

Rotary Shafts

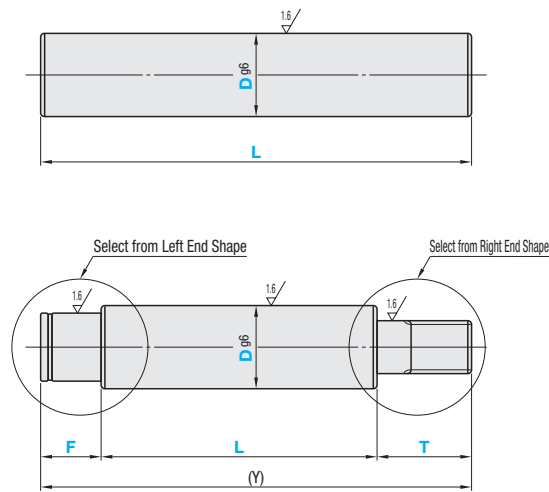
End Shape Selectable



RoHS10

Type	Material	Surface Treatment
SFR□□	EN 1.1191 Equiv.	Black Oxide
PSFR□□	EN 1.1191 Equiv.	Electroless Nickel Plating
SSFR□□	EN 1.4301 Equiv.	-

Base Shape (A Shape on Both Ends)



- (Y) ≤ Dx50 is required for (Y) dimension.
- When only one end needs to be machined, select A Shape for the other end.
- When L dimension is less than the tap pilot hole depth, the pilot hole might go through.
- H and J will not be symmetrical when applied to both ends of the shaft.
- H and J may be out of phase with other alterations.

	Left End Shape	Right End Shape	Machining Conditions
A			
B			For M3~8, M≤D-2 For M10~16, M≤D-3 For M20 or 24, M≤D-4 For M30, M≤D-5
C			P(Q)=M(N) Specify M(N) Dimension. Specification of P(Q) dimension is not required.
D			
E			For M3 ~ 8, M(N)≤P(Q)-2 For M10 ~ 16, M(N)≤P(Q)-3 For M20 or 24, M(N)≤P(Q)-4 For M30, M(N)≤P(Q)-5
F			For dimensions of retaining ring grooves (m, d), see P820.
G			D dimension 27, 31, 33, 34, 36, 37, 38, 39, 41, 42, 43, 44, 46, 47, 48 or 49 cannot be specified.
H			For details of hex socket dimensions, see P820. Applicable when D≤30.
J			R(W)-M(N)≥t D-R-M≥2 D-W-N≥2 M(N) tmin 4- 5 0.8 6-12 1.0 Tap Depth Mx2 Nx2

Type	Part Number		1mm Increment	0.1mm Increment	1mm Increment			Selection	1mm Increment	C
	Left End Shape	Right End Shape			D	L	F, T			
SFR	A	A	6-50	20.0~800.0 (L≤Dx50)	2≤F≤Px5 2≤T≤Qx5	When M, N≤10 2≤B≤Mx3 2≤S≤Nx3	When D, P, Q≤6 2≤H, U	D/3≤P, Q<D	3 4 5	D≥M+4+R R≥M+3 W≥N+3
PSFR	B	B				When 6<D, P, Q≤10 3≤H, U	6 8 10			
	C	C				When M, N≥12 2≤B≤Mx3 2≤S≤Nx3 & B≤F-5 S≤T-5	When 10<D, P, Q≤20 4≤H, U		12 16 20	
	D	D				When 20<D, P, Q	24 30			
	E	E								
SSFR	F	F								

For D Dimension, 31, 37, 39, 41~44 or 46~49 cannot be specified.

Type	D	Material Unit Price								Shaft End Machining Unit Price							
		L20.0	L50.1	L100.1	L150.1	L200.1	L300.1	L400.1	L600.1	B	C	D	E	F	G	H	J
SFR□□	6-10	50.0	100.0	150.0	200.0	300.0	400.0	600.0	800.0								
	11-15																
	16-20																
	21-25																
	26-30																
	31-35																
PSFR□□	6-10																
	11-15																
	16-20																
	21-25																
	26-30																
	31-35																
SSFR□□	6-10																
	11-15																
	16-20																
	21-25																
	26-30																
	31-35																

Ordering Example: Part Number - D - L - F - B - H - P - M - T - S - U - Q - N - R - W
SFRCE - D15 - L350 - F20 - B16 - M8 - T20 - Q14 - N6

Alterations Example: Part Number - D - L - F - B - H - P - M(PMC) - T - S - U - Q - N(QNC) - R - W - (KC, WKC, FC-etc.)
SFRCE - D15 - L350 - F20 - B16 - PMC8 - T20 - Q14 - N6 - LKC

Alterations	Keyway	Keyway on Shaft End	Set Screw Flat	Slit Cam Groove	Wrench Flats	Undercut / L Dimension Tolerance	Concentricity	Fine Thread	
Alterations	1 Keyway: KC 2 Keyways: WKC	PKC, QKC	FC, WFC	SFC	UC	SC	PC, QC, LKC	CKC	PMC, QNC
Spec.	KC: Adds a keyway. WKC: Adds two keyways. PKC10(QKC10) WKC50-C8-K40-E10 KC, A, WKC, C, KE = 1mm Increment A, E, Cs100 For Keyway Details, refer to P820. If 3 keyways are required, use both KC and WKC. When the keyway position is less than 1mm away from the end face, R is not applied. Ex.	Adds a keyway on the shaft end P(Q). PKC10(QKC10) PKC, QKC=50 PKC(QKC)=F(T) Available for shaft end shapes C and D only. For Keyway Details, refer to P820. Not applicable to P(Q)=5 or less.	FC: Adds 1 set screw flat. FC10-G3 WFC: Adds 2 set screw flats. WFC10-J3-W10-V3 FC, G, WFC, J, W, V = 1mm Increment G, J, Vs50	Adds a set screw flat at any desired angle besides the datum plane (P'). SFC, SG= 1mm Increment AG = 15° Increment SG=50 SFC10-SG3-AG90	Adds a slit cam groove. UC = 1mm Increment UC10 UC=1 UC=1 UC=1	Adds a wrench flat. SC = 1mm Increment SC=0 or SC=1 SC=0 or SC=1	PC, QC: Adds an undercut on P and Q. PC For detailed undercut dimensions, refer to P820. F-B=Mx2 Not applicable when D=P or D=Q.	Changes the concentricity to 0.02. CKC	Changes threads to Fine Thread in the table below. PMC20(QNC16)

D	3	4	5	6
6.7	3	4	5	6
8.9	3	4	5	6
10.11	4	5	6	8
12-14	5	6	8	10
15-19	5	6	8	10 12 15 17 20
20-24	5	6	8	10 12 15 17 20
25-29	8	10	12	15 17 20 25
30-34	8	10	12	15 17 20 25 30
35-39	10	12	15	17 20 25 30 35
40-49	12	15	17	20 25 30 35 40
50	15	17	20	25 30 35 40