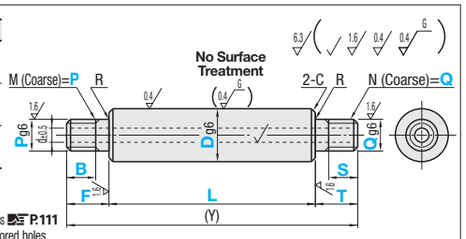
Shafts

Both Ends Threaded Hollow

Type	Material	Hardness	Surface Treatment
SPJM PSPJM RSPJM	SUJ2	Effective Hardened Depth of Induction Hardening P.112 58HRC~	- Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More Low Temp. Black Chrome Plating



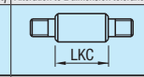
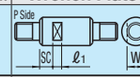
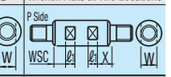
- Features of Low Temp. Black Chrome Plating P.128
- L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111
- Low temp. black chrome plating is not applied to the inside of hollow shafts, taps, bored holes and lateral holes, and may rust.
- Shaft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

Part Number Type	Dg6	1mm Increment L	F, T	B, S	P, Q Selection	d	(Y) Max.	R	C
SPJM	6 -0.004 -0.012	25~596	2≤F≤Px5 2≤T≤Qx5	B≤F-2 (When P≤6)	6	2	600	0.3 or Less	0.5 or Less
	8 -0.005	25~796		B≤F-3 (When P=8, 10)	8	3	800		
	10 -0.014	25~796		B≤F-5 (When P≥12)	8 10	4			
PSPJM	12 -0.006	25~996		B=0 (W/o Threads)	10 12	6	1000		
	13 -0.017	25~996		S≤T-2 (When Q≤6)	12	7			
	16	25~1196		S≤T-3 (When Q=8, 10)	16	10	1200		
RSPJM (D≤30,L≤500)	20 -0.007	25~1196		S≤T-5 (When Q≥12)	20	14			1.0 or Less
	25 -0.020	25~1196		S=0 (W/o Threads)	24	16			
	30	25~1496			24 30	17	1500	0.5 or Less	
	35 -0.009	25~1496			30	19			
	40 -0.025	25~1496			30	20			

- When D=P, or D=Q, specify F=B (T=S) as B (S) dimensions. However, L, F, and T dimensions have manufacturing priority and B (S) dimension of the product will be F (T)-(Pitchx2).
- Thread machining will not be applied to B=0 or S=0.
- B, S≥Pitch x3 is required.

Part Number - L - F - B - P - T - S - Q
SPJM20 - 400 - F20 - B20 - P20 - T20 - S20 - Q20

Part Number - L - F - B - P - T - S - Q - (DKC, LKC···etc.)
SPJM30 - 300 - F40 - B30 - P24 - T50 - S40 - Q24 - DKC

Alterations	Revise O.D. Tolerance (Precision Grade)	Alteration to L dimension tolerance	Wrench Flats	Wrench Flats at Two Locations
				
Code	DKC	LKC	SC	WSC
Spec.	O.D. tolerance is altered to h5. Ordering Code DKC D: 6 / 8, 10 / 12~16 / 20~30 / 35, 40 h5 Tolerance: 0 -0.005 / 0 -0.006 / 0 -0.008 / 0 -0.009 / 0 -0.011 ⊗Not applicable to Low Temp. Black Chrome Plated Shafts.	Changes L tolerance. Ordering Code LKC L<200··· L±0.03 200≤L<500 ··· L±0.05 L≥500··· L±0.1 ⊗Not applicable when D-P(Q)≤2 L dimensions can be specified in 0.1mm increment for LKC.	Adds wrench flats. Ordering Code SC5 SC=1mm Increment SC+ℓ1≤L SC≥0 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 / 20 40 / 36	Adds Wrench Flats at two locations. Ordering Code WSC12-X8 WSC, X=1mm Increment WSC+X+ℓ1x2<L WSC≥0 X≥0 Orientation between two wrench flats is not coplanar. D / W / ℓ1: 6 / 5 / 8 8 / 7 10 / 8 / 10 12 / 10 13 / 11 16 / 14 20 / 17 25 / 22 / 15 30 / 27 35 / 30 / 20 40 / 36

- Alterations may lower hardness. See P.112

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							

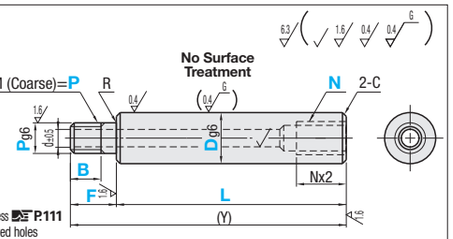
- For Low Temp. Black Chrome Plated Shafts, please add Low Temp. Black Chrome Plating Additional Charge above to the non-plated shafts Unit Price below.
- Features of Low Temp. Black Chrome Plating P.128

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
SPJM RSPJM Price on right + Price in the table above	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												
PSPJM	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												

Shafts

One End Threaded, One End Tapped Hollow

Type	Material	Hardness	Surface Treatment
SPJD PSPJD RSPJD	SUJ2	Effective Hardened Depth of Induction Hardening P.112 58HRC~	- Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5μ or More Low Temp. Black Chrome Plating



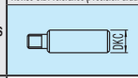
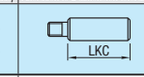
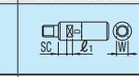
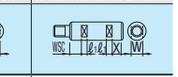
- Features of Low Temp. Black Chrome Plating P.128
- Circular L standard tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111
- Low temp. black chrome plating is not applied to the inside of hollow shafts, taps, bored holes and lateral holes, and may rust.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

Part Number Type	Dg6	1mm Increment L	F	B	P Selection	M (Coarse) Selection	d	(Y) Max.	R	C
SPJD	6 -0.004 -0.012	25~598	2≤F≤Px5	B≤F-2 (When P≤6)	6	3	2	600	-	0.5 or Less
	8 -0.005	25~798			8	4 5	3	800	0.3 or Less	
	10 -0.014	25~798			8 10	5 6	4			
PSPJD	12 -0.006	25~998		B≤F-3 (When P=8, 10)	10 12	8 T1 (RC1/8)	6	1000		
	13 -0.017	25~998			12	10 T1 (RC1/8)	7			
	16	25~1198		B≤F-5 (When P≥12)	16	12 T2 (RC1/4)	10	1200		
RSPJD (D≤30,L≤500)	20 -0.007	25~1198			20	16 T3 (RC3/8)	14			1.0 or Less
	25 -0.020	25~1198			24	20	16			
	30	25~1498		B=0 (W/o Threads)	24 30	20	17	1500	0.5 or Less	
	35 -0.009	25~1498		B≥Pitchx3	30	24	19			
	40 -0.025	25~1498			30	24 30	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.
- Overall length L requires Nx3≤L.

Ordering Example: Part Number - L - F - B - P - N
SPJD20 - 277 - F12 - B12 - P20 - N16

Part Number - L - F - B - P - N - (DKC, LKC, SC···etc.)
SPJD30 - 250 - F40 - B30 - P24 - N20 - DKC

Alterations	Revise O.D. Tolerance (Precision Grade)	Alteration to L dimension tolerance	Wrench Flats	Wrench Flats at Two Locations
				
Code	DKC	LKC	SC	WSC
Spec.	O.D. tolerance is altered to h5. Ordering Code DKC D: 6 / 8, 10 / 12~16 / 20~30 / 35, 40 h5 Tolerance: 0 -0.005 / 0 -0.006 / 0 -0.008 / 0 -0.009 / 0 -0.011 ⊗Not applicable to Low Temp. Black Chrome Plated Shafts.	Changes L tolerance. Ordering Code LKC L<200··· L±0.03 200≤L<500 ··· L±0.05 L≥500··· L±0.1 ⊗Not applicable when D-P≤2. For use of LKC L dimensions can be specified in 0.1mm increment.	Adds wrench flats. Ordering Code SC5 SC=1mm Increment SC+ℓ1≤L SC≥0 When D≤25, SC+ℓ1≤L-Nx2 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	Adds Wrench Flats at two locations. Ordering Code WSC12-X8 WSC, X=1mm Increment WSC+X+ℓ1x2<L WSC≥0 When D≤25, X≥Nx2 When D≥30, X≥0 Orientation between two wrench flats is not coplanar. 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

- Alterations may lower hardness. See P.112

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. Black Chrome Plated Shafts, please add Low Temp. Black Chrome Plating Additional Charge above to the non-plated shafts Unit Price below.
- Features of Low Temp. Black Chrome Plating P.128

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
SPJD RSPJD Price on right + Price in the table above	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												
PSPJD	6									-	-	-	-
	8										-	-	-
	10										-	-	-
	12											-	-
	13											-	-
	16												-
	20												-
	25												-
	30												
	35												
	40												