

Locating Pins - Shouldered

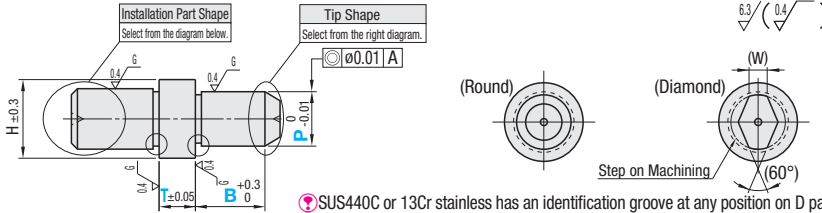
Tip Shape Selectable

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

Features: The tip shape and the fixed shape of the Shouldered type are selectable from three types respectively.

Material	Surface Treatment	Hardness	Type	Mounting Shape	Material Code
(1)SKS3 Equivalent	-	Treated Hardness: 55-60HRC	LP (Round) LPD (Diamond)	M (Press Fit) U (Tapped) X (Threaded)	J
(2)SKS3 Equivalent	Hard Chrome Plating	Treated Hardness: 50-55HRC Plating Hardness: 750HV ~			G
(3)S45C Equivalent	-	Treated Hardness: 45-50HRC or more			Y
(4)S45C Equivalent	Black Oxide	Treated Hardness: 45-50HRC or more			B
(5)S45C Equivalent	Hard Chrome Plating	Treated Hardness: 45-50HRC Plating Hardness: 750HV ~			R
(6)SUS304	-	-			S
(7)SUS304	Hard Chrome Plating	Plating Hardness: 750HV ~			D
(8)SUS440C or 13Cr stainless	-	Treated Hardness: 50-55HRC			C

SUS304 may not be polished and may have no centering hole.



Tip Shape Selection

A $\ell_1 = R \cdot \sqrt{\frac{P^2}{4}}$

B $\ell_2 = \left(\frac{P}{2} - \frac{G}{2}\right) \div \tan 30^\circ$
Reference: $\tan 30^\circ = 0.577$
When G=P, add about 0.2 chamfering.

C $\ell_3 = \frac{P}{2} \div \tan 30^\circ + R \cdot (R/\sin 30^\circ)$
Reference: $\tan 30^\circ = 0.577$, $\sin 30^\circ = 0.5$

When D(P) ≥ 3
a=1.0
d=D(P)-0.2

When D(P) < 3
a=0.5
d=D(P)-0.1

Relief dimension is a reference value.

D	C	H	(W)	M ₁ Coarse	Tightening Torque M ₁ -cm	ℓ
2	0.5	7	-	-	-	-
3	-	8	1	-	-	-
4	-	9	1.2	-	-	-
5	1	10	1.5	-	-	-
6	-	11	1.8	M3	98	5
8	1.5	13	2.2	-	-	-
10	2	15	3	M5	461	8
12	-	17	3.2	-	-	-
16	3	21	4	M8	1911	12
20	-	25	5.5	-	-	-

* The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on P.2265.)
Not applicable when using locking materials or lock washers.

Mounting Shape Selection

Shape M (Press Fit) D_{m6} , $L_{+0.3/0}$

Shape U (Tapped) M_1 , D_{f6} , $L_{-0.1/-0.3}$, $C0.5$, $D \geq 6$

Shape X (Threaded) $M_2(=D)$, $M \times 1.5$, $L_{-0.1/-0.3}$, $D \geq 3$

Type	Part Number		Tip Shape	D	P	B	R	G	L	T
	Mounting Shape	Material Code								
LP (Round) LPD (Diamond) Applicable when D≥3.	M (Press Fit) U (Tapped) (D≥6)	J G Y B R S D C	A	2	2.50-4.00	1.5-25.0			2-6	
			B	3	3.50-6.00	2.0-25.0(10.0)			3-8(6)	
			C	4	3.50-7.00	2.0-25.0(10.0)	Shape A R=P/2	Shape B G=P	3(4)-10(8)	1.0-10.0
				5	4.00-8.00	2.0-30.0(12.0)			5-15(10)	
		6	5.00-10.00	2.0-40.0(15.0)			6(10)-15(12)			
		8	6.00-11.00	2.0-40.0(15.0)			8(14)-16			
		10	8.00-13.00	3.0-50.0(20.0)			10(14)-20			
		12	10.00-15.00	3.0-50.0(20.0)			12(14)-24			
	16	13.00-18.00	5.0-50.0(20.0)			16-32				
	20	16.00-22.00	5.0-50.0(20.0)			20-40				

B dimensions in () and L dimensions in () are for Diamond Shape.

Ordering Example

Part Number: LP U J B 8 - P10.00 - B10.0 - R10 - G8 - L14 - T2.0
LPD X J A 10 - P11.98 - B5.0 - R10 - L10 - T5.0

D	Round Shape and Mounting Shape M Unit Price								Diamond Shape and Mounting Shape M Unit Price							
	(1)Treated SKS3 LPMJ	(2)Hard SKS3 LPMG	(3)S45C LPMY	(4)S45C Black Oxide LPMB	(5)Hard S45C LPMR	(6)SUS304 LPMS	(7)Hard SUS304 LPMD	(8)SUS440C or 13Cr stainless LPMC	(1)Treated SKS3 LPDMJ	(2)Hard SKS3 LPDMG	(3)S45C LPDMY	(4)S45C Black Oxide LPDMB	(5)Hard S45C LPDMR	(6)SUS304 LPDMS	(7)Hard SUS304 LPDMD	(8)SUS440C or 13Cr stainless LPDMC
2																
3																
4																
5																
6																
8																
10																
12																
16																
20																

Alterations

Part Number: LPMJA6 - P10.00 - B10.0 - R6 - L6 - T3.0 - LAC

Alterations	Wrench Flats Alteration	Wrench Hole (Ø3.5)	Wrench Hole (Ø2.5)
Code	HC	LAC	LTE
Spec.	HC = 0.5mm increment HC > DHC > P Ordering Code: HC10.0	Adds a Ø3.5 hole. Applicable when B≥10 and P≥8. Not applicable to Diamond Shape.	Adds a Ø2.5 hole. Applicable when B≥8 and 7≤P≤15. Not applicable to Diamond Shape.