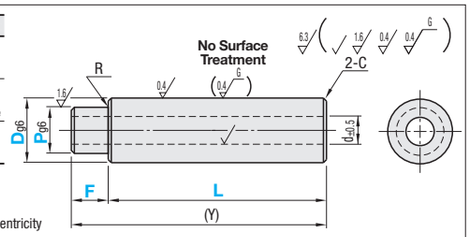
Shafts
One End Stepped Hollow

Type	Material	Hardness	Surface Treatment
SPJG	EN 1.3505 Equiv.	Effective Hardened Depth of Induction Hardening P.112 58HRC~	-
PSPJG			Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More
RSPJG			LTBC Plating

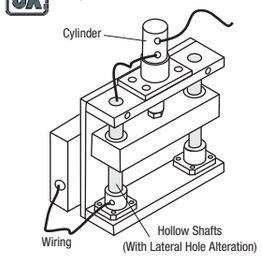


- Features of LTBC Plating P.128
- L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111
- LTBC Plating is not applied to the inside of hollow shafts, taps, bored holes and lateral holes, and may rust.
- Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm).
- About Hollow Shaft Wall Thickness Deviations See P.111

RoHS10

Part Number Type	Dg6		L	F	P	(Y) Max.	d	R	C
SPJG, PSPJG, RSPJG (D≤30,L≤500)	6	-0.004 -0.012	25~598	2≤F≤Px3	5≤P<D	600	2	0.3 or Less	0.5 or Less
	8	-0.005 -0.014	25~798		6≤P<D	800	3		
	10		25~798		7≤P<D		4		
	12	-0.006 -0.017	25~998		10≤P<D	1000	6		
	13		25~998				7		
	16		25~1198		13≤P<D	1200	10		
	20	-0.007 -0.020	25~1198		16≤P<D		14		1.0 or Less
	25		25~1198		20≤P<D		16		
	30		25~1498		22≤P<D	1500	17		
	35	-0.009 -0.025	25~1498		24≤P<D		19	0.5 or Less	
	40		25~1498		25≤P<D		20		
	50		25~1498		32≤P<D		26		

Example



Ordering Example: Part Number - L - F - P
SPJG20 - 400 - F25 - P16

Alterations: Part Number - L - F - P - (DKC, etc.)
SPJG30 - 400 - F25 - P22 - VC

- When selecting multiple alteration additions, the distance between machined areas should be greater than 2mm.
- Alterations may lower hardness. See P.112

Alterations	Revise O.D. Tolerance (Precision Grade)	Alteration to L dimension tolerance	Wrench Flats	One End Bored	Lateral Hole on One Side
Code	DKC	LKC	SC	VC	RH
Spec.	O.D. tolerance is altered to h5. Ordering Code DKC ⊗Not applicable to LTBC plated Shafts.	Changes L tolerance. Ordering Code LKC L<200··· L±0.03 200≤L<500 ··· L±0.05 L≥500··· L±0.1 L dimensions can be specified in 0.1mm increment for LKC. ⊗Not applicable when D-P≤2.	Adds wrench flats. Ordering Code SC5 SC=1mm Increment SC+ℓ1≤L SC≥0	One end is bored. (Used as a pilot hole) Hole diameter VH7 is shown in the table below. K=1mm Increment 3<K≤Vx2 Ordering Code VC-K5	Adds a lateral hole on one side. Lateral hole diameters are shown in the table below. RH=1mm Increment d1+1<RH≤Dx3 Ordering Code RH5

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

SC:

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

VC:

D	VH7
6	-
8	-
10	6
12	8
13	10
16	12
20	16
25	20
30	20
35	24
40	24
50	30

RH:

D	d1	D	d1
10	2	20	6
12	3	25, 30	6
13	3	35, 40	8
16	5	50	10

- The hollow I.D. "d" may vary due to the wall thickness deviations.
- Not applicable to stepped sides.
- Burrs might remain inside after alteration.
- Orientation in relation to other features will be random.
- ⊗Not applicable if interferes with other alterations.

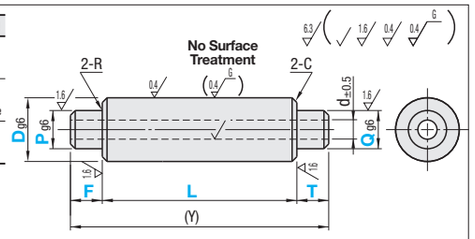
Part Number Type	D	Unit Price Min. L ~ 50	L51~100	L101~150	L151~200	L201~300	L301~400	L401~500	L501~600	L601~800	L801~1000	L1001~1200	L1201~1498
SPJG RSPJG Price on right + Price in the table below	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												
	50												
PSPJG	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 LTBC Plating Additional Charge on the left to the non-plated shaft Unit Price above.
- Features of LTBC Plating P.128

Shafts
Both Ends Stepped Hollow

Type	Material	Hardness	Surface Treatment
SPJQ	EN 1.3505 Equiv.	Effective Hardened Depth of Induction Hardening P.112 58HRC~	-
PSPJQ			Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More
RSPJQ			LTBC Plating



- Features of LTBC Plating P.128
- 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 may lower hardness at shaft end machined areas (effective thread length + approx. 10mm).
- About Hollow Shaft Wall Thickness Deviations See P.111

RoHS10

Part Number Type	Dg6		L	F, T	P, Q	(Y) Max.	d	R	C
SPJQ, PSPJQ, RSPJQ (D≤30, L≤500)	6	-0.004 -0.012	25~596	2≤F≤Px3 2≤T≤Qx3	5≤P(Q)<D	600	2	0.3 or Less	0.5 or Less
	8	-0.005 -0.014	25~796		6≤P(Q)<D	800	3		
	10		25~796		7≤P(Q)<D	800	4		
	12	-0.006 -0.017	25~996		10≤P(Q)<D	1000	6		
	13		25~996			1000	7		
	16		25~1196		13≤P(Q)<D	1200	10		
	20	-0.007 -0.020	25~1196		16≤P(Q)<D	1200	14		1.0 or Less
	25		25~1196		20≤P(Q)<D	1200	16		
	30		25~1496		22≤P(Q)<D	1500	17		
	35	-0.009 -0.025	25~1496		24≤P(Q)<D	1500	19	0.5 or Less	
	40		25~1496		25≤P(Q)<D	1500	20		
	50		25~1496		32≤P(Q)<D	1500	26		

- Alterations may lower hardness. See P.112

Ordering Example: Part Number - L - F - P - T - Q
SPJQ20 - 400 - F25 - P16 - T25 - Q18

Alterations: Part Number - L - F - P - T - Q - (DKC, LKC, SC)
SPJQ20 - 400 - F25 - P16 - T25 - Q18 - 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 ⊗Not applicable to LTBC plated Shafts.	Changes L tolerance. Ordering Code LKC L<200··· L±0.03 200≤L<500 ··· L±0.05 L≥500··· L±0.1 L dimensions can be specified in 0.1mm increment for LKC. ⊗Not applicable when D-P(Q)≤2	Adds wrench flats. Ordering Code SC5 SC=1mm Increment SC+ℓ1≤L SC≥0

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

SC:

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

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	L1201~1496
SPJQ RSPJQ Price on right + Price in the table below	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												
	50												
PSPJQ	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 LTBC Plating Additional Charge on the left to the non-plated shaft Unit Price above.
- Features of LTBC Plating P.128