

# Shafts

Both Ends Tapped Hollow / Both Ends Tapped Hollow with Wrench Flats / One End Threaded Hollow / One End Threaded Hollow with Wrench Flats



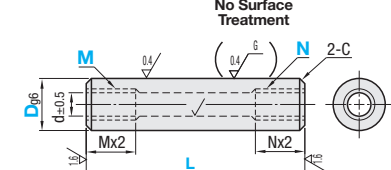
RoHS 10

- Features of LTBC Plating
- P.128
- Circularity and O.D. tolerance may not meet precision specification in areas approximately 15mm from wrench flats machined ends.
- L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111
- LTBC Plating is not applied to the inside of hollow shafts, taps, bored holes and lateral holes, and may rust.
- Annealing required for wrench flats machining and shaft and threading effective thread length + approx. 10mm) may lower hardness. P.112

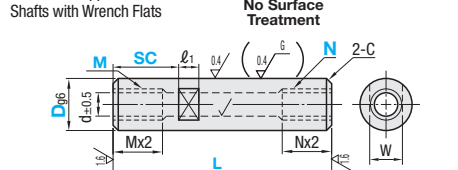
Type				Material	Hardness	Surface Treatment
Both Ends Tapped	Both Ends Tapped with Wrench Flats	One End Threaded	One End Threaded with Wrench Flats			
SPJW	SPWR	SPJN	SPNR	EN 1.3505 Equiv.	Effective Hardened Depth of Induction Hardening P.112 EN 1.3505 Equiv. 58HRC~ EN 1.4125 Equiv. 56HRC~	-
SSPJW	SSPWR	-	-	EN 1.4125 Equiv.		
PSPJW	PSPWR	PSPJN	PSPNR	EN 1.3505 Equiv.	Hard Chrome Plating Plating Hardness: Hv750 ~ Plating Thickness: 5µ or More	LTBC Plating
RSPJW	RSPWR	RSPJN	RSPNR	EN 1.3505 Equiv.		

D Tol.	
6	-0.004
8, 10	-0.012
12	-0.005
13	-0.014
16	-0.006
20	-0.017
25	-0.007
30	-0.020
35	-0.009
40	-0.025

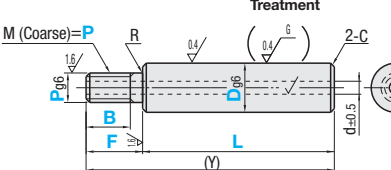
Both Ends Tapped Hollow Shafts



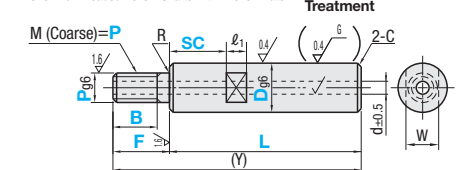
Both Ends Tapped Hollow Shafts with Wrench Flats



One End Threaded Hollow Shafts



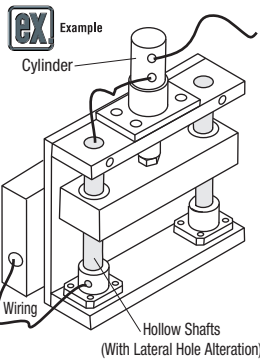
One End Threaded Hollow Shafts with Wrench Flats



About Hollow Shaft Wall Thickness Deviations See P.111

## Both Ends Tapped Hollow Shafts

Part Number		L		M (Coarse), N (Coarse) Selection		Wrench Flats Dimensions				d	C
Type	D	specified in 1mm increment				SC	W	ℓ <sub>1</sub>			
Not applicable to Both Ends Tapped Hollow Shafts	6	20-600		3			5		2	0.5 or Less	
	*8	20-800(300)		*5			7	8	3(3)		
	*10	20-800(400)		*6			8		4(4)		
	*12	32-1000(500)		*8	*T1 (RC1/8)		10		6(5)		
	*13	40-1000(500)		*10	*T1 (RC1/8)		11		7(5)		
Both Ends Tapped Hollow with Wrench Flats	*16	48-1200(600)		*12	*T2 (RC1/4)		14	10	10(6)	1.0 or Less	
	*20	64-1200(800)		*16	*T3 (RC3/8)		17		14(8)		
	*25	80-1200(1000)		*20			22		16(10)		
	*30	80-1500(1000)		*20			27	15	17(12)		
	35	96-1500		24			30		19		
SSPJW (* marked sizes only)	40	96-1500		24	30		36		20		
	50	120-1500		30			41	20	26		



- When T1, T2 or T3 is selected as M or N, tapered thread machining is applied. (Ordering Code: MT1, NT1)
- L requires Mx2+Nx2≤L.
- When Mx2+4+Nx2.5+4≤L, tap pilot holes may go through.
- When L≤Mx2+Nx2, effective depth of larger diameter tap has priority.
- Only \* marked D, M and N dimensions are applicable to Stainless Steel Shafts. L and d dimensions in ( ) are applicable.

## One End Threaded Hollow Shafts

Part Number		1mm Increment		P Selection	Wrench Flats Dimensions				d	(Y) Max.	R	C
Type	D	L	B		SC	W	ℓ <sub>1</sub>					
One End Threaded Hollow Shafts	6	25-598		6		5		2	600	0.5 or Less		
	8	25-798		8		7	8	3	800			
	10	25-798		10		8		4				
	12	25-998		12		10		6				
	13	25-998		13		11		7	1000			
One End Threaded Hollow Shafts with Wrench Flats	16	25-1198		16		14	10	10	1200	1.0 or Less		
	20	25-1198		20		17		14				
	25	25-1198		25		22		16				
	30	25-1498		30		27	15	17	1500			
	35	25-1498		35		30		19				
SPJN (* marked sizes only)	40	25-1498		40		36	20	20				

- When D=P, specify F=B as B dimensions. However, L and F dimensions have manufacturing priority and B dimension of the product will be F -(Pitchx2).
- Thread machining will not be applied when B=0 is specified.



### Both Ends Tapped Hollow Shafts

Ordering Example  
SPJW20 - 500 - M16 - N16  
SPWR30 - 680 - M20 - N20 - SC10

### One End Threaded Hollow Shafts

Ordering Example  
SPJN 20 - 1051 - F30 - B30 - P20  
SPNR 30 - 1270 - F60 - B28 - P24 - SC5

Part Number		Unit Price											
Type	D	Min. L ~ 50	L51-100	L101-150	L151-200	L201-300	L301-400	L401-500	L501-600	L601-800	L801-1000	L1001-1200	L1201-1500
SPJW SPWR	6												
	8												
	10												
	12												
	13												
	16												
	20	-											
	25	-											
	30	-											
	35	-											
RSPJW RSPWR	40	-											
	50	-											
	6												
	8												
	10												
	12												
	13												
	16												
	20	-											
	25	-											
PSPJW PSPWR	30	-											
	35	-											
	40	-											
	50	-											
	6												
	8												
	10												
	12												
	13												
	16												
SPJN SPNR	20	-											
	25	-											
	30	-											
	35	-											
	40	-											
	50	-											
	6												
	8												
	10												
	12												
RSPJN RSPNR	13												
	16												
	20	-											
	25	-											
	30	-											
	35	-											
	40	-											
	50	-											
	6												
	8												
PSPJN PSPNR	10												
	12												
	13												
	16												
	20	-											
	25	-											
	30	-											
	35	-											
	40	-											
	50	-											

Part Number		Additional Price						
Type	D	Min. L ~ 50	L51-100	L101-150	L151-200	L201-300	L301-400	L401-500
(Table 1) LTBC Plating Additional Charge	6							
	8							
	10							
	12							
	13							
	16							
	20							
	25							
	30							
	35							
Suitable for RSPJW RSPWR	40							
	50							
	6							
	8							
	10							
	12							
	13							
	16							
	20							
	25							
	30							

Part Number		Additional Price						
Type	D	Min. L ~ 50	L51-100	L101-150	L151-200	L201-300	L301-400	L401-500
(Table 2) LTBC Plating Additional Charge	6							
	8							
	10							
	12							
	13							
	16							
	20							
	25							
	30							
	35							
Suitable for RSPJN RSPNR	40							
	50							
	6							
	8							
	10							
	12							
	13							
	16							
	20							
	25							
	30							

For LTBC plated Shafts,