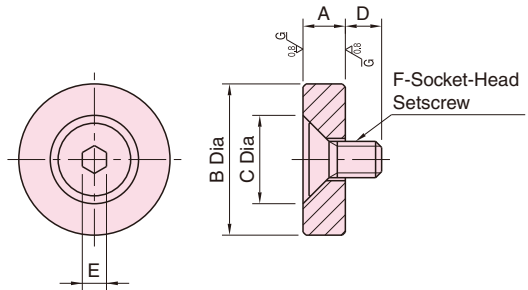


BJ763**FLAT FEET**

[Body]

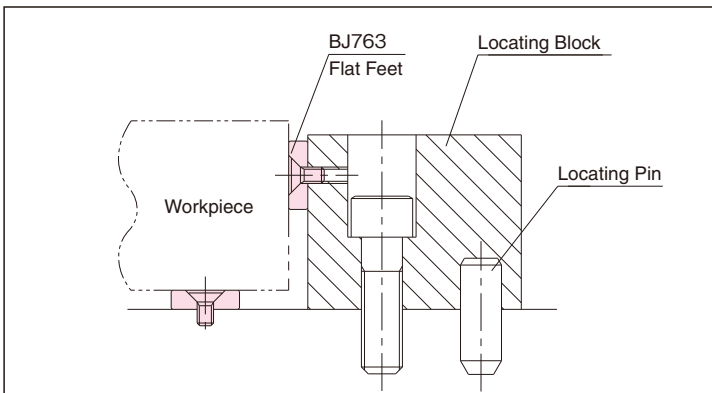
Material : S45C steel

Heat Treat : Quenched and tempered

Finish : Black oxide

Precision ground

Part Number	A ($\begin{smallmatrix} +0.01 \\ 0 \end{smallmatrix}$)	B	C	D	E	F	Weight (g)
BJ763-06001	5	25	14	7.7	4	M6x1	20
BJ763-06002		30					30
BJ763-06003		35					40
BJ763-06004	10	25	10.7	4	M6x1	40	
BJ763-06005		30				60	
BJ763-06006		35				80	
BJ763-08001	10	30	19.4	11.3	5	M8x1.25	60
BJ763-08002		35					80
BJ763-08003		40					100
BJ763-08004	15	30	11.3	5	M8x1.25	90	
BJ763-08005		35				115	
BJ763-08006		40				150	

How To Use

Use to support and locate a workpiece. The accuracy of a locating block can be easily compensated by regrinding the top surface of Flat Feet.

Hexagonal Support Pins

-Stepped-

RoHS

Type	Shape Code	Material Code	Material	Surface Treatment	Hardness
SRP	C (Male Thread) A (Female Thread) B (Pilot)	B	(1)S45C	Blackening	-
		R	(2)S45C	Hard Chrome Plating Plating Thickness 3µm or More	Plating Hardness 750HV ~
		HB	(3)S45C	Blackening	Treated Hardness 45 ~ 50HRC
		HR	(4)S45C	Hard Chrome Plating Plating Thickness 3µm or More	Treated Hardness 45 ~ 50HRC Plating Hardness 750HV ~
		C	(6) SUS440C Equivalent	-	Treated Hardness 50 ~ 55HRC

- Male Thread

- Female Thread

- Pilot

When G < Pitchx2, the incomplete threaded section (Pitchx2) is included in Mx1.5. Pitch Diameter P.1954

Type	Shape Code	Material Code	B	L			G	m	(C)	d	M (Coarse)	M ₁ (Coarse)	ℓ ₁	d ₁						
				0.01mm Increment	P	F									1mm Increment Male Thread Only					
SRP	C (Male Thread) A (Female Thread) B (Pilot)	B R HB HR C	6	10.00-50.00	3.00-4.00	2.0-12.0	0 or 2≤G≤dx2	1	6.9	4	M4	M3	-	-						
			7	15.00-50.00	3.00-6.00	2.0-15.0									8.1	5	M5	M4	6	8
			8												9.2					
			10	20.00-80.00	4.00-8.00	2.0-20.0									11.5	8	M8	9	12	
			12												5.00-10.00					2.0-25.0
			13	8.00-15.00	2.0-30.0	15										12	12	12	16	
			14			10.00-15.00									2.0-30.0					16.2
			17	19.6	2.0-30.0											19.6	16	16	16	16
			19			21.9									2.0-30.0	21.9				
			24	27.7	2.0-30.0											27.7	20	20	20	16

Pilot type available for B≥10. SUS440C Equivalent is B≥8.

Order Example: SRP C B 10 L150.00 P5.98 F3.0 G5

Alterations

Alterations	Screwdriver Slot	Relief
Code	DRC	NNC
Spec.	Machines a screwdriver slot of width 0.8mm and depth 1mm.	Adds a relief at the thread end. Applicable when G=0.

Hexagonal Support Pins

-Flat-

RoHS

Type	Shape Code	Material Code	Material	Surface Treatment	Hardness
SRT	A (Male Thread) B (Female Thread)	B	(1)S45C	Blackening	-
		R	(2)S45C	Hard Chrome Plating Plating Thickness 3µm or More	Plating Hardness 750HV ~
		HB	(3)S45C	Blackening	Treated Hardness 45 ~ 50HRC
		HR	(4)S45C	Hard Chrome Plating Plating Thickness 3µm or More	Treated Hardness 45 ~ 50HRC Plating Hardness 750HV ~
		SU	(5)SUS304	-	-
		C	(6) SUS440C Equivalent	-	Treated Hardness 50 ~ 55HRC

- Male Thread

- Female Thread

When G < Pitchx2, the incomplete threaded section (Pitchx2) is included in Mx1.5. Pitch Diameter P.1954

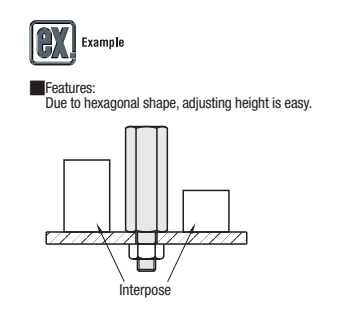
Type	Shape Code	Material Code	B	L			G	m	(C)	d	M (Coarse)	M ₁ (Coarse)									
				0.01mm Increment	P	F							1mm Increment Male Thread Only								
SRT	A (Male Thread) B (Female Thread)	B R HB HR SU C	6	20.0-80.00	3.00-6.00	2.0-15.0	0 or 2≤G≤dx2	1	6.9	4	M4	M3									
			7										15.00-50.00	3.00-6.00	2.0-15.0	8.1	5	M5	M4	6	8
			8													9.2					
			10										20.0-80.00	4.00-8.00	2.0-20.0	11.5	8	M8	9	12	
			12													5.00-10.00					2.0-25.0
			13										8.00-15.00	2.0-30.0	15		12	12	12	16	
			14												10.00-15.00	2.0-30.0					16.2
			17										19.6	2.0-30.0			19.6	16	16	16	16
			19												21.9	2.0-30.0	21.9				
			24										27.7	2.0-30.0			27.7	20	20	20	16

SUS440C Equivalent is B≥8.

Order Example: SRT A B 8 L200.00 G6


Alterations

Alterations	Screwdriver Slot	Relief
Code	DRC	NNC
Spec.	Machines a screwdriver slot of width 0.8mm and depth 1mm.	Adds a relief at the thread end. Applicable when G=0.



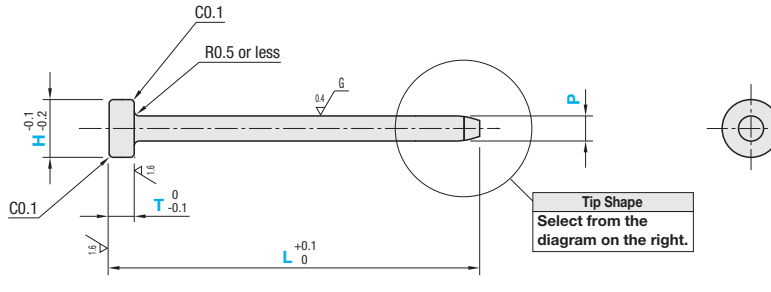
Small Diameter Locating Pin

With Shoulder Seat



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

RoHS



Tip Shape Selectable

Flat

Sphere

Tapered

Tip Shape Select from the diagram on the right.

Standard Tolerance

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

L-T≥10 For Tapered, P≥E

Tolerance Selectable

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

L-T≥10 P+0.5H For Tapered, P≥E

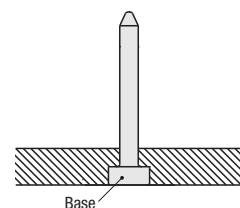
Ordering Example

Part Number - P - L - T - E

SPSZS - P1.5 - L18.5 - T3 (Sphere)

SXSZS - P2.5 - L20.0 - T4 - E1.5 (Tapered)

Example



Shoulder is provided to prevent pin extraction.

Standard Tolerance

Part Number - P - L - T - H - E

SPPZS P - P1.55 - L15.0 - T3.2 - H3.8 (Sphere)

SXPZS Q - P1.00 - L19.0 - T4.5 - H2.5 - E0.5 (Tapered)

Standard Tolerance

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

Tolerance Selectable

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

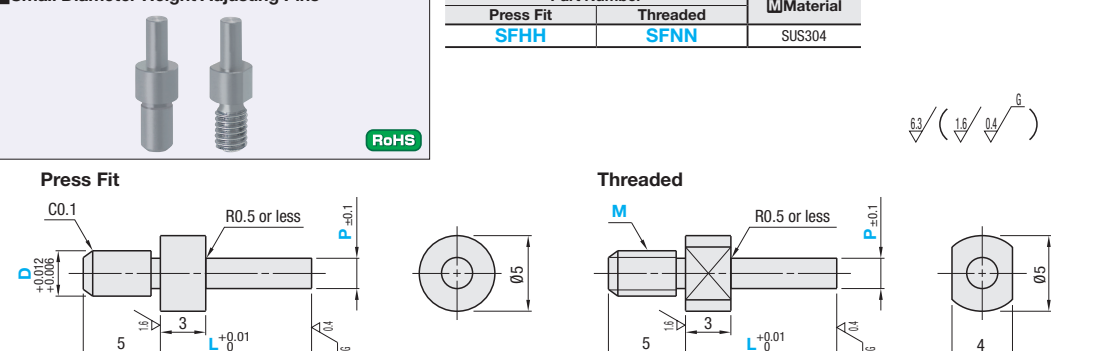
Small Diameter Height Adjusting Pins / Small Diameter Plunging Locating Pins

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

Part Number	Material
Press Fit SFHH	SUS304
Threaded SFNN	SUS304

RoHS



Press Fit

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

Threaded

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

Ordering Example

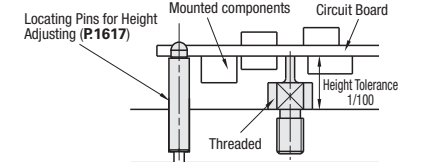
Part Number - L - P

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.

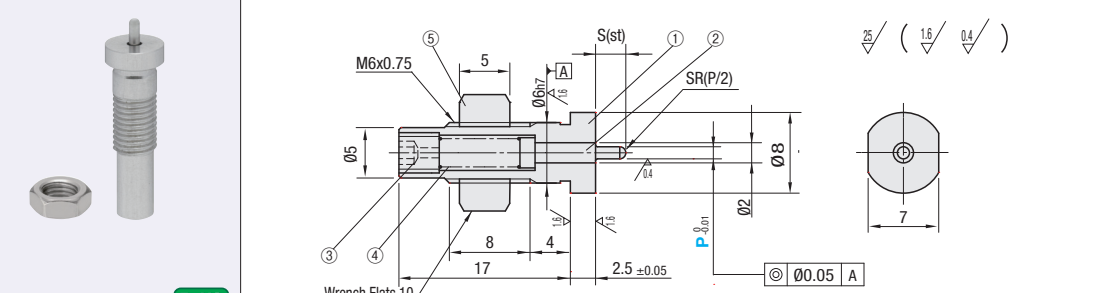


Features: Small Dia. Pin Units with spring-retained stroking pins.

Small Diameter Plunging Locating Pins

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

RoHS



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

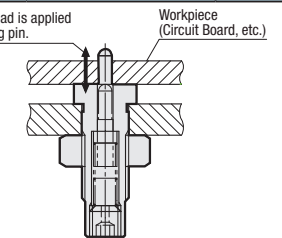
Ordering Example

Part Number - P

DSDP - P1.70

Example

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



Support Pins

Stepped

■ Features: Locating Pins with the Broad Specifiable Range of Height. Height adjustment and Round/Diamond locating in the horizontal direction are possible.

Material	Surface Treatment	Hardness	Round			Diamond		
			Threaded	Tapped	Pilot	Threaded	Tapped	Pilot
① S45C (SDPCB) S45C Equivalent (SHPCB) (SHPAB) (SHPBB) (SDPAB)	Black Oxide	-	SHPCB	SHPAB	SHPBB	SDPCB	SDPAB	-
② S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Plating Hardness: 750HV ~	SHPCR	SHPAR	SHPBR	-	SDPAR	SDPBR
③ S45C (SDPCB) S45C Equivalent (SHPAB) (SHPBB) (SDPCB) (SDPAB)	Black Oxide	Treated Hardness: 45 ~ 50HRC	SHPCB	SHPAB	SHPBB	SDPCB	-	SDPBB
④ S45C (SDPCB) S45C Equivalent (SHPAB) (SHPBB) (SDPCB) (SDPAB)	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 45 ~ 50HRC	-	SHPAHR	SHPBHR	-	-	SDPBR
⑤ SUS304	-	-	SHPCSU	SHPASU	SHPBSU	SDPCSU	SDPASU	SDPBSU
⑥ SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	SHPC	SHPAC	SHPBC	SDPC	SDPAC	SDPBC

• Threaded (Round) • Threaded (Diamond) • Tapped (Round) • Tapped (Diamond) • Pilot (Round) • Pilot (Diamond)

RoHS

Relief dimension is a reference value.

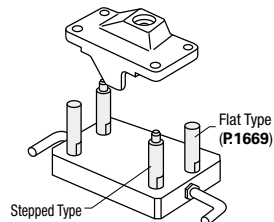
Part Number	Type	D	L	P	B	m	d	M	Tightening Torque	E1	W1	(W)	E2
Threaded <Round>	Tapped <Round>	6	0.01mm Increment	0.01mm Increment	Selection			(Coarse)	N·cm				
SHPCB SHPCR SHPCB SHPCSU SHPC	SHPAB SHPAR SHPAB SHPASU SHPAC	8	10.00-50.00	3.00-4.00	2	1		M3	147		5	1.0	8
		10		3.00-6.00	3	2	6			6	8	1.5	
		12		4.00-8.00	4	3	8			8	10	1.8	
<Diamond>	<Diamond>	15	20.00-80.00	4.00-10.00	5	4	10	M5	676	9	13	2.2	10
SDPCB SDPCR SDPCB SDPCSU SDPC	SDPAB SDPAR SDPAB SDPASU SDPAC	20		5.00-10.00		5	12	M8	2803	10	17	2.5	
		25		8.00-15.00		6	16	M10	5557	10	20	3	

Ⓢ Pilot Type is not available for D6, D8. Ⓢ Note the strength of undercut part for Internal Thread and Pilot. Ⓢ P1566

* 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	P	B
SHPAR10	L20.00	P4.05	B5
SDPCSU20	L50.00	P8.00	B3



Round Shape

D	Unit Price Threaded						Unit Price Internal Thread						Unit Price Pilot					
	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥
6	SHPCB	SHPCR	SHPCB	SHPCR	SDPCSU	SDPC	SHPAB	SHPAR	SHPAB	SHPAR	SHPASU	SHPAC	SHPBB	SHPBR	SHPBB	SHPBR	SHPBSU	SHPBC
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Diamond Shape

D	Unit Price Threaded						Unit Price Internal Thread						Unit Price Pilot					
	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥
6	SDPCB	SDPCR	SDPCB	SDPCR	SDPCSU	SDPC	SDPAB	SDPAR	SDPAB	SDPAR	SDPASU	SDPAC	SDPBB	SDPBR	SDPBB	SDPBR	SDPBSU	SDPBC
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Support Pins

Stepped, Configurable

■ Features: Each dimension of Stepped Support Pins is configurable.

RoHS

Relief dimension is a reference value.

• Straight • Press Fit • Tapped • Threaded • Shouldered • Press Fit • Tapped • Threaded

Ⓢ Q≤P-1 Ⓢ When K<Pitch x 2, the incomplete threaded portion is included in M x 1.5. Ⓢ SUS440C Equivalent has an identification groove at any position on D part.

Press Fit

Part Number	Type	D	P		Q	K	L	B	Unit Price Straight			Unit Price Shouldered		
			0.1mm Increment	Shouldered					①	②	③	④	⑤	⑥
Straight Shouldered SHFJ GSHXJ GSHFJ GSHXJ CSHFJ CSHXJ		3	3.5-6.0	3.0-5.0	2.00-5.00	3-6	10.00-60.00	2.0-5.0						
		4	4.5-7.0	3.0-5.0	2.00-6.00	4-8	10.00-60.00	2.0-10.0						
		5	5.5-8.0	3.0-7.0	2.00-7.00	5-10	10.00-60.00	2.0-10.0						
		6	6.5-10.0	5.0-7.0	4.00-9.00	6-12	10.00-80.00	2.0-12.0						
		8	9.0-13.0	5.0-8.0	4.00-12.00	8-16	10.00-80.00	2.0-15.0						
		10	11.0-15.0	6.0-11.0	5.00-14.00	10-20	10.00-100.00	2.0-20.0						
12	13.0-16.0	6.0-13.0	5.00-15.00	12-24	10.00-100.00	2.0-20.0								

Tapped

Part Number	Type	D	P		Q	K	L	B	Unit Price Straight			Unit Price Shouldered		
			0.1mm Increment	Shouldered					①	②	③	④	⑤	⑥
Straight Shouldered SHFU SHXU GSHFU GSHXU CSHFU CSHXU		6	6.5-10.0	5.0-7.0	4.00-9.00	6-12	10.00-80.00	2.0-12.0						
		8	9.0-13.0	5.0-9.0	4.00-12.00	8-16	10.00-80.00	2.0-15.0						
		10	11.0-15.0	6.0-11.0	5.00-14.00	10-20	10.00-100.00	2.0-20.0						
		12	13.0-16.0	6.0-13.0	5.00-15.00	12-24	10.00-100.00	2.0-20.0						

Threaded

Part Number	Type	D	P		Q	K	L	B	Unit Price Straight			Unit Price Shouldered		
			0.1mm Increment	Shouldered					①	②	③	④	⑤	⑥
Straight Shouldered SHFN SHXN GSHFN GSHXN SSHFN SSHXN CSHFN CSHXN		3	3.5-6.0	3.0-5.0	2.00-5.00	0-6	10.00-60.00	2.0-5.0						
		4	4.5-7.0	3.0-5.0	2.00-6.00	0-8	10.00-60.00	2.0-10.0						
		5	5.5-8.0	3.0-7.0	2.00-7.00	0-10	10.00-60.00	2.0-10.0						
		6	6.5-10.0	5.0-7.0	4.00-9.00	0-12	10.00-80.00	2.0-12.0						
		8	9.0-13.0	5.0-9.0	4.00-12.00	0-16	10.00-80.00	2.0-15.0						
		10	11.0-15.0	6.0-11.0	5.00-14.00	0-20	10.00-100.00	2.0-20.0						
12	13.0-16.0	6.0-13.0	5.00-15.00	0-24	10.00-100.00	2.0-20.0								

Ⓢ The dispersion of L dimension should be within 0.02 for same orders.

Ordering Example

Part Number	P	Q	K	L	B
SHFJ5	P6.0	Q4.50	K5	L30.55	B3.2

Alterations

Part Number	P	Q	K	L	B	(SC, HC, DRC, NNC)
SHXU10	P8.5	Q5.00	K10	L80.00	B6.7	HC12

Alterations	Wrench Flats	Wrench Flats	Screwdriver Slot	Relief
Code	SC	HC	DRC	NNC
Spec.	SC=1mm Increment SC>D Ordering Code SC8 Ⓢ For Tapped, SC:M+3 Ⓢ Applicable to Straight only.	HC=1mm Increment HC>P HC>D Ordering Code HC10 Ⓢ Applicable to Shouldered only.	Width 0.8mm, Depth 1mm Ordering Code DRC Ⓢ Applicable to Threaded only.	Adds a relief at the thread end. Ordering Code NNC Ⓢ Applicable when K=0. Ⓢ Applicable to Threaded only.

Height Adjusting Pins - Hex Threaded

■ Features: Locating Pins suitable for height adjustment because High Precision and Medium Accuracy can be selected for the tolerance in the height direction. Threaded and Height Configurable.

■ High Accuracy RoHS

Material	Surface Treatment	Hardness	Type		
			B Fixed F Fixed	B Fixed F Configurable	B Selectable F Fixed
SCM435	-	Treated Hardness: 46 ~ 50HRC	JPra	JPRAM	JPRFA
	Black Oxide	Treated Hardness: 46 ~ 50HRC	BJPra	BJPRAM	BJPRFA
	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 46 ~ 50HRC Plating Hardness: 750HV ~	HJPra	HJPRAM	HJPRFA
SUS304	-	Treated Hardness: 46 ~ 50HRC	SJPra	SJPRAM	SJPRFA
SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	CJPra	CJPRAM	CJPRFA

* Under-head of "B Fixed and F Configurable Type" is R0.5 or less. Take note of chamfering on the tapped hole.

Part Number	Type	M (Coarse)	* Tightening Torque N·cm	L 0.01mm Increment	B		F
					Standard	Selection	
B, F Fixed B Fixed and F Configurable B Selectable and F Fixed	JPra	3	147	2.00~10.00	6	5	3~36 (M:F=Mx3)
	JPRAM	4	333		7	6	
	JPRFA	5	676		8	7	
	BJPra	6	1156	5.00~30.00	10	8	
	BJPRAM	8	2803		13	10	
	BJPRFA	10	5557		17	12	
	HJPra	12	9702	10.00~50.00	19	14	
	HJPRAM	12	9702		19	14	
	HJPRFA	12	9702		19	14	

* 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.

M (Coarse)	Unit Price														
	B, F Fixed			B Fixed and F Configurable				B Selectable and F Fixed							
3	JPra	BJPra	HJPra	SJPra	CJPra	JPRAM	BJPRAM	HJPRAM	SJPRAM	CJPRAM	JPRFA	BJPRFA	HJPRFA	SJPRFA	CJPRFA
4															
5															
6															
8															
10															
12															

Ordering Example (Hex, B and F Fixed) **JPra4** - L10.00 - B - F12

(Hex, B Fixed and F Configurable) **JPRAM8** - L15.00 - B - F12

(Hex, B Selectable and F Fixed) **JPRFA6** - L20.00 - B - F12

Alterations

Code	Radius to End Face	Seating Sensor Holes
CRC	Chamfering of workpiece receiving-surface is changed to R1. Hex is R size in the right table. Ordering Code: CRC ☞ Applicable when L>15. ☞ Hex is applicable to B<10.	Machines seating sensor holes on the work-receiving surface. Hole diameters are shown in the table below. Ordering Code: EAT ☞ Applicable when D>6. ☞ Application conditions vary depending on F and L dimensions.

B	R
10	2
12, 13	2.5
14	3
17, 19	4

M	Narrow Hole Dia. d1	Through Hole Dia. d2	Applicable Overall Length Conditions
6	1.0	1.5	F+L>20
8	1.0	2.5	F+L>30
10	1.5	3.5	F+L>40
12	1.5	4.5	F+L>50

Alterations **JPra10** - L20.50 - B - F12 - CRC

HJPRAM10 - L15.00 - B - F18 - EAT

■ Medium Accuracy

Material	Surface Treatment	Hardness	Type
①S45C Equivalent	Black Oxide	-	SRTAB
②S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Plating Hardness: 750HV ~	SRTAR
③S45C Equivalent	Black Oxide	Treated Hardness: 45 ~ 50HRC	SRTAHB
④S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 45 ~ 50HRC Plating Hardness: 750HV ~	SRTAHR
⑤SUS304	-	-	SRTASU
⑥SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	SRTAC

Part Number	Type	B	L 0.01mm Increment	G 1mm Increment Threaded only	(C)	d	M (Coarse)	* Tightening Torque N·cm	Unit Price Threaded					
									①	②	③	④	⑤	⑥
SRTAB SRTAR SRTAHB SRTAHR SRTASU SRTAC	6	7	10.00~50.00	0	6.9	4	M4	333						
	8	10	15.00~50.00	0	11.5	5	M5	676						
	12	13	20.0~80.00	0	13.9	6	M6	1156						
	14	17	20.0~80.00	0	16.2	8	M8	2803						
19	24	20.0~80.00	0	21.9	10	M10	5557							

* SUS440C Equivalent is B=8.
* 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 **SRTAB** - L - G - B - L20.00 - G6

Alterations

Code	Screwdriver Slot	Relief
DRC	Machines a screwdriver slot of width 0.8mm and depth 1mm.	Adds a relief at the thread end. ☞ Applicable when G=0.

Height Adjusting Pins - Hex Tapped

■ Features: Locating Pins suitable for height adjustment because High Precision and Medium Accuracy can be selected for the tolerance in the height direction. Threaded and Height Configurable.

■ High Accuracy RoHS

Material	Surface Treatment	Hardness	Type
SCM435	-	Treated Hardness: 46 ~ 50HRC	JPRM
SCM435	Black Oxide	Treated Hardness: 46 ~ 50HRC	BJPRM
SCM435	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 46 ~ 50HRC Plating Hardness: 750HV ~	HJPRM

Part Number	Type	B	L 0.01mm Increment	M (Coarse)	* Tightening Torque N·cm	ℓ	Unit Price		
							JPRM	BJPRM	HJPRM
JPRM BJPRM HJPRM		8	16.00~50.00	M5	676	8			
		10	16.00~50.00	M5	676	8			
		13	22.00~50.00	M8	2803	12			
		17	22.00~50.00	M8	2803	12			
		19	22.00~50.00	M8	2803	12			

* 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 **JPRM8** - L - 20.00

■ Medium Accuracy

Material	Surface Treatment	Hardness	Type
①S45C Equivalent	Black Oxide	-	SRTBB
②S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Plating Hardness: 750HV ~	SRTBR
③S45C Equivalent	Black Oxide	Treated Hardness: 45 ~ 50HRC	SRTBHB
④S45C Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 45 ~ 50HRC Plating Hardness: 750HV ~	SRTBHR
⑤SUS304	-	-	SRTBSU
⑥SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	SRTBC

☞ When G<Pitch x 2, the incomplete threaded portion (Pitch x 2) is included in M x 1.5. For Pitch Dia. **☞ P.2292**

Part Number	Type	B	L 0.01mm Increment	G 1mm Increment Threaded only	(C)	d	M (Coarse)	* Tightening Torque N·cm	Unit Price Tapped					
									①	②	③	④	⑤	⑥
SRTBB SRTBR SRTBHB SRTBHR SRTBSU SRTBC	6	7	10.00~50.00	0	6.9	4	M3	147						
	8	10	15.00~50.00	0	9.2	5	M4	333						
	12	13	20.0~80.00	0	11.5	6	M5	676						
	14	17	20.0~80.00	0	13.9	8	M6	1156						
19	24	20.0~80.00	0	15	10	M8	2803							

* SUS440C Equivalent is B=8.
* 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 **SRTBSU** - L - 12 - L50.00

Height Adjusting Pins - Round, Wrench Flats / Shouldered Threaded, Tapped

■ Features: Locating Pins for the height direction. O.D. and Height Configurable.

■ Round, Wrench Flats Threaded

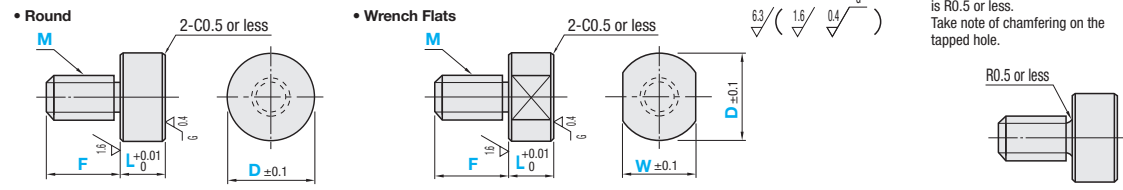


RoHS

Material	Surface Treatment	Hardness	Type	Ordering Code, Shape Code
				F Fixed F Configurable
SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	JPH	AF (Round) AFM (Round)
	Black Oxide	Treated Hardness: 60 ~ 63HRC	BJPH	
	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50 ~ 55HRC Plating Hardness: 750HV ~	HJPH	
SUS304	-	-	SJPH	AW (Wrench Flats) AWM (Wrench Flats)
SUS40C Equivalent	-	Treated Hardness: 50 ~ 55HRC	CJPH	
SCM415	-	Carburized Treated Hardness: 55HRC~ (Depth: 0.7 ~ 0.8)	TJPH	

⚠ Some combinations are not available. Refer to the price list to select the available combination.

* Under-head of F Configurable Type is R0.5 or less. Take note of chamfering on the tapped hole.



Type	Shape Code	Part Number		L 0.01mm Increment	D 1mm Increment	W 1mm Increment	F	
		M (Coarse)	* Tightening Torque N·cm				Standard	1mm Increment
JPH BJPH HJPH SJPH CJPH TJPH	<Round>	3	147	2.00~10.00	5~30 (M<D<Mx5)	4~13 5~18 6~23 7~28 9~29 11~29 13~29	5 6 8 10 12 15	3~36 (M≤F≤Mx3)
	AF (F Fixed)	4	333					
	AFM (F Configurable)	5	676					
	<Wrench Flats>	6	1156	10.00~50.00				
	AW (F Fixed)	8	2803					
	AWM (F Configurable)	10	5557					
		12	9702					

⚠ M<W<D ⚠ 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.

■ Round

M (Coarse)	Unit Price F Fixed						Unit Price F Configurable					
	JPHAF	BJPHAF	HJPHAF	SJPHAF	CJPHAF	TJPHAF	JPHAFM	BJPHAFM	HJPHAFM	SJPHAFM	CJPHAFM	TJPHAFM
3												
4												
5												
6												
8												
10												
12												

■ Wrench Flats

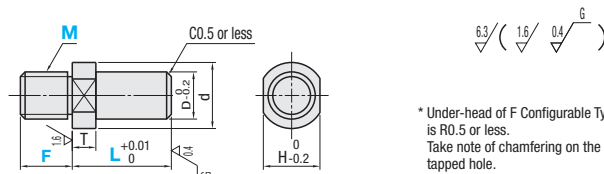
M (Coarse)	Unit Price F Fixed						Unit Price F Configurable					
	JPHAW	BJPHAW	HJPHAW	SJPHAW	CJPHAW	TJPHAW	JPHAWM	BJPHAWM	HJPHAWM	SJPHAWM	CJPHAWM	TJPHAWM
3												
4												
5												
6												
8												
10												
12												

■ Shouldered, Threaded



RoHS

Material	Surface Treatment	Hardness	Type	
			F Fixed	F Configurable
SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	JPHA	JPHAM
	Black Oxide	Treated Hardness: 60 ~ 63HRC	BJPHA	BJPHAM
	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50 ~ 55HRC Plating Hardness: 750HV ~	HJPHA	HJPHAM
SUS304	-	-	SJPHA	SJPHAM
SUS40C Equivalent	-	Treated Hardness: 50 ~ 55HRC	CJPHA	CJPHAM
SCM415	-	Carburized Treated Hardness: 55HRC~ (Depth: 0.7 ~ 0.8)	-	TJPHAM



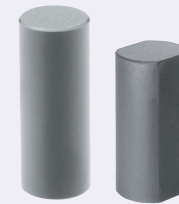
* Under-head of F Configurable Type is R0.5 or less. Take note of chamfering on the tapped hole.

Type	Part Number		L 0.01mm Increment	D	d	T	H
	M (Coarse)	* Tightening Torque N·cm					
<F Fixed>	3	147	5.00~10.00	3	5	3	3
<F Configurable>	4	333					
	5	676					
	6	1156	5.00~30.00	8	10	8	5
	8	2803					
	10	5557					
	12	9702					

* 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.

M (Coarse)	Unit Price F Fixed						Unit Price F Configurable					
	JPHA	BJPHA	HJPHA	SJPHA	CJPHA	TJPHA	JPHAM	BJPHAM	HJPHAM	SJPHAM	CJPHAM	TJPHAM
3												
4												
5												
6												
8												
10												
12												

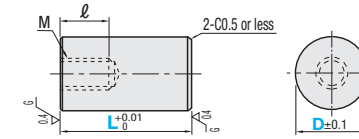
■ Round, Wrench Flats Tapped



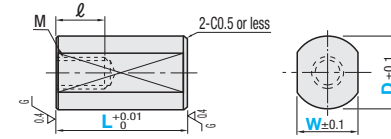
RoHS

Material	Surface Treatment	Hardness	Round	Wrench Flats
			JPHUF	JPHUW
SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	BJPHUF	BJPHUW
	Black Oxide	Treated Hardness: 60 ~ 63HRC	HJPHUF	HJPHUW
	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50 ~ 55HRC Plating Hardness: 750HV ~		

• Round



• Wrench Flats



Part Number Type	D	L		W	M (Coarse)	* Tightening Torque N·cm	ℓ
		0.01mm Increment	1mm Increment				
<Round>	6	12.00~30.00	-	-	M3	147	5
<Wrench Flats>	8	16.00~30.00	-	-	M5	676	8
JPHUF	10	16.00~50.00	8~9		M8	2803	12
BJPHUF	12	16.00~50.00	8~11				
HJPHUF	16	22.00~50.00	11~15				
	20	22.00~50.00	11~19				

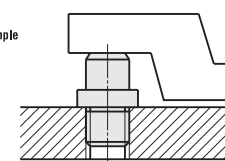
⚠ M+2<W<D ⚠ Wrench flats is D≥10. * Tightening torque (reference) will be within Strength Class of Tightening Torque on Technical Data P. 2297 (10.9). Not applicable when using locking materials or lock washers.

D	Unit Price Round			Unit Price Wrench Flats		
	JPHUF	BJPHUF	HJPHUF	JPHUW	BJPHUW	HJPHUW
6						
8						
10						
12						
16						
20						



Ordering Example Part Number - L - D - W - F
 (Round, F Fixed) JPHAF3 - 5.21 - 6
 (Round, F Configurable) JPHAFM3 - L5.21 - D6 - F9
 (Wrench Flats, F Fixed) HJPHAW10 - 20 - 15 - W11
 (Wrench Flats, F Configurable) HJPHAWM10 - L20.00 - D15 - W11 - F15

■ Shouldered, Threaded (F Fixed) JPHA8 - 14 (F Configurable) JPHAM8 - L14.00 - F10



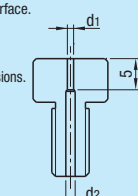
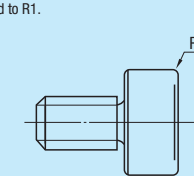
■ Round, Wrench Flats Tapped (Round) JPHUF6 - 20.00 (Wrench Flats) BJPHUW10 - 17.00 - W8



Alterations Part Number - L - D - W - F - (CRC, EAT)
 JPHAF10 - 20.50 25 - CRC
 HJPHAWM10 - L15.00 - D20 - W20 - F15 - EAT

⚠ Alterations are applicable to Threaded only.

Alterations Code	Radius to End Face		Seating Sensor Holes																						
	CRC	EAT	EAT																						
Spec.	Chamfering of workpiece receiving-surface is changed to R1. Ordering Code CRC ⚠ No addition of radius to wrench flats. ⚠ Applicable when L≥15.		Machines seating sensor holes on the work-receiving surface. Hole diameters are shown in the table below. Ordering Code EAT ⚠ Applicable when D≥6. ⚠ Application conditions vary depending on F and L dimensions.																						
			<table border="1"> <thead> <tr> <th rowspan="2">M</th> <th colspan="2">Through Hole Dia.</th> <th rowspan="2">Applicable Overall Length Conditions</th> </tr> <tr> <th>Narrow Hole Dia. d1</th> <th>Through Hole Dia. d2</th> </tr> </thead> <tbody> <tr><td>6</td><td>1.0</td><td>1.5</td><td>F+L≤20</td></tr> <tr><td>8</td><td>1.0</td><td>2.5</td><td>F+L≤30</td></tr> <tr><td>10</td><td>1.5</td><td>3.5</td><td>F+L≤40</td></tr> <tr><td>12</td><td>1.5</td><td>4.5</td><td>F+L≤50</td></tr> </tbody> </table>		M	Through Hole Dia.		Applicable Overall Length Conditions	Narrow Hole Dia. d1	Through Hole Dia. d2	6	1.0	1.5	F+L≤20	8	1.0	2.5	F+L≤30	10	1.5	3.5	F+L≤40	12	1.5	4.5
M	Through Hole Dia.		Applicable Overall Length Conditions																						
	Narrow Hole Dia. d1	Through Hole Dia. d2																							
6	1.0	1.5	F+L≤20																						
8	1.0	2.5	F+L≤30																						
10	1.5	3.5	F+L≤40																						
12	1.5	4.5	F+L≤50																						



Height Adjusting Pins

Press Fit, Counterbored

■ Features: Locating Pins for the height direction. Press Fit and Counterbored. O.D. and Height Configurable.

■ Press Fit

Material	Surface Treatment	Hardness	Type			
			L Configurable		D and L Configurable	
			d dim. Tolerance p6	d dim. Tolerance m6	d dim. Tolerance p6	d dim. Tolerance m6
SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	JPAT	JPAM	JPATF	JPAMF
SKS3 Equivalent	Black Oxide	Treated Hardness: 60 ~ 63HRC	BJPAT	BJPAM	BJPATF	BJPAMF
SKS3 Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50 ~ 55HRC Plating Hardness: 750HV ~	HJPAT	HJPAM	HJPATF	HJPAMF
SUS304	-	-	SJPAT	SJPAM	SJPATF	SJPAMF
SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	CJPAT	CJPAM	CJPATF	CJPAMF

■ L Configurable

Part Number		L 0.01mm Increment	D	ℓ	Unit Price				
Type	d				JPAT	BJPAT	HJPAT	SJPAT	CJPAT
JPAT	3	2.00-10.00	6	5					
BJPAT	4								
HJPAT	5								
SJPAT	8	5.00-30.00	12	8					
CJPAT	10								
	12								
		10.00-50.00	18	12					

Workpiece

■ D and L Configurable

Part Number		L 0.01mm Increment	D 1mm Increment	ℓ	Unit Price				
Type	d				JPATF	BJPATF	HJPATF	SJPATF	CJPATF
JPATF	3	2.00-10.00	5-30 (d<D<5d)	5					
BJPATF	4								
HJPATF	5								
SJPATF	8	5.00-30.00		8					
CJPATF	10								
	12								
		10.00-50.00		10					

■ Counterbored

Material	Surface Treatment	Hardness	Type	
			L Configurable	D and L Configurable
SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	JPHU	JPHUZ
SKS3 Equivalent	Black Oxide	Treated Hardness: 60 ~ 63HRC	BJPHU	BJPHUZ
SKS3 Equivalent	Hard Chrome Plating Plating Thickness: 3µm or more	Treated Hardness: 50 ~ 55HRC Plating Hardness: 750HV ~	HJPHU	HJPHUZ
SUS304	-	-	SJPHU	SJPHUZ
SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	CJPHU	CJPHUZ

■ L Configurable

Part Number		L 0.01mm Increment	D	d1	d2	H	Applicable Screw	* Tightening Torque N·cm	Unit Price				
Type	No.								JPHU	BJPHU	HJPHU	SJPHU	CJPHU
JPHU	3	6.00-15.00	12	3.5	6.5	4	M3	147					
BJPHU	4												
HJPHU	5												
SJPHU	6	8.00-20.00	15	5.5	9.5	6	M5	676					
CJPHU	8												
		9.00-25.00	20	6.5	11	7	M6	1156					
		11.00-30.00	30	9	14	9	M8	2803					

■ D and L Configurable

Part Number		L 0.01mm Increment	D 1mm Increment	d1	d2	H	Applicable Screw	* Tightening Torque N·cm	Unit Price				
Type	No.								JPHUZ	BJPHUZ	HJPHUZ	SJPHUZ	CJPHUZ
JPHUZ	3	6.00-15.00	10-15	3.5	6.5	4	M3	147					
BJPHUZ	4												
HJPHUZ	5												
SJPHUZ	6	8.00-20.00	12-20	4.5	8	5	M4	333					
CJPHUZ	8												
		15-20		5.5	9.5	6	M5	676					
		9.00-25.00	15-25	6.5	11	7	M6	1156					
		11.00-30.00	18-30	9	14	9	M8	2803					

* 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 - P - B

JPAT8 - 15.00 (Press Fit, L Configurable)

JPHU3 - 10.00 (Counterbored, L Configurable)

JPATF8 - 15.00 - 12 (Press Fit, D and L Configurable)

JPHUZ5 - 10.00 - 20 (Counterbore, D and L Configurable)

Height Adjusting Pins

Flat, Tip Set Screw

■ Features: With Wrench Flats. Locating is possible by attaching a pin on the tip or by Flat Tip adjustment.

Material	Surface Treatment	Hardness	Flat			Tip Set Screw Type	
			Threaded	Tapped	Threaded with Pilot	Threaded	Tapped
① SKS3 STPB8	Black Oxide	-	STPAB	STPBB	STPDB	SPFAB	-
② SKS3 STPAR	Hard Chrome Plating	-	STPAR	STPBR	STPDR	-	-
③ SKS3 STPAH	Black Oxide	Treated Hardness: 45 ~ 50HRC	STPAHB	STPBHB	STPDHB	-	-
④ SKS3 STPAHR	Hard Chrome Plating	Treated Hardness: 45 ~ 50HRC	STPAHR	STPBHR	STPDHR	-	-
⑤ SUS304	-	-	STPASU	STPBSU	STPDSU	-	SPFBSU
⑥ SUS440C Equivalent	-	Treated Hardness: 50 ~ 55HRC	STPAC	STPBC	STPDC	-	-

Hard Chrome Plating: Plating Hardness 750HV ~, Plating Thickness 3µm or more

■ Flat

• Threaded

• Tapped

• Threaded with Pilot

When D8, L dimension 15 or less is M x 1.2.

■ Tip Set Screw

• Threaded

• Tapped

When D8, L dimension 15 or less is M x 1.2.

* The dispersion of L dimension should be within 0.02 for same orders.

◆ Tapped, Threaded Recommended Tightening Torque (Reference)

M (Coarse)	Tightening Torque N·cm
M3	147
M4	333
M5	676
M6	1156
M8	2803
M10	5557
M12	9702
M16	24108
M20	46942

* 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.

■ Flat

Part Number		L 0.01mm Increment	D	M (Coarse)	d	Ms (Coarse)	F	W	ℓ						
Type	Pilot														
Threaded STPAB STPAR STPAHB STPAHR STPASU STPAC	Tapped STPBB STPBR STPBHB STPBHR STPBSU STPBC	10.00-50.00	6	M3	3	M3	1.5	5	8						
										20.00-80.00	M5	6	M6	3	8

■ Tip Set Screw

Part Number		L 0.01mm Increment	P Selection	B 0.5mm Increment	d	F	M1 (Coarse)	W	ℓ	A	M2 (Coarse)	N (Coarse)	Unit Price Tip Set Screw										
Type	D												①	⑤	①	⑤							
Threaded SPFAB	Tapped SPFBSU	12	6	4.0-6.0	8	4	M8	10	10	10	M5	M3	SPFAB	SPFASU	SPFBB	SPFBSU							
													15	8	5.0-10.0	10	5	M10	13	10	15	M8	M4
													20	10	5.0-15.0	12	5	M12	17	10	20	M8	M4
													25	12	5.0-19.0	16	5	M16	20	12	24	M10	M4
													30	16	5.0-23.0	20	6	M20	24	18	28	M16	M4

Ordering Example

Part Number - L - P - B

STPAB10 - L20.03 (Flat)

SPFAB12 - L20.01 - P6 - B5 (Tip Set Screw)

Example

JPGQS6S (P. 1630)

Tip Set Screw, Tapped

D	Unit Price Threaded						Unit Price Tapped						Unit Price Threaded with Pilot					
	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥	①	②	③	④	⑤	⑥
6																		
8																		
10																		
12																		
15																		
20																		