0.1mm Increment	P 0.01mm Increment	B 0.1mm Increment	E 0.5mm Increment	R
Flat: SFPHT SFPHS SFPHC / Sphere: SPPHT SPPHS SPPHC / Taper R: STPHT STPHS STPHC / Tapered: SXPHT SXPHS SXPHC	P +0.005 0	P +0.005 0	0.51~1.00	3.0~20.0	0.50~0.99 (D>P)	1.5~5.0 (B-P/2≥1.0)	0.5~2.5	-
	Q ±0.002	Q ±0.002	1.01~2.00		0.50~1.99 (D>P)			0.2
	R 0 -0.005	R 0 -0.005				1.5~10.0 (B-P/2≥1.0)		
	H 0 -0.01	H 0 -0.01	2.01~3.00		1.00~2.99 (D>P)			0.4

For Taper R Type, B-1≥1.85P-2.75R For Tapered: B≥E+1, P≥E

Ordering Example

L Selectable

Part Number - D - L
SPKHT - D2 - L5

L Configurable

Part Number - D - L - P - B - E
SPSHS - D1.5 - L10.0 - P0.9 - B1.5 (Sphere)
SXSHT - D1.5 - L10.0 - P1.2 - B2.0 - E1.0 (Tapered)

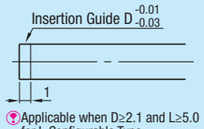
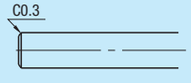
L Configurable and Tolerance Selectable

Part Number: Type, D Tolerance, P Tolerance - D - L - P - B - E
SPPHT Q R - D1.50 - L10.1 - P0.95 - B5.3 (Sphere)
SXPHS P P - D1.50 - L10.0 - P1.20 - B3.0 - E1.0 (Tapered)

Alterations

Part Number - D - L - P - B - E - (GDC, CC)
SFSHT - D2.5 - L20 - P2.0 - B5.0 - GDC

Combination of GDC and CC is not available. Alterations are not applicable to L Selectable Type.

Alterations Code	Insertion Guide	C Chamfered Size
	GDC	CC
Spec.	Adds the insertion guide. Ordering Code GDC  Applicable when D≥2.1 and L≥5.0 for L Configurable Type. Applicable when D≥2.01 and L≥5.0 for L Configurable and Tolerance Selectable Type.	D dimension C chamfering 0.1 is changed to 0.3. Ordering Code CC  D≥1.5 is applicable to L Configurable Type. D≥1.50 is applicable to L Configurable and Tolerance Type.

L Selectable

D	Unit Price: Sphere SPKHT	Sphere SPKHS
2		
3		

L Configurable

D	Unit Price: Flat SFSHT	Flat SFSHS	Flat SFSHC	Sphere SPSHT	Sphere SPSHS	Sphere SPSHSG	Sphere SPSHDG	Sphere SPSHC	Taper R Type STSHT	Taper R Type STSHS	Taper R Type STSHC	Tapered SXSHT	Tapered SXSHS	Tapered SXSHC
1.0~2.0														
2.1~3.0														

L Configurable and Tolerance Selectable

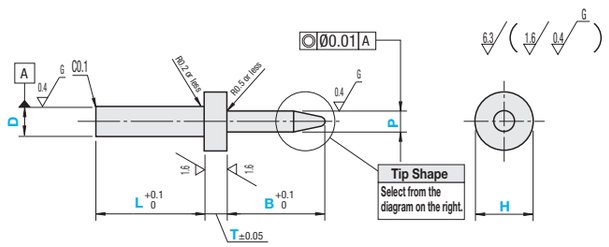
D	Unit Price: Flat SFPHT	Flat SFPHS	Flat SFPHC	Sphere SPPHT	Sphere SPPHS	Sphere SPPHC	Taper R Type STPHT	Taper R Type STPHS	Taper R Type STPHC	Tapered SXPHT	Tapered SXPHS	Tapered SXPHC
0.51~1.00			-			-	-	-	-	-	-	-
1.01~2.00												
2.01~3.00												

Small Diameter Locating Pin
Shouldered, Press Fit

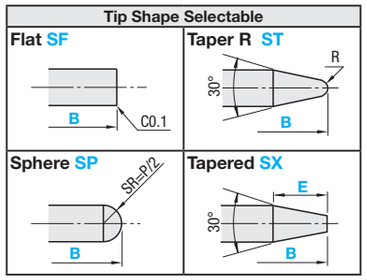
Shouldered, Press Fit

RoHS

Material	Hardness	Type							
		Standard Tolerance				Tolerance Selection			
		Flat	Sphere	Taper R	Tapered	Flat	Sphere	Taper R	Tapered
SK95 (SK4) Equivalent	50~58HRC	SFSST	SPSST	STSST	SXSST	SFPST	SPPST	STPST	-
SUS304	-	SFSSS	SPSSS	STSSS	SXSSS	SFPSS	SPPSS	-	SXPSS



Tip Shape Selectable



Standard Tolerance

Part Number	D	d dim. Tolerance m6	L 0.5mm Increment	P 0.1mm Increment	P Dimension Tolerance	B 0.5mm Increment	H 0.1mm Increment	T 0.5mm Increment	E 0.5mm Increment (Taper only)	R
Flat Sphere Taper R Tapered SFSST SPSST STSST SXSST SFSSS SPSSS STSSS SXSSS	1	+0.008 +0.002	2.0~5.0	1.0~2.9	0 -0.01	1.0~10.0	1.1~3.0	1.0~10.0	0.5~5.0	0.2
	2		4.0~10.0	1.0~4.0		1.0~30.0	2.1~7.0	1.0~20.0		0.2
	3		6.0~10.0	1.5~6.0			3.1~8.0			0.3
	4	+0.012 +0.004	8.0~10.0	2.0~7.0			4.1~9.0			0.4

(P<H (D<H (For Sphere, B-1≥P/2 (For Taper R Type, B-1≥1.85P-2.75R (For Tapered: B≥E+1, P≥E

Tolerance Selectable

Part Number TYPE	D Tolerance	P Tolerance	D	L 0.1mm Increment	P 0.01mm Increment	B 0.1mm Increment	H 0.01mm Increment	T 0.1mm Increment	E 0.5mm Increment (Taper only)	R	M
Flat Sphere Taper R Tapered SFPST SPSST STPST SXPSS SFPSS SPPSS	P +0.005 0	P +0.005 0	2	0 1.0~10.0	1.00~4.00	1.0~30.0	2.10~7.00	1.0~20.0	0.5~5.0	0.2	M2
	Q ±0.002	Q ±0.002	3		1.50~6.00		3.10~8.00			0.2	M3
	R 0 -0.005	R 0 -0.005	4		2.00~7.00		4.10~9.00			0.4	M4

(P<H (D<H (For Sphere, B-1≥P/2 (For Taper R Type, B-1≥1.85P-2.75R (For Tapered: B≥E+1, P≥E

Standard Tolerance

D	Unit Price							
	Flat (SFSS□)		Sphere (SPSS□)		Taper R (STSS□)		Tapered (SXSS□)	
	SFSST	SFSSS	SPSST	SPSSS	STSST	STSSS	SXSST	SXSSS
1								
2								
3								
4								

Tolerance Selectable

D	Unit Price							
	Flat (SFPS□)		Sphere (SPPS□)		Taper R (STPS□)		Tapered (SXPS□)	
	SFPST	SFPSS	SPPST	SPPSS	STPST	STPSS	SXPST	SXPSS
1						-	-	
2						-	-	
3						-	-	
4						-	-	

Ordering Example

Part Number	L	P	B	H	T	E
SXSSS4	L10.0	P6.2	B5.0	H8.0	T3.0	E3.0
SPPSTPP2	L8.0	P2.0	B4.0	H3.5	T5.0	

Alterations

Part Number	L	P	B	H	T	E	(GDC, CC)
SFSST3	L6.0	P3.0	B6.0	H5.0	T2.0		CC

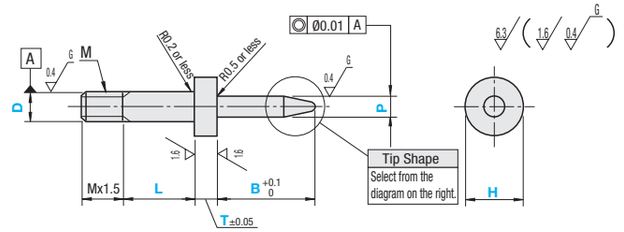
Alterations Code	Insertion Guide GDC	C Chamfered Size CC
Spec.	Adds the insertion guide. Ordering Code GDC Insertion Guide D -0.01 -0.03 1 (Applicable to D≥3, L≥8.0	D dimension C chamfering 0.1 is changed to 0.3. Ordering Code CC C0.3 (Applicable when D≥2 ⊗Combination of GDC and CC is not available.

Small Diameter Locating Pin
Shouldered, Threaded

Shouldered, Threaded

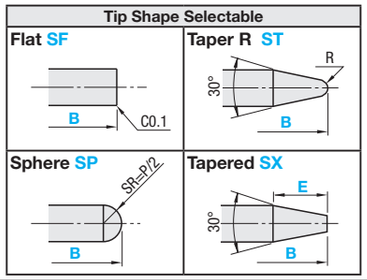
RoHS

Material	Hardness	Type						
		Standard Tolerance				Tolerance Selection		
		Flat	Sphere	Taper R	Tapered	Flat	Sphere	Taper R
SK95 (SK4) Equivalent	50~58HRC	SFSNT	SPSNT	STSNT	SXSNT	-	SPPNT	STPNT
SUS304	-	SFSNS	SPSNS	STSNS	SXSNS	SFPNS	SPPNS	STPNS



(When L=0, an undercut will be added at the neck of the thread.

Tip Shape Selectable



Standard Tolerance

Part Number	D	D dim. Tolerance	L 0.5mm Increment	P 0.1mm Increment	P Dimension Tolerance	B 0.5mm Increment	H 0.1mm Increment	T 0.5mm Increment	E 0.5mm Increment (Taper only)	R	M
Flat Sphere Taper R Tapered SFSNT SPSNT STSNS SXSNT SFSNS SPSNS STSNT SXSNS	2	0 -0.005	0 1.0~10.0	1.0~4.0	0 -0.01	1.0~30.0	2.1~7.0	1.0~20.0	0.5~5.0	0.2	M2
	3			1.5~6.0			3.1~8.0			0.3	M3
	4			2.0~7.0			4.1~9.0			0.4	M4

(P<H (D<H (For Sphere, B-1≥P/2 (For Taper R Type, B-1≥1.85P-2.75R (For Tapered: B≥E+1, P≥E

Tolerance Selectable

Part Number TYPE	D Tolerance	P Tolerance	D	L 0.1mm Increment	P 0.01mm Increment	B 0.1mm Increment	H 0.01mm Increment	T 0.1mm Increment	E 0.5mm Increment (Taper only)	R
Flat Sphere Taper R SFPNS SPPNT STPNT SPPNS STPNS	P +0.005 0	P +0.005 0	1	2.0~ 5.0	1.00~2.90	1.0~10.0	1.10~3.00	1.0~10.0	0.5~5.0	0.2
	Q ±0.002	Q ±0.002	2	4.0~10.0	1.00~4.00	1.0~30.0	2.10~7.00	1.0~20.0		0.2
	R 0 -0.005	R 0 -0.005	3	6.0~10.0	1.50~6.00		3.10~8.00			0.3
			4	8.0~10.0	2.00~7.00		4.10~9.00			0.4

(P<H (D<H (For Sphere, B-1≥P/2 (For Taper R Type, B-1≥1.85P-2.75R (For Tapered: B≥E+1, P≥E

Ordering Example

Part Number	L	P	B	H	T	E
SPSNT3	L3.5	P2.5	B10.5	H4.2	T5.5	
SXPNSQR2	L2.0	P3.2	B8.0	H4.00	T3.0	E3.0

Standard Tolerance

D	Unit Price							
	Flat (SFSN□)		Sphere (SPSN□)		Taper R (STSN□)		Tapered (SXSN□)	
	SFSNT	SFSNS	SPSNT	SPSNS	STSNT	STSNS	SXSNT	SXSNS
2								
3								
4								

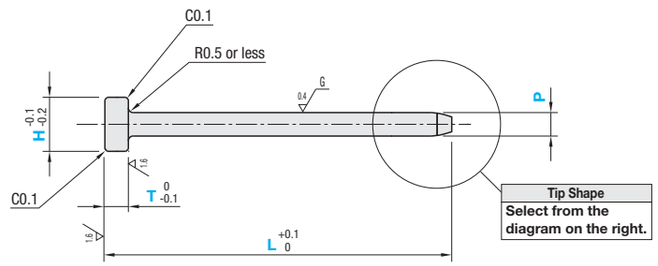
Tolerance Selectable

D	Unit Price							
	Flat (SFPN□)		Sphere (SPPN□)		Taper R (STPN□)		Tapered (SXPN□)	
	SFPNT	SFPNS	SPPNT	SPPNS	STPNT	STPNS	SXPNT	SXPNS
2	-						-	-
3	-						-	-
4	-						-	-

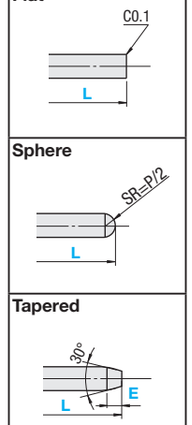
Small Diameter Locating Pin
With Shoulder Seat

RoHS

Material	Part Number		
	Insertion Guide Shape	Tolerance	Material Code
SUS304	SF (Flat) SP (Sphere) SX (Tapered)	SZ (Standard Tolerance) PZ (Selectable Tolerance)	S



Tip Shape Selectable



Standard Tolerance

Part Number TYPE			P 0.1mm Increment	P Dim. Tolerance	L 0.5mm Increment	T 1mm Increment	H	E 0.5mm Increment
Flat	Sphere	Tapered						
SFSZS	SPSZS	SXSZS	1.0~1.3	0 -0.01	13.0~30.0	3~5	2	0.5
			1.4~2.5				4	0.5~1.5
			2.6~3.5				6	0.5~2.5

L-T≥10 For Tapered, P≥E

Tolerance Selectable

Part Number TYPE			P Tolerance	P 0.01mm Increment	L 0.1mm Increment	T 0.1mm Increment	H 0.1mm Increment	E 0.5mm Increment
Flat	Sphere	Tapered						
SFPZS	SPPZS	SXPZS	P +0.005 0	1.00~1.40	13.0~30.0	3.0~5.0	2.0~3.0	0.5
			Q ±0.002	1.41~2.50			2.0~4.0	0.5~1.5
			R 0 -0.005	2.51~3.50			3.0~8.0	0.5~2.5

L-T≥10 P+0.5≤H For Tapered, P≥E

Ordering Example

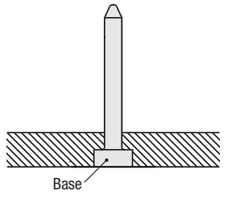
Standard Tolerance

Part Number	-	P	-	L	-	T	-	E	
SPSZS	-	P1.5	-	L18.5	-	T3			(Sphere)
SXSZS	-	P2.5	-	L20.0	-	T4	-	E1.5	(Tapered)

Tolerance Selectable

Part Number		-	P	-	L	-	T	-	H	-	E	
Type	P Tolerance											
SPPZS	P	-	P1.55	-	L15.0	-	T3.2	-	H3.8			(Sphere)
SXPZS	Q	-	P1.00	-	L19.0	-	T4.5	-	H2.5	-	E0.5	(Tapered)

Example



Shoulder is provided to prevent pin extraction.

Standard Tolerance

P	Unit Price		
	Flat	Sphere	Tapered
	SFSZS	SPSZS	SXSZS
1.0~1.3			
1.4~2.5			
2.6~3.5			

Tolerance Selectable

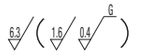
P	Unit Price		
	Flat	Sphere	Tapered
	SFPZS	SPPZS	SXPZS
1.00~1.40			
1.41~2.50			
2.51~3.50			

Features: Small Diameter Height Adjusting Pins achievable accuracy in height tolerance is 1/100. Suitable for locating of circuit board in vertical direction.

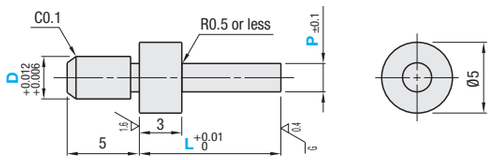
Small Diameter Height Adjusting Pins

RoHS

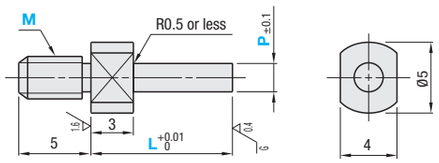
Part Number		Material
Press Fit	Threaded	
SFHH	SFNN	SUS304



Press Fit



Threaded



Press Fit

Part Number TYPE	D	L 0.01mm Increment	P 0.5mm Increment	Unit Price
SFHH	3	5.00~15.00	1.0~3.0	

Threaded

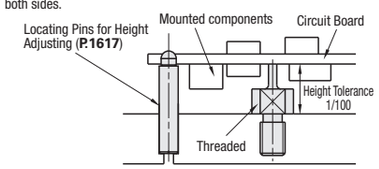
Part Number TYPE	M (Coarse)	L 0.01mm Increment	P 0.5mm Increment	Unit Price
SFNN	3	5.00~15.00	1.0~3.0	

Ordering Example

Part Number	-	L	-	P	
SFHH3	-	L9.98	-	P2.0	(Press Fit)
SFNN3	-	L6.50	-	P2.5	(Threaded)

Example

Suitable for supporting a circuit board with components installed on both sides.

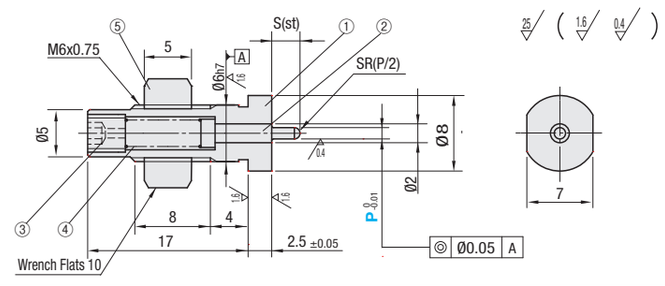


Features: Small Dia. Pin Units with spring-retained stroking pins.

Small Diameter Plunging Locating Pins

RoHS

Part Number	① Main Body Material	② Pin Material	③ Plug Material	④ Spring Material	⑤ Nut Material
DSDP	SUS304	SUS304 (Sliding Section: Fluorine Coating)	SUS304 Equivalent	SUS304-WPB	SUS304 Equivalent



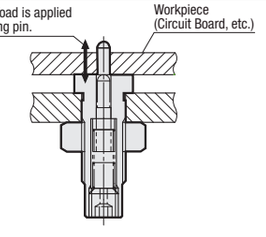
Part Number	P 0.01mm Increment	S	Load (N) min.	Load (N) max.	Unit Price
DSDP	1.00~1.50	3.0	0.2	0.48	
	1.51~1.99	4.5	0.2	0.64	

Ordering Example

Part Number	-	P
DSDP	-	P1.70

Example

The pin will sink when load is applied on spring-loaded locating pin.



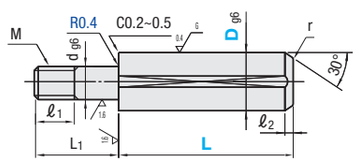
Locating Pins
Air Vent, Threaded / Tapped

For products uncovered by e-Catalog Standard, see P.131.

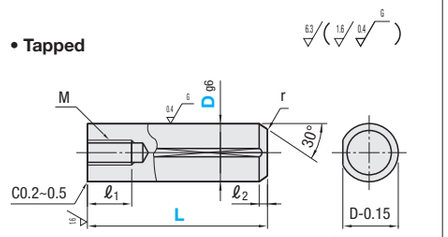
Features: Air vent enables easy insertion of pins.

Material	Hardness	Type	
		Threaded	Tapped
SUJ2	Treated Hardness: 45~50HRC	LPN	LPT
SUS304 Equivalent	-	SLPN	SLPT
SUS440C Equivalent	Treated Hardness: 50~55HRC	CLPN	CLPT

• Threaded



• Tapped



RoHS

Threaded

Part Number Type	D dim.	Tolerance g6	L	L1	dg6		M (Coarse)	*Tightening Torque N·cm	ℓ1	ℓ2	r	Unit Price LPN	SLPN	CLPN
LPN SLPN CLPN	5	-0.004 -0.012	10 12 15 20 25 30	12	3	-0.002 -0.008	M3	147	7	1	1			
	6		10 12 15 20 25 30	15	4	-0.004 -0.012	M4	333	10					
	8	-0.005 -0.014	10 12 15 20 25 30		5		M5	676		1.5	1.5			
	10		15 20 25 30	20	6		M6	1156	15					
	12	-0.006 -0.017	15 20 25 30							2	2			

L=10, 12 are applicable to SLPN and CLPN only.
* Tightening torque (reference) will be within Strength Class of Tightening Torque (10.9) on Technical Data in P.2365 . Not applicable when using locking materials or lock washers.

Tapped

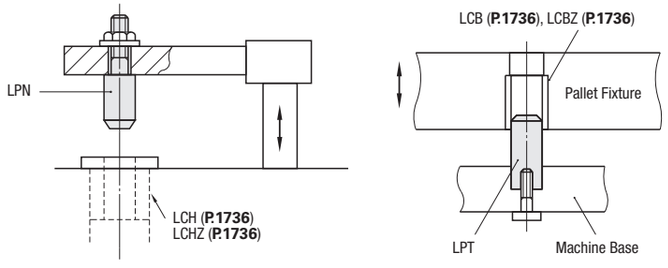
Part Number Type	D dim.	Tolerance g6	L	M (Coarse)	*Tightening Torque N·cm	ℓ1	ℓ2	r	Unit Price LPT	SLPT	CLPT
LPT SLPT CLPT	5	-0.004 -0.012	10 12 15 20 25 30	M3	147	6	1	1			
	6		10 12 15 20 25 30	M4	333	8					
	8	-0.005 -0.014	12 15 20 25 30	M5	676		1.5	1.5			
	10		20 25 30	M6	1156	10					
	12	-0.006 -0.017	20 25 30				2	2			

ℓ1=6 only when D=6 and L=10. The pilot hole for tapping may go through.
* Tightening torque (reference) will be within Strength Class of Tightening Torque (10.9) on Technical Data in P.2365 . Not applicable when using locking materials or lock washers.

Ordering Example

Part Number	-	L
LPN5	-	15
LPT6	-	20

Example



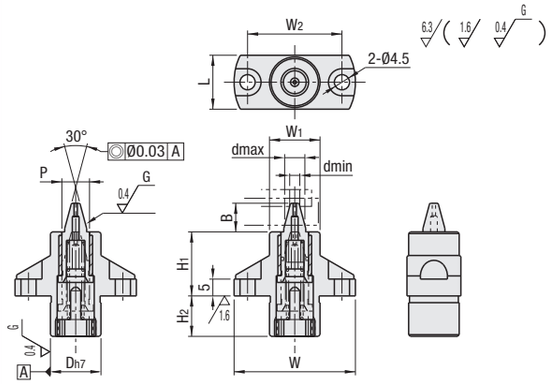
Tapered Plunging Locating Pin / Feed Fingers Economy Type

Automatic Latches

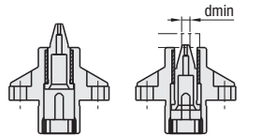
Features: Tapered section holds a workpiece, which enables positioning without wobbling. (?)Similar Products: Flanged Locating Pins (P.1653)

Tapered Plunging Locating Pin

Type	Pin		Body			Spring	Oil Free Bushing
	M Material	H Hardness	M Material	H Hardness	S Surface Treatment	M Material	M Material
PICP	SKD11	60~63HRC	S45C	23~30HRC	Electroless Nickel Plating	SWP-B	Special Bronze Casting



Load Table



Spring		No.6	No.10
Load (N)	min	6.3	5.8
	max	19.9	20.1
Spring Constant (N/mm)		1.8	1.4

RoHS

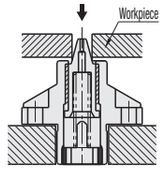
Part Number Type	No.	Applicable Hole Dia. Max. Hole Dia. dmax	Min. Hole Dia. dmin	D	P	B	H1	H2	W	W1	W2	L	Unit Price
PICP	6	6	3	15	8.2	8.5	19	12	36	15	28	16	
	10	10	6	19	12.2	12	24	17	40	19	32	20	

Ordering Example — Part Number: PICP6

Example

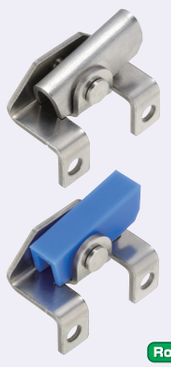
The pin sinks and the tapered section holds a workpiece without wobbling. Changeover is not necessary when used within the applicable hole diameter, which enables high productivity and operability.

(?)Height Adjusting Blocks (P.1653) can be used together.



Features: Use of sheet metal for the main body has realized price reduction by approx. 50%, compared to the conventional products.

Feed Fingers Economy Type

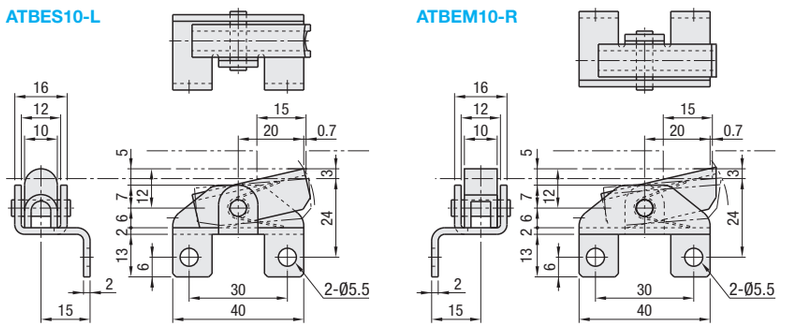


RoHS

Type	M Material			
	Claw	Main Body	Pin	Spring
ATBES	SUS304-CP	SUS304-CP	SUS304	SUS304-WPB
ATBEM	MC Nylon			

ATBES10-L

ATBEM10-R

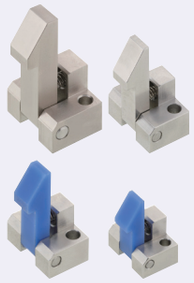


Part Number Type	No.	Claw Orientation		Load (Calculated Value) N Stroke 3mm	Stroke 5mm	Mass (g)	Unit Price 1 ~ 3 pc(s).	Volume Discount Rate 4 ~ 9 pcs.	10 ~ 30 pcs.	31 pcs. or more
ATBES	10	L	(Left)	8.3	8.9	45				
		R	(Right)							
ATBEM	10	L	(Left)	8.1	8.7	35				
		R	(Right)							

(?)For orders larger than indicated quantity, please request a quotation.

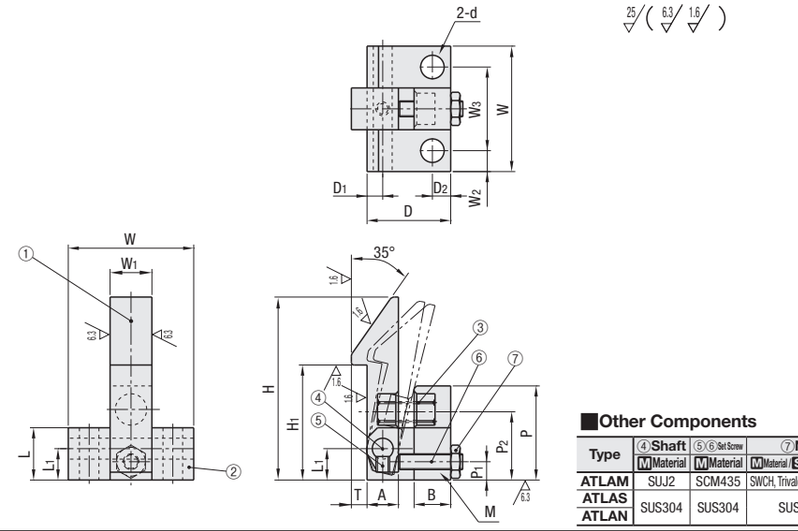
Ordering Example — Part Number: ATBES10 - L / ATBEM10 - R

Features: Thin-plated workpieces such as printed circuit boards and metal plates can be easily located.



RoHS

Type	① Claw M Material	H Hardness	S Surface Treatment	② Base M Material	H Hardness	S Surface Treatment	③ Spring M Material
ATLAM	S45C	20~35HRC	Electroless Nickel Plating	S45C	-	Electroless Nickel Plating	SUS304-WPB
ATLAS	SUS304	-	-	SUS304	-	-	
ATLAN	MC Nylon	-	-				



Other Components

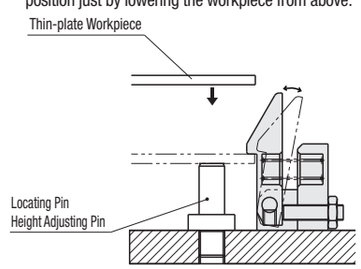
Type	④ Shaft M Material	⑤⑥ Set Screw M Material	⑦ Nut M Material / S Surface Treatment
ATLAM	SUJ2	SCM435	SWCH, Trivalent Chromate
ATLAS	SUS304	SUS304	SUS304
ATLAN			

Part Number Type	No.	H	H1	T	W	W1	W2	W3	d	L	L1	D	D1	D2	A	B	P	P1	P2	M (Coarse)
ATLAM ATLAS ATLAN	25	25	15	2	20	7	3	14	3.5	8	5	14	2.5	3	5	6	15	3.5	11	M3
	35	35	22	3	24	8	4	16	4.5	10	6	16	3	3.5	6	7	18	3.5	13.5	M3
	45	45	30	4	26	10	4	18	4.5	12	7	20	4	4	8	8	22	4.5	17	M4

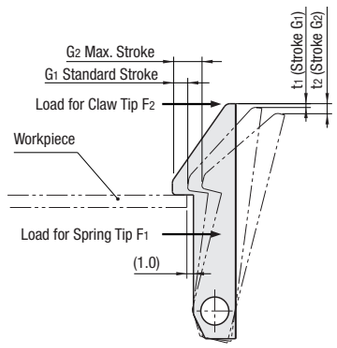
Ordering Example — Part Number: ATLAM25 / ATLAS45

No.	Unit Price ATLAM	ATLAS	ATLAN
25			
35			
45			

Example Clicks and latches the workpiece easily at the required position just by lowering the workpiece from above.



Claws Stroke Position Variations



No.	G1	G2	t1	t2
25	1	3.2	0.3	1.4
35	2	4.2	0.5	1.4
45	3	6.3	0.5	1.6

* 1.0mm clearance is assumed.

Spring Load Table (Calculated Value)

No.	Spring Tip F1 (N) Initial Load	Stroke G1	Stroke G2	Claw Tip F2 (N) Initial Load	Stroke G1	Stroke G2
25	1.2	1.3	1.7	0.4	0.4	0.5
35	2.0	2.4	2.9	0.5	0.6	0.8
45	3.9	5.1	6.5	1.0	1.3	1.7