

Pivot Pins

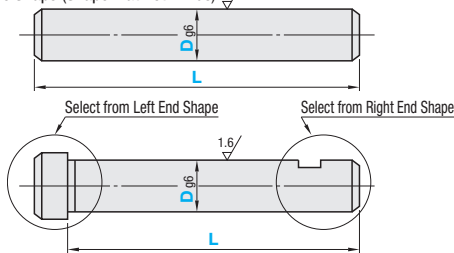
End Shape Combination Selectable



RoHS 10

Type	Material	Surface Treatment	Hardness
FCL	S45C Equivalent	Black Oxide	40-45HRC
FCLH		Electroless Nickel Plating	40-45HRC
PFCLH		Hard Chrome Plating	Plating Hardness 750HV-
GFCL		-	-
FCLSH	SUS304	-	45-50HRC
GFCLSH	SUS440C Equivalent	Hard Chrome Plating	45-50HRC Plating Hardness 750HV-

Basic Shape (Shape A at Both Ends)



- For L Dimension, Standard Machining Tolerances (Class: Medium) is used.
- When machining is needed at one end only, select Shape A for the other end.
- FCL, PFCL may have identification grooves on the side in order to distinguish them from Hardened Type.
- FCLSH and GFCLSH (SUS440C equivalent) may be discolored by hardening.
- When selecting shapes B and G or BG and GB for both ends, hole and flat positions are as shown in the catalog. The angle tolerance is $\pm 5^\circ$.
- This type may have centering holes depending on shapes and dimensions.
- When $L \leq$ the depth of tap's pilot hole, the pilot hole might go through.
- Shape D: Relief dimension under the shoulder is for reference.
- Selecting Shape D (FLDD) for both ends is not available.
- When Shape F is selected, $11 \leq L$.

Shape C: e, m Dimensions for Selection

D	Ref. Dim.	Tolerance	m	e
3	2	+0.06	0.5	0
4	3	0	0.7	0
5	4	+0.075	0.9	0
6	5	0	1.15	0
7	6	0	1.35	0
8	7	+0.09	1.5	0
9	8	0	1.7	0
10	9.6	-0.09	1.9	0
11	10.5	0	2.1	0
12	11.5	0	2.3	0
13	12.4	0	2.5	0
14	13.4	0	2.7	0
15	14.3	0	2.9	0
16	15.2	0	3.1	0
17	16.2	0	3.3	0
18	17	0	3.5	0
19	18	0	3.7	0
20	19	0	3.9	0

Shape D: u (n) Dimensions for Selection

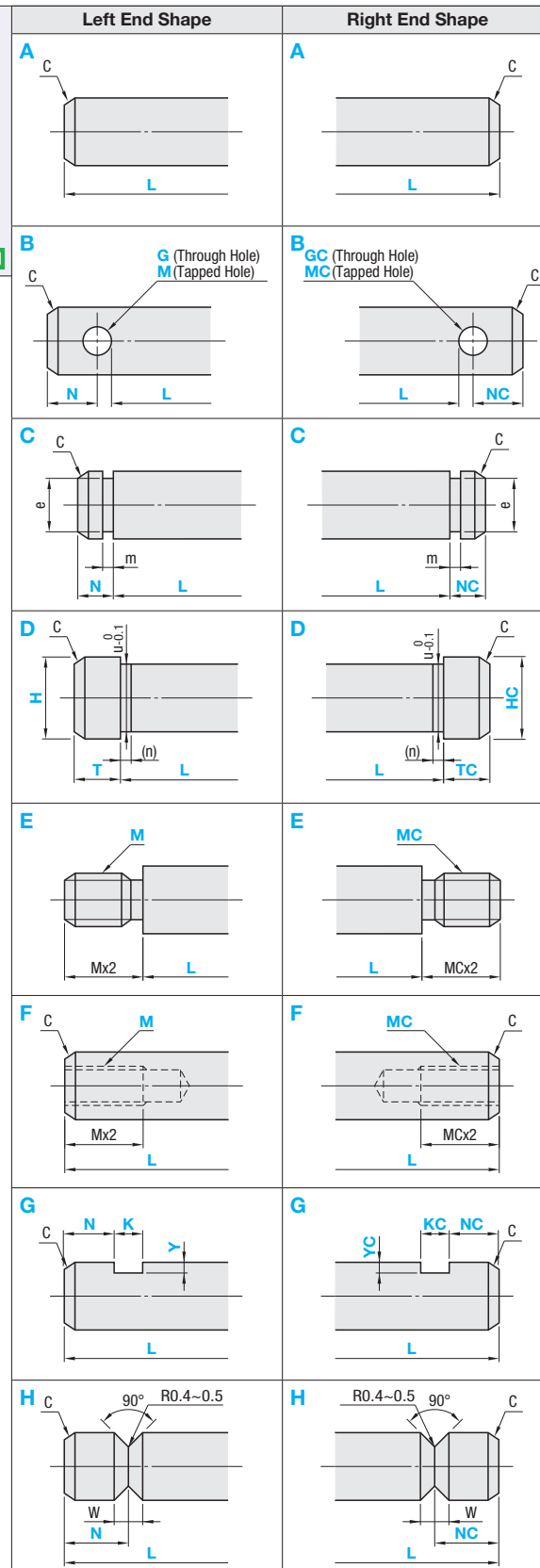
D	u	n
3	2.9	0.5
4	3.9	0.7
5	4.9	0.9
6	5.8	1.15
7	6.8	1.35
8	7.8	1.5
9	8.8	1.7
10	9.8	1.9
11	10.8	2.1
12	11.8	2.3
13	12.8	2.5
14	13.8	2.7
15	14.8	2.9
16	15.8	3.1
17	16.8	3.3
18	17.8	3.5
19	18.8	3.7
20	19.8	3.9

Shape E: Details of Thread Relief Machining

M (Coarse)	MxPitch	g	r	f
3	M3x0.5	0.9	0.2-0.4	0.9
4	M4x0.7	1.2	0.2-0.6	1.7
5	M5x0.8	1.8	0.2-1.0	2.2
6	M6x1.0	2.5	0.2-1.0	2.2
9	M9x1.25	3	0.2-1.0	2.2
10	M10x1.5	3	0.2-1.0	2.2
12	M12x1.75	3	0.2-1.0	2.2
16	M16x2.0	3	0.2-1.0	2.2

Shape H: W Dimension for Selection

D	W
6	1.5
7	1.5
8	1.5
9	1.5
10	1.5
11	1.5
12	2
13	2
14	2
15	2
16	2
17	2
18	3
19	3
20	3



Part Number	1mm Increment			0.1mm Increment				0.5mm Increment	Selection	C			
	Type	Left End Shape	Right End Shape	D	L	T (TC)	N (NC)	G (GC)	K (KC)		Y (YC)	H (HC)	M (MC) (Coarse)
FCL	A	A		3-20			$2 \leq N(NC) \leq L/4$ (Shaft End Shape C)					3	0.5 or Less
FCLH	B	B		$4 \leq D$ (Shaft End Shape E)	$5-200$ ($L \leq D \times 20$)	$0.5 \leq T(TC) \leq L/4$	$G(GC) - M(MC)/2 + 1 \leq N(NC) \leq L/4$ (Shaft End Shape B)					4	
PFCLH	C	C		$6 \leq D$ (Shaft End Shape B, F, H)			$N(NC) = 0$ or $2 \leq N(NC) \leq L/4$ (Shaft End Shape G)	$D/5 \leq G(GC) \leq D/2$	$2 \leq K(KC) \leq 30$	$Y(YC) \leq D/2$	$D + 1 \leq H(HC) \leq D + 10$	5	
GFCL	D	D					$2 \leq N(NC) \leq L/4$ (Shaft End Shape H)					6	
FCLSH	E	E										8	
GFCLSH	F	F										10	
	G	G										12	
	H	H										16	
												$M(MC) \leq D/2$ (Shaft End Shape B)	
												$M(MC) < D$ (Shaft End Shape E)	
												$M(MC) \leq D-3$ (Shaft End Shape F)	

Ordering Example: Part Number **FCL D G - D10 - L100 - T2 - H14 - NC10 - KC6.5 - YC1.5 - MC**

Type	D	Material Unit Price				Unit Price of Shaft End Machining								
		L5.0-50.0	L50.1-100.0	L100.1-150.0	L150.1-200.0	B	C	D	E	F	G	H		
FCL	3-5													
FCLH	6-10													
PFCLH	11-15													
GFCL	16-20													
FCLSH	3-5													
FCLSH	6-10													
FCLSH	11-15													
FCLSH	16-20													
GFCLSH	3-5													
GFCLSH	6-10													
GFCLSH	11-15													
GFCLSH	16-20													

Alterations: Part Number **FCL D G - D10 - L100 - T2 - H14 - NC10 - KC6.5 - YC1.5 - LFC13-DKC**

Alterations	Shape D: T(TC) Dimension, Wrench Flats		Shape E: M(MC) Length Change		O.D. Tolerance
	Left End Shape	Right End Shape	Left End Shape	Right End Shape	
	LFC	RFC	LBC	RBC	DKC
Code	LFC	RFC	LBC	RBC	DKC
Spec.	Ordering Code LFC (RFC) 10 LFC (RFC) = 0.5mm Increment $D \leq LFC (RFC) < H (HC)$		Ordering Code LBC (RBC) 20 LBC (RBC) = 0.5mm Increment $4 \leq LBC (RBC) \leq M(MC) \times 3$		Changes O.D. tolerance to h6. Ordering Code DKC

M	LBC (RBC)	M	LBC (RBC)
M3	3-9	M10	7-30
M4	3.5-12	M12	8.5-36
M5	4-15	M16	9-48
M6	5.5-18		
M8	6.5-24		