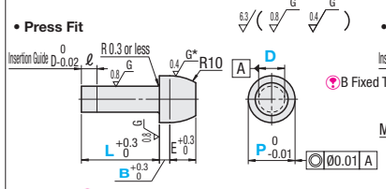
Locating Pins
Pilot Pins

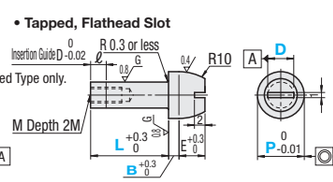
Features: Insert it to prevent deviation in pitch for locating.

Material	Hardness	B Fixed		B Configurable		
		Press Fit	Tapped, Flathead Slot	Press Fit	Tapped	
					Without Flathead Slot	Flathead Slot
SKS3 Equivalent	Treated Hardness: 60 ~ 63HRC	HPST	HPSTM	HPSF	HPSFS	HPSFM
SUS304	-	SHPST	SHPSTM	SHPSF	-	SHPSFM
SUS440C or 13Cr stainless	Treated Hardness: 50 ~ 55HRC	CHPST	CHPSTM	CHPSF	CHPSFS	CHPSFM

• Press Fit

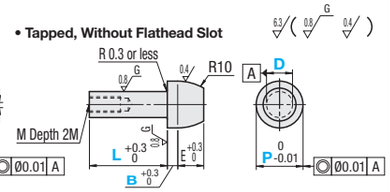


• Tapped, Flathead Slot



Ⓟ B Fixed Type only.

• Tapped, Without Flathead Slot



Ⓟ Tips with D dimensions of ø5 or higher are not polished. (*Part)

B Fixed, Standard, Tapped

Part Number Type	D	D dim. Tolerance	L Selection	P 0.01mm Increment	B	E	ℓ	M (Coarse)	*Tightening Torque N·cm	Unit Price HPST	SHPST	CHPST	HPSTM	SHPSTM	CHPSTM
Standard: HPST SHPST CHPST / Tapped Flathead Slot: HPSTM SHPSTM CHPSTM (Ⓟ Applicable when D≥5.)	1	+0.012 +0.007	12	1.50~3.00	1	3	3	-	-				-	-	-
	2		12	2.50~4.00		4							-	-	-
	3		12 15	4.00~6.00	2								-	-	-
	4		12 15	5.00~7.00		5							-	-	-
	5		12 15	6.00~8.00				M3	98						
	6		12 15	7.00~9.00		6									
	8		15 18	9.00~13.00	3			M4	225						
	10		15 18	11.00~15.00				M5	461						

B Configurable, Press Fit

Part Number Type	D	D dim. Tolerance	L Selection	P 0.01mm Increment	B 0.01mm Increment	E	ℓ	Unit Price HPSF	SHPSF	CHPSF
HPSF SHPSF CHPSF	1	+0.012 +0.007	3 4 5 6 8 10 12	1.50~3.00	1.00~5.00	3	1			
	2		4 5 6 8 10 12	2.50~4.00	1.00~10.00	4				
	3		5 6 8 10 12 15	4.00~6.00	1.00~10.00					
	4		5 6 8 10 12 15	5.00~7.00	1.00~10.00	5				
	5		5 6 8 10 12 15	6.00~8.00	1.00~10.00					
	6		6 8 10 12 15	7.00~10.00	1.00~12.00	6				
	8		8 10 12 15	9.00~13.00	1.00~15.00					
	10		10 12 15 18	11.00~15.00	1.00~20.00					

B Configurable, Tapped

Part Number Type	D	D dim. Tolerance g6	L Selection	P 0.01mm Increment	B 0.01mm Increment	E	M (Coarse)	*Tightening Torque N·cm	Unit Price HPSFS	CHPSFS	HPSFM	SHPSFM	CHPSFM
Without Flathead Slot: HPSFS CHPSFS / Flathead Slot: HPSFM SHPSFM CHPSFM	5	-0.004 -0.012	6 8 10 12 15	6.00~8.00	1.00~10.00	5	M3	98					
	6		6 8 10 12 15	7.00~10.00	1.00~12.00								
	8	-0.005 -0.014	8 10 12 15 18	9.00~13.00	1.00~15.00	6	M4	225					
	10		10 12 15 18	11.00~15.00	1.00~20.00		M5	461					

*The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on P. 2297.) Not applicable when using locking materials or lock washers.

Ordering Example

Part Number	-	L	-	P	-	B
HPST5	-	15	-	P7.20		
HPSF4	-	10	-	P5.05	-	B1.20

Alterations

Part Number	-	L	-	P	-	(BC)
HPSTM5	-	15	-	P7.20	-	BC3.5

Alteration	Code	Spec.		
B Dimension 	BC	BC=0.1mm Increment 1≤BC≤BC max Ordering Code BC3.5 Ⓟ Applicable to B Fixed Type only.	D	BC max
			1, 2	3.0
			3	4.0
			4, 5	5.0
			6	6.0
			8, 10	7.0

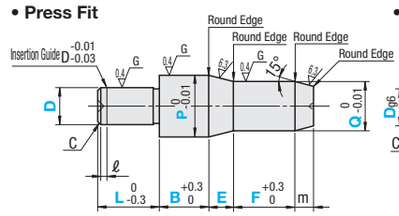
Locating Pins
Double Stepped

Features: Suitable for positioning workpieces with different hole diameters.

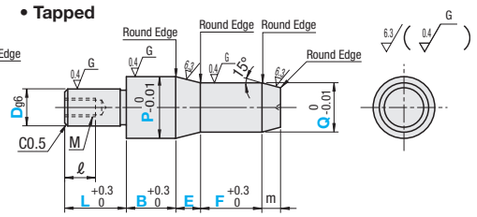
Material	Surface Treatment	Hardness	Press Fit		Tapped
			D Tolerance m6	D Tolerance p6	D Tolerance g6
SKS3 Equivalent	-	Treated Hardness: 60 ~ 63HRC	WPM	WPP	WPG
SUS304	-	-	SWPM	-	SWPG
SUS304	Hard Chrome Plating	Plating Hardness: 750HV ~	HWPM	HWPP	HWPG

D	m6	p6	g6
2, 3	+0.008 +0.002	+0.012 +0.006	-0.002 -0.008
4~6	+0.012 +0.004	+0.020 +0.012	-0.004 -0.012
8, 10	+0.015 +0.006	+0.024 +0.015	-0.005 -0.014
12, 16	+0.018 +0.007	+0.029 +0.018	-0.006 -0.017
20	+0.021 +0.008	+0.035 +0.022	-0.007 -0.020

• Press Fit



• Tapped



Ⓟ P>Q Q-2tan15°≤0.73 tan15°≈0.267 Ⓟ SUS304 may not be polished and may have no centering hole.

Press Fit

Part Number Type	D	P 0.01mm Increment	Q 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	E 0.1mm Increment	F 0.1mm Increment	m	C	ℓ	Unit Price WPM WPP	SWPM	HWPM HWPP
D Tolerance m6: WPM SWPM HWPM / D Tolerance p6: WPP HWPP	2	2.00~4.00	1.00~3.00	2~6	2.0~6.0	1.0~3.0	2.0~6.0	1	0.3	0			
	3	3.00~6.00	1.00~5.00	3~6	2.0~10.0	1.0~5.0	2.0~10.0	2	0.5				
	4	4.00~7.00	2.00~6.00	4~8	2.0~15.0	1.0~8.0	2.0~15.0						
	5	5.00~8.00	2.00~7.00	5~10	2.0~20.0	1.0~10.0	2.0~20.0	3	1	1			
	6	6.00~10.00	2.00~9.00	6~12									
	8	8.00~13.00	3.00~12.00	8~16					1.5				
	10	10.00~15.00	3.00~14.00	10~20	3.0~20.0		3.0~20.0	4	2	2			
	12	12.00~16.00	5.00~15.00	12~24									
	16	16.00~25.00	10.00~24.00	16~32	5.0~20.0		5.0~20.0	5	3				
	20	20.00~30.00	13.00~29.00	20~40									

Ⓟ P>Q

Tapped

Part Number Type	D	P 0.01mm Increment	Q 0.01mm Increment	L 1mm Increment	B 0.1mm Increment	E 0.1mm Increment	F 0.1mm Increment	m	M (Coarse)	*Tightening Torque N·cm	ℓ	Unit Price WPG	SWPG	HWPG
D Tolerance g6: WPG SWPG HWPG	6	6.00~10.00	2.00~9.00	6~12	2.0~20.0	1.0~10.0	2.0~20.0	3	M3	98	5			
	8	8.00~13.00	3.00~12.00	8~16				4	M4	225	8			
	10	10.00~15.00	3.00~14.00	10~20	3.0~20.0		3.0~20.0		M5	461				
	12	12.00~16.00	5.00~15.00	12~24										
	16	16.00~25.00	10.00~24.00	16~32	5.0~20.0		5.0~20.0	5	M8	1911	12			
	20	20.00~30.00	13.00~29.00	20~40										

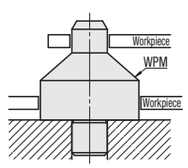
Ⓟ P>Q Ⓟ Note the strength of under-head part. P1566

*The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on P. 2297.) Not applicable when using locking materials or lock washers.

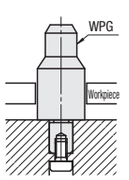
Ordering Example

Part Number	-	P	-	Q	-	L	-	B	-	E	-	F
SWPM5	-	P7.30	-	Q5.01	-	L10	-	B10.5	-	E5.2	-	F7.8
HWPG16	-	P20.02	-	Q15.30	-	L18	-	B12.3	-	E3.1	-	F5.0

Example



Applicable to different hole diameters.
(Suitable for reducing number of tooling changes.)



Small diameter (Q dimension) can be used as the insertion guide.