


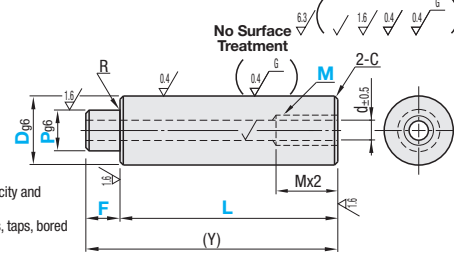
Shafts

One End Stepped, One End Tapped Hollow



Type	Material	Hardness	Surface Treatment
SPJA			
PSPJA	SUJ2 Equivalent	Effective Hardened Depth of Induction Hardening	Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More
RSPJA		58HRC~	Low Temp. Black Chrome Plating

Features of Low Temp. Black Chrome Plating **P.128**
 L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.111**
 Low temp. black chrome plating is not applied to the inside of hollow shafts, taps, bored holes and lateral holes, and may rust.
 Shaft End Machined Area (Effective Thread Length + Approx. 10mm)
 Annealing may lower hardness.



About Hollow Shaft Wall Thickness Deviations See **P.111**

Part Number	1mm Increment			M (Coarse) Selection	(Y) Max.	d	R	C
	Type	Dg6	L					
SPJA	6	-0.004	25~598		3	600	2	0.5 or Less
	8	-0.005	25~798		4 5	800	3	
	10	-0.014	25~798		5 6	800	4	
	12		25~998		8 T1 (RC1/8)	1000	6	
	13	-0.006	25~998		10 T1 (RC1/8)	1000	7	
PSPJA	16	-0.017	25~1198		12 T2 (RC1/4)	1200	10	0.3 or Less
	20		25~1198	2 ≤ F ≤ P × 3	16 T3 (RC3/8)	1200	14	
RSPJA (D ≤ 30, L ≤ 500)	25	-0.007	25~1198		20	1200	16	1.0 or Less
	30	-0.020	25~1498		20	1500	17	
	35	-0.009	25~1498		24	1500	19	
	40	-0.025	25~1498		24 30	1500	20	
	50		25~1498		30	1500	26	

When T1, T2 or T3 is selected as M, tapered thread machining is applied. (Ordering Code: MT1)
 Overall length L requires Mx3 ≤ L.

Ordering Example: Part Number - L - F - P - M
 SPJA20 - 277 - F25 - P16 - M16

Alterations Example: Part Number - L - F - P - M - (DKC, LKC, SC)
 SPJA20 - 277 - F25 - P16 - M16 - LKC

Alterations	DKC	LKC	SC																																							
Code	DKC	LKC	SC																																							
Spec.	O.D. tolerance is altered to h5. Ordering Code: DKC D h5 Tolerance 6 0 -0.005 8, 10 0 -0.006 12-16 0 -0.008 20-30 0 -0.009 35-50 0 -0.011 Low Temp. Black Chrome Plating	Changes L tolerance. Ordering Code: LKC L < 200 → L ± 0.03 200 ≤ L < 500 → L ± 0.05 L ≥ 500 → L ± 0.1 For use of LKC L dimensions can be specified in 0.1mm increment. Not applicable when D-P ≤ 2.	Adds wrench flats. Ordering Code: SC5 SC = 1mm Increment SC + φ1 ≤ L - Mx2 SC ≥ 0 <table border="1"> <tr><th>D</th><th>W</th><th>φ1</th></tr> <tr><td>6</td><td>5</td><td></td></tr> <tr><td>8</td><td>7</td><td>8</td></tr> <tr><td>10</td><td>8</td><td></td></tr> <tr><td>12</td><td>10</td><td></td></tr> <tr><td>13</td><td>11</td><td></td></tr> <tr><td>16</td><td>14</td><td>10</td></tr> <tr><td>20</td><td>17</td><td></td></tr> <tr><td>25</td><td>22</td><td></td></tr> <tr><td>30</td><td>27</td><td></td></tr> <tr><td>35</td><td>30</td><td>15</td></tr> <tr><td>40</td><td>36</td><td></td></tr> <tr><td>50</td><td>41</td><td>20</td></tr> </table>	D	W	φ1	6	5		8	7	8	10	8		12	10		13	11		16	14	10	20	17		25	22		30	27		35	30	15	40	36		50	41	20
D	W	φ1																																								
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Alterations may lower hardness. See **P.112**


Part Number	Type	D	Unit Price														
			Min. L - 50	L51-100	L101-150	L151-200	L201-300	L301-400	L401-500	L501-600	L601-800	L801-1000	L1001-1200	L1201-1498			
SPJA RSPJA	6																
	8																
	10																
	12																
	13																
	16																
	20																
	25																
	30																
	35																
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	10																
	12																
	13																
	16																
	20																
	25																
	30																
	35																
40																	
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Low Temp. Black Chrome Plating Additional Charge	D	Additional Price					
		Min. L - 50	L51-100	L101-150	L151-200	L201-300	L301-400
6							
8							
10							
12							
13							
16							
20							
25							
30							

For Low Temp. Chrome Plated Shafts, please add Low Temp. Black Chrome Plating Additional Charge on the left to the non-plated shaft Unit Price above.
 Features of Low Temp. Black Chrome Plating **P.128**

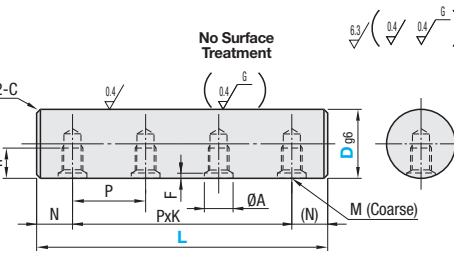
Shafts

Continuous Support - Pre-Drilled and Tapped



Type	Material	Hardness	Surface Treatment
SFAE	SUJ2 Equivalent	Effective Hardened Depth of Induction Hardening	
SSFAE	SUS440C or 13Cr stainless	P.112	
PSFAE	SUJ2 Equivalent	SUJ2 Equivalent 58HRC~	Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More
PSSFAE	SUS440C or 13Cr stainless	SUS440C or 13Cr stainless 58HRC~	

Features of Low Temp. Black Chrome Plating **P.128**
 L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.111**



About Hollow Shaft Wall Thickness Deviations See **P.111**

Part Number	L		M (Coarse)	P	h	C	A	F
	Type	Dg6						
SFAE PSFAE	10	-0.005 -0.014	200~ 800	M4	100	0.5 or Less	4.3	2.0
	12		200~1000					
	13	-0.006 -0.017	200~1000					
SFAE SSFAE PSFAE PSSFAE	16		200~1200	M5	150	1.0 or Less	6.8	2.5
	20	-0.007 -0.020	200~1200					
	25		300~1200	M6	200	Mx2	9	3.0
	30		300~1500					
	35		300~1500					
	40	-0.009 -0.025	400~1500	M8	300	1.0 or Less	11	3.5
	50		400~1500					

Ordering Example: Part Number - L
 SFAE10 - 300

Correlation between L Dimension and Number of Taps

Pitch	P=100	P=150	P=200	P=300	Number of Taps (K)	Number of Pitches	N
L	200~219	200~319	300~419	400~619	2	1	N = L-PxK 2
	220~319	320~469	420~619	620~919	3	2	
	320~419	470~619	620~819	920~1219	4	3	
	420~519	620~769	820~1019	1220~	5	4	
	520~619	770~919	1020~1219	-	6	5	
	620~719	920~1069	1220~1419	-	7	6	
	720~819	1070~	1420~	-	8	7	
	820~919	-	-	-	9	8	
	920~	-	-	-	10	9	

Part Number	Type	D	Unit Price												
			L200~300	L301~400	L401~500	L501~600	L601~800	L801~1000	L1001~1200	L1201~1500					
SFAE	10														
	12														
	13														
	16														
	20														
	25														
	30														
	35														
	40														
	50														
SSFAE	16														
	20														
	25														
	30														
	35														
	40														
	50														
	PSFAE	10													
		12													
		13													
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35															
40															
50															
PSSFAE	16														
	20														
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	35														
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