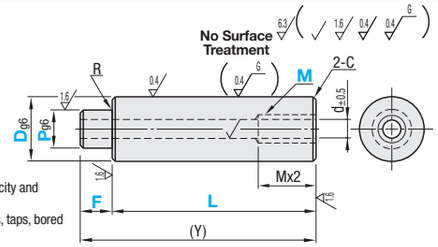
Shafts

One End Stepped, One End Tapped Hollow

Type	M Material	H Hardness	S Surface Treatment
SPJA	SUJ2	Effective Hardened Depth of Induction Hardening ☞P.112 58HRC~	-
PSPJA	SUJ2	Effective Hardened Depth of Induction Hardening ☞P.112 58HRC~	Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More
RSPJA	SUJ2	Effective Hardened Depth of Induction Hardening ☞P.112 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

RoHS10

Part Number Type	Dg6		1mm Increment L	F	P	M (Coarse) Selection	(Y) Max.	d	R	C
SPJA, PSPJA, RSPJA (D≤30,L≤500)	6	-0.004 -0.012	25~598	2≤F≤Px3	5≤P<D	3	600	2	0.3 or Less	0.5 or Less
	8	-0.005 -0.014	25~798		6≤P<D	4 5	800	3		
	10		25~798		7≤P<D	5 6	800	4		
	12	-0.006 -0.017	25~998		10≤P<D	8 T1 (RC1/8)	1000	6		
	13		25~998			10 T1 (RC1/8)	1000	7		
	16		25~1198		13≤P<D	12 T2 (RC1/4)	1200	10		
	20	-0.007 -0.020	25~1198		16≤P<D	16 T3 (RC3/8)	1200	14		1.0 or Less
	25		25~1198		20≤P<D	20	1200	16		
	30		25~1498		22≤P<D	20	1500	17		
	35	-0.009 -0.025	25~1498		24≤P<D	24	1500	19	0.5 or Less	
	40		25~1498		25≤P<D	24 30	1500	20		
	50		25~1498		32≤P<D	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

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

Alterations	Revise O.D. Tolerance (Precision Grade)	Alteration to L dimension tolerance	Wrench Flats
Code	DKC	LKC	SC
Spec.	O.D. tolerance is altered to h5. Ordering Code DKC	Changes L tolerance. Ordering Code LKC	Adds wrench flats. Ordering Code SC5

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

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.

SC:
- SC=1mm Increment
- SC+ℓ1≤L-Mx2
- SC≥0

D	W	ℓ1
6	5	8
8	7	
10	8	
12	10	10
13	11	
16	14	
20	17	
25	22	
30	27	15
35	30	
40	36	20
50	41	

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 Price on right + Price in the table below	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												
	50												
PSPJA	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												
	50												

Low Temp. Black Chrome Plating Additional Charge	D	Additional Price Min. L ~ 50	L51~100	L101~150	L151~200	L201~300	L301~400	L401~500
	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

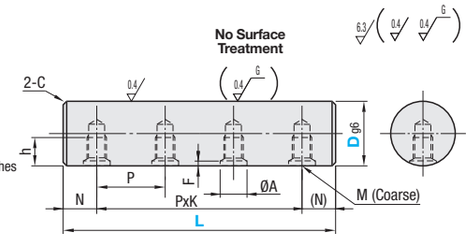
Shafts

Continuous Support - Pre-Drilled and Tapped

Type	M Material	H Hardness	S Surface Treatment
SFAE	SUJ2	Effective Hardened Depth of Induction Hardening ☞P.112 SUJ2 58HRC~ SUS440C Equivalent 56HRC~	-
SSFAE	SUS440C Equivalent		
PSFAE	SUJ2		Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More
PSSFAE	SUS440C Equivalent		

$N=\frac{L-PxK}{2}$

K: Number of Pitches



RoHS10

- L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness ☞P.111

Part Number Type	Dg6		L specified in 1mm Increment	M (Coarse)	P	h	C	A	F
SFAE PSFAE	10	-0.005 -0.014	200~ 800	M4	100	4.5	0.5 or Less	4.3	2.0
	12	-0.006 -0.017	200~1000			5			
	13		200~1000			5.5			
SFAE SSFAE PSFAE PSSFAE	16		200~1200	M5	150	Mx2		5.5	
	20	-0.007 -0.020	200~1200	M6			1.0 or Less	6.8	2.5
	25		300~1200		200				
	30		300~1500	M8				9	3.0
	35	-0.009 -0.025	300~1500						
	40		400~1500		300				3.5
	50		400~1500	M10				11	

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	$N=\frac{L-PxK}{2}$
	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							-	-
	16								-
	20								-
	25								-
	30								
	35								
	40	-							
	50	-							
PSSFAE	16								-
	20								-
	25								-
	30								
	35								
	40	-							
	50	-							