


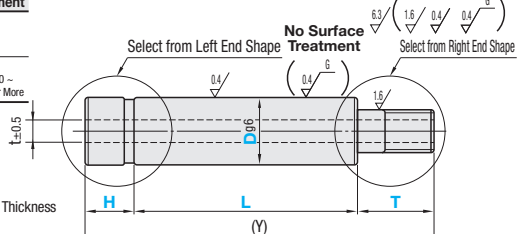
Hollow Shafts / End-Washers for Linear Shafts

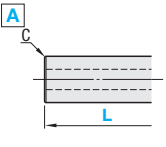
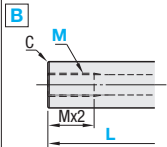
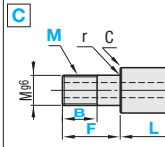
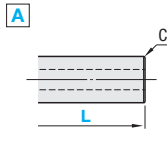
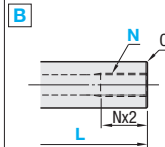
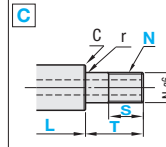
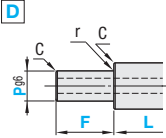
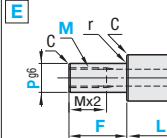
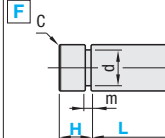
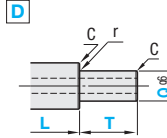
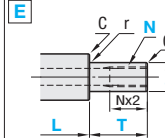
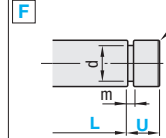
Shaft Ends Configurable



Type	Material	Hardness	Surface Treatment
FSPJ	SUJ2	Effective Hardened Depth of Induction Hardening	-
FSPPJ	Equivalent	P112 58HRC~	Hard Chrome Plating Plating Hardness: IN750 - Plating Thickness: 5μ or More

⚠ About Hollow Shaft Wall Thickness Deviations See P.111
 ⚠ (Y) dimensions need to be (Y)≥Dx50. (Y)≤1500
 ⚠ L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Wall Thickness Deviations and Changes in Hardness See P.111, P.216



Left End Shape			Right End Shape		
					
					

Machining Conditions ⚠ A No alteration condition for Shape.

B	C	D	E	F																		
<ul style="list-style-type: none"> When $D=6$, $M=3$ When $8 \leq D \leq 12$ $t+1 \leq M(N) \leq D-3$ When $13 \leq D \leq 25$ $t+2 \leq M(N) \leq D-3$ When $30 \leq D \leq 40$ $t+2 \leq M(N) \leq D-7$ Not applicable to $D=50$. One End Tapped Hollow Shafts See P.215 $L \geq M(N) \times 4$ 	<table border="1"> <thead> <tr> <th>D</th> <th>r</th> </tr> </thead> <tbody> <tr> <td>6-30</td> <td>0.3 or Less</td> </tr> <tr> <td>35-50</td> <td>0.5 or Less</td> </tr> </tbody> </table> <ul style="list-style-type: none"> When $6 \leq D \leq 20$ $t+4 \leq M(N) \leq D$ When $25 \leq D \leq 40$ $t+6 \leq M(N) \leq D$ Not applicable to $D=50$. Both Ends Threaded Hollow See P.217 ⚠ B, S Pitch x3 is required. 	D	r	6-30	0.3 or Less	35-50	0.5 or Less	<table border="1"> <thead> <tr> <th>D</th> <th>r</th> </tr> </thead> <tbody> <tr> <td>6-30</td> <td>0.3 or Less</td> </tr> <tr> <td>35-50</td> <td>0.5 or Less</td> </tr> </tbody> </table> One End Stepped Hollow See P.221	D	r	6-30	0.3 or Less	35-50	0.5 or Less	<table border="1"> <thead> <tr> <th>D</th> <th>r</th> </tr> </thead> <tbody> <tr> <td>6-30</td> <td>0.3 or Less</td> </tr> <tr> <td>35-50</td> <td>0.5 or Less</td> </tr> </tbody> </table> $P(Q) \geq M(N) + 4$	D	r	6-30	0.3 or Less	35-50	0.5 or Less	Retaining Ring Detailed Dimensions See P.820
D	r																					
6-30	0.3 or Less																					
35-50	0.5 or Less																					
D	r																					
6-30	0.3 or Less																					
35-50	0.5 or Less																					
D	r																					
6-30	0.3 or Less																					
35-50	0.5 or Less																					

⚠ When only one end requires alteration, select Shape A for the opposite end.

Part Number	Selection		0.5mm Increment		1mm Increment			Selection	C		
	Type	Left End Shape	Right End Shape	D	t	L	F, T			B, S	H, U
FSPJ FSPPJ	A B C D E F	A B C D E F	6	2	20.0~1500.0 (L≤Dx50)	2≤F≤P(M)x5 2≤T≤Q(N)x5	2≤B≤Mx3 2≤S≤Nx3 B≤F-2 S≤T-2 (When M, N≤6) B≤F-3 S≤T-3 (When M, N≥8, 10) B≤F-5 S≤T-5 (When M, N≥12)	2≤H, U (When D=6) 3≤H, U (When 6<D≤10) 4≤H, U (When 10<D≤20) 5≤H, U (When 20<D) H, U < 1/2	t+4≤P, Q<D	3 4 5 6 8 10 12 16 20 24 30	0.5 or less when D<20, 1.0 or less when D≥20
			8	3							
			10	4							
			12	6							
			13	7							
			16	10							
			20	14							
			25	16							
			30	17							
			35	19							
40	20										
50	26										

⚠ Specify t<M, or t<N.

Ordering Example

Part Number

Type	Left End	Right End	D	L	F	M	B	T	N	S	H	U	P	Q
FSPJ	A	C	D12	L100				T20	N10	S12				