


Pivot Pins - Diameter Tolerance Selectable



RoHS10

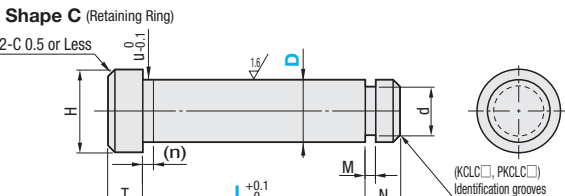
Type	Material	Hardness	Surface Treatment	Accessory Shape C (Retaining Ring)	Accessory Shape B (Nut)
KCL□□□	S45C Equivalent	40~45HRC	Black Oxide	Spring Steel	SWRCH
KCLH□□□					
PKCL□□□	SUS304	40~45HRC	Electroless Nickel Plating	SUS304	SUS304
PKCLH□□□					
KCLS□□□	SUS304	-	-	SUS304	SUS304
KCLSH□□□	SUS440C Equivalent	45~50HRC	-	SUS304	SUS304

D	Tolerance Selection					*LF
	M	P	H	F	C	
2, 3	+0.008 +0.002	+0.012 +0.006	0 -0.010	-0.006 -0.020	-0.060 -0.085	-0.025 -0.034
4, 5, 6	+0.012 +0.004	+0.012 +0.012	0 -0.012	-0.010 -0.028	-0.070 -0.100	-0.025 -0.037
8, 10	+0.015 +0.006	+0.024 +0.015	0 -0.015	-0.013 -0.035	-0.080 -0.116	-0.025 -0.040
12~18	+0.018 +0.007	+0.029 +0.018	0 -0.018	-0.016 -0.043	-0.095 -0.138	-0.025 -0.043
20~25	+0.021 +0.008	+0.035 +0.022	0 -0.021	-0.020 -0.053	-0.110 -0.162	-0.025 -0.046

* LF tolerances are recommended values for Multi-Layer Oil Free Bushings LF Type (MDZB, MDZF).

- ☑ KCLSH□□□ may be discolored by hardening.
- ☑ Relief dimension under the shoulder is for reference.
- ☑ This type may have centering holes depending on dimensions.
- ☑ For L Dimension, Standard Machining Tolerances (Class: Medium) is used.
- ☑ KCL□□□, PKCL□□□ may have identification grooves on the side in order to distinguish them from Hardened Type.

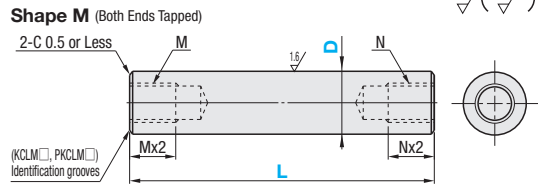
Shape C (Retaining Ring)



2-C 0.5 or Less
u-0.1
D
1/8
n
L+0.1
M
N

(KCLC□□, PKCLC□□) Identification grooves

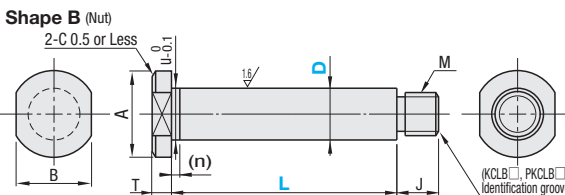
Shape M (Both Ends Tapped)



2-C 0.5 or Less
M
N
D
1/8
L
Mx2
Nx2

(KCLM□□, PKCLM□□) Identification grooves

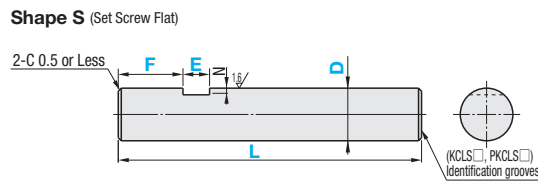
Shape B (Nut)



2-C 0.5 or Less
u-0.1
D
1/8
n
L
M
J


(KCLB□□, PKCLB□□) Identification grooves

Shape S (Set Screw Flat)



2-C 0.5 or Less
F
E
D
1/8
L

(KCLS□□, PKCLS□□) Identification grooves



Alterations

Part Number - L - (NC, TC...etc.)

KCLCF15 - 120.3 - NC3.5 - TC3.5

Alterations	Retaining Ring Groove Position	Shoulder Thickness	Thread Part Length	Thread Diameter	Shoulder Thickness	L Dimension Tolerance
	Shape C NC	Shape C TC	Shape B FC	Shape B MC	Shape B TC	Shape B LKC
Code	NC	TC	FC	MC	TC	LKC
Spec.	Ordering Code: NC3.5 D NC (0.1mm Increment) 2~4 1.5~3 5 1.7~3 6 1.9~4 8 2.4~5 10~18 2.7~5 20~25 2.9~5 Overall Length is L+NC+T.	Ordering Code: TC3 TC=0.5mm Increment T<TC<5 Overall Length is L+N+TC.	Ordering Code: FC4 FC=1mm Increment M (MC) ≤ FC ≤ M (MC) x3	Ordering Code: MC3 MC (Selection Range) D MC 5 3 6 3 4 8 3 4 5 10 4 5 6 8 12 5 6 8 13~18 6 8 10 20, 22 8 10 12 25 10 12 When ordering MC5 for D12, also specify Alteration FC. Not applicable to D4.	Ordering Code: TC3 TC=0.5mm Increment 2≤TC≤5	Ordering Code: LKC Changes L dimension tolerance to ±0.05.

Alterations	Thread Diameter	Tapping
	Shape M MC NC	Shape S MMC
Code	MC, NC	MMC
Spec.	Ordering Code: MC3 D MC, NC (Selection Range) 8 3 4 10, 12 4 5 13~15 5 6 16~18 6 8 20, 22 8 10 25 10 12 Not applicable to D6. L: MCx2+NCx2	Ordering Code: MMC D M (Coarse) l 6 M3 6 8~14 M4 8 15~22 M6 12 25 M8 16 Not applicable to D3~5. (D-M)/2-N≤1, F>Mx2. L>Mx3

Shape C (Retaining Ring) * For details, see P2303.

Part Number	Type	D Tolerance	D	L=0.1mm Increment	M Tolerance	N	u (n)	d Tolerance	T	H	Included Retaining Ring Shape/JIS Nominal						Unit Price									
											No. 1.5	No. 2	No. 3	No. 4	No. 5	No. 7	No. 10	No. 12	No. 13	No. 14	No. 15	No. 16	No. 17	No. 18	No. 19	No. 20
KCLC KCLHC PKCLHC KCLSC KCLSHC	M (m6)		2	5.0~30.0	0.5	+0.05 0	2	1.9	1.0	1.5	4.5	E Type														
			3	5.0~50.0				2.9				2	5.5													
			4	5.0~50.0				3.9				3	6.5													
			5	10.0~60.0				4.9				4	8													
			6	10.0~100.0				5.8				5	9													
	P (p6)			7	10.0~100.0	0.7	+0.1 0	3	7.8	1.5	7	12	C Type													
				8	10.0~100.0				8.8				8	14												
				9	15.0~100.0				9.8				9	17												
				10	15.0~100.0				10.8				10	18												
				11	15.0~100.0				11.8				11	19												
	H (h7)			12	25.0~200.0	1.15	+0.14 0	3	12.8	1.5	14.3	20														
				13	25.0~200.0				13.8				13	21												
				14	25.0~200.0				14.8				14	22												
				15	25.0~200.0				15.8				15	23												
				16	25.0~200.0				16.8				16	24												
	F (f8)			17	30.0~200.0	1.35	+0.14 0	3	17.8	1.5	19.3	26														
				18	30.0~200.0				18.8				18	27												
				19	30.0~200.0				19.8				19	28												
				20	30.0~200.0				20.8				20	29												
				21	30.0~200.0				21.8				21	30												
	C (c9)			22	30.0~200.0	1.35	+0.14 0	3	21.8	1.5	23.9	30														
				23	30.0~200.0				22.8				23													
				24	30.0~200.0				23.8				24													
				25	30.0~200.0				24.8				25													
	LF (for Bushings)			22	30.0~200.0	1.35	+0.14 0	3	21.8	1.5	23.9	30														
23				30.0~200.0	22.8				23																	
24				30.0~200.0	23.8				24																	
25				30.0~200.0	24.8				25																	

Shape B (Nut)

Part Number	Type	D Tolerance	D	L=0.1mm Increment	A	B	T	J	u (n)	M (Coarse)	Included Nut	Unit Price						
												KCLB	KCLHB	PKCLB	PKCLHB	KCLSB	KCLSHB	
KCLB KCLHB PKCLB PKCLHB KCLSB KCLSHB	M (m6)		4	5.0~50.0	7	5	3	6	3.9	1.5	M 3	M 3x0.5						
			5	5.0~60.0								4.9	M 4	M 4x0.7				
			6	5.0~60.0								5.8	M 5	M 5x0.8				
			8	10.0~100.0								7.8	M 6	M 6x1.0				
			10	10.0~100.0								9.8	M 8	M 8x1.25				
	P (p6)			11	10.0~100.0	18	14	5	18	11.8	1.5	M 10	M 10x1.5					
				12	15.0~200.0								12.8					
				13	15.0~200.0								13.8					
				14	15.0~200.0								14.8					
				15	15.0~200.0								15.8					
	H (h7)			16	25.0~200.0	24	21	5	24	14.8	1.5	M 12	M 12x1.75					
				17	25.0~200.0								15.8					
				18	25.0~200.0								16.8					
				19	25.0~200.0								17.8					
				20	25.0~200.0								18.8					
	F (f8)			21	30.0~200.0	27	23	5	24	19.8	1.5	M 16	M 16x2.0					
				22	30.0~200.0								20.8					
				23	30.0~200.0								21.8					
				24	30.0~200.0								22.8					
				25	30.0~200.0								23.8					
	C (c9)			24	30.0~200.0	30	27	5	24	21.8	1.5	M 16	M 16x2.0					
				25	30.0~200.0								22.8					
				26	30.0~200.0								23.8					
				27	30.0~200.0								24.8					
	LF (for Bushings)			24	30.0~200.0	30	27	5	24	21.8	1.5	M 16	M 16x2.0					
25				30.0~200.0	22.8													
26				30.0~200.0	23.8													
27				30.0~200.0	24.8													

Shape M (Both Ends Tapped)

Part Number	Type	D Tolerance	D	L=0.1mm Increment	M (Coarse)	N (Coarse)	Unit Price					
							KCLM	KCLHM	PKCLM	PKCLHM	KCLSM	KCLSHM
KCLM KCLHM PKCLM PKCLHM KCLSM KCLSHM	M (m6)		6	20.0~100.0	M 3	M 3						
			8	20.0~100.0		M 5	M 5					
			10	25.0~100.0		M 6	M 6					
	P (p6)			11	25.0~200.0	M 6	M 6					
				12	25.0~200.0							
				13	25.0~200.0							
	H (h7)			14	35.0~200.0	M 8	M 8					
				15	35.0~200.0							
				16	35.0~200.0							
	F (f8)			17	40.0~200.0	M 10	M 10					
				18	40.0~200.0							
				19	40.0~200.0							
	C (c9)			20	40.0~200.0	M 12	M 12					
				21	40.0~200.0							
				22	40.0~200.0							
LF (for Bushings)			23	50.0~200.0	M 16	M 16						
			24	50.0~200.0								
			25	50.0~200.0								

Shape S (Set Screw Flat)

Part Number	Type	D Tolerance	D	L=0.1mm Increment	1mm Increment		N	Unit Price						
					F	E		KCLS	KCLHS	PKCLS	PKCLHS	KCLSS	KCLSHS	
KCLS KCLHS PKCLS PKCLHS KCLSS KCLSHS	M (m6)		3	5.0~50.0	F=0 or 2≤F≤L/2	1	0.5							
			4	5.0~50.0										
			5	10.0~60.0										
			6	10.0~60.0										
			8	10.0~100.0										
	P (p6)			9	10.0~100.0	F=0 or 2≤F≤L/2	1	1						
				10	15.0~100.0									
				11	15.0~100.0									
				12	15.0~100.0									
				13	15.0~100.0									
	H (h7)			14	25.0~200.0	F=0 or 2≤F≤L/2	1	1						
				15	25.0~200.0									
				16	25.0~200.0									
				17	25.0~200.0									
				18	25.0~200.0									
F (f8)			19	25.0~200.0	F=0 or 2≤F≤L/2	1	1							
			20	25.0~200.0										
			21	25.0~200.0										
			22	25.0~200.0										
			23	25.0~200.0										
C (c9)			24	30.0~200.0	F=0 or 2≤F≤L/2	2	2							
			25	30.0~200.0										
			26	30.0~200.0										
			27	30.0~200.0										
			28	30.0~200.0										
LF (for Bushings)			29	30.0~200.0	F=0 or 2≤F≤L/2	2	2							
			30	30.0~200.0										
			31	30.0~200.0										
			32	30.0~200.0										

Ordering Example

Part Number - L - F - E

Type D Tolerance Selection D

KCLC M 15 - 120.3

KCLS F 15 - 50.5 - F0 - E10