

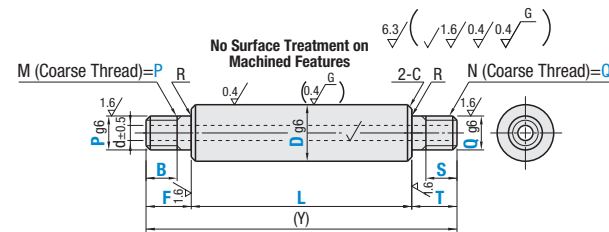
Shafts

Both Ends Threaded Hollow Shafts

Shafts – Both Ends Threaded Hollow Shafts

Type	Material	Hardness	Surface Treatment
SPJM	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened P.199 58 HRC min.	—
PSPJM			Hard Chrome Plating Plating Hardness: 750 HV min. Plating Thickness: 5μ or More
RSPJM			Low Temperature Black Chrome Plating

- ① Features of Low Temperature Black Chrome Plating P.213.
- ① Circularity, Straightness, Perpendicularity, Wall Thickness Deviations and Changes in Hardness P.198.
- ① Low temperature black chrome plating is not applied to the inside of hollow shafts, taps, bored holes and lateral holes, and may rust.
- ① Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10 mm). P.199



① About Hollow Shaft Wall Thickness Deviations. P.198

RoHS10

Part Number	Type	Dg6	1 mm Increments			P / Q	d	(Y) Max.	R	C			
			L	F / T	B / S								
SPJM		6	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	25-796		B ≤ F-3 (When P = 8, 10)						8	3	800
		10	25-796		B ≤ F-5 (When P ≤ 12)						8 10	4	1000
		12	25-996		B = 0 (Without threads)						10 12	6	1200
PSPJM		16	25-1196		16	10	1000	0.3 or Less	0.5 or Less				
		20	25-1196							S ≤ T-2 (When Q ≤ 6)	20	14	1200
RSPJM (D ≤ 30, L ≤ 500)		25	25-1196		24 30	16	1200	0.5 or Less	1.0 or Less				
		30	25-1496							S ≤ T-3 (When Q = 8, 10)	24 30	17	1500
		35	25-1496							S ≤ T-5 (When Q ≥ 12)	30	19	1500
		40	25-1496							S = 0 (Without threads)	30	20	1500

- ① 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).
- ① Thread machining will not be applied to B=0 or S=0. ① B, S ≥ Pitch x 3 is required.

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

Part Number Alterations
 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	Add Wrench Flats at Two Locations																																																																																																
Code	DKC	LKC	SC	WSC																																																																																																
Spec.	Outer diameter tolerance is altered to h5. Ordering Code: DKC <table border="1"> <thead> <tr> <th>D</th> <th>h5 Tolerance</th> </tr> </thead> <tbody> <tr><td>6</td><td>-0.005</td></tr> <tr><td>8-10</td><td>0</td></tr> <tr><td>12-16</td><td>-0.008</td></tr> <tr><td>20-30</td><td>0</td></tr> <tr><td>35-40</td><td>-0.011</td></tr> </tbody> </table> ① Not applicable to Low Temperature Black Chrome Plating.	D	h5 Tolerance	6	-0.005	8-10	0	12-16	-0.008	20-30	0	35-40	-0.011	Changes L Tolerance. Ordering Code: LKC ① L < 200 → L ± 0.03 200 ≤ L < 500 → L ± 0.05 L ≥ 500 → L ± 0.1 ① Not applicable when D-P (Q) ≤ 2 ① L dimensions can be specified in 0.1 mm increment for LKC.	Adds wrench flats. Ordering Code: SC5 ① SC = 1 mm Increment ① SC + ℓ₁ ≤ L SC = 0 X = 0 ① Orientation between two wrench flat features is random <table border="1"> <thead> <tr> <th>D</th> <th>W</th> <th>ℓ₁</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td>8</td></tr> <tr><td>8</td><td>7</td><td>8</td></tr> <tr><td>10</td><td>8</td><td>10</td></tr> <tr><td>12</td><td>10</td><td>10</td></tr> <tr><td>13</td><td>11</td><td>10</td></tr> <tr><td>10</td><td>8</td><td>10</td></tr> <tr><td>16</td><td>14</td><td>10</td></tr> <tr><td>20</td><td>17</td><td>15</td></tr> <tr><td>13</td><td>11</td><td>10</td></tr> <tr><td>25</td><td>22</td><td>15</td></tr> <tr><td>30</td><td>27</td><td>15</td></tr> <tr><td>35</td><td>30</td><td>15</td></tr> <tr><td>40</td><td>36</td><td>20</td></tr> </tbody> </table>	D	W	ℓ₁	6	5	8	8	7	8	10	8	10	12	10	10	13	11	10	10	8	10	16	14	10	20	17	15	13	11	10	25	22	15	30	27	15	35	30	15	40	36	20	Adds Wrench Flats at two locations. Ordering Code: WSC12-X8 ① WSC/X = 1 mm Increment ① WSC + X + ℓ₁, X < L WSC = 0 When D ≥ 25, X₂ = Nx2 When D ≥ 30, X₃ = 0 ① Orientation between two wrench flat features is random. <table border="1"> <thead> <tr> <th>D</th> <th>W</th> <th>ℓ₁</th> </tr> </thead> <tbody> <tr><td>6</td><td>5</td><td>8</td></tr> <tr><td>8</td><td>7</td><td>8</td></tr> <tr><td>10</td><td>8</td><td>10</td></tr> <tr><td>12</td><td>10</td><td>10</td></tr> <tr><td>13</td><td>11</td><td>10</td></tr> <tr><td>10</td><td>8</td><td>10</td></tr> <tr><td>16</td><td>14</td><td>10</td></tr> <tr><td>20</td><td>17</td><td>15</td></tr> <tr><td>13</td><td>11</td><td>10</td></tr> <tr><td>25</td><td>22</td><td>15</td></tr> <tr><td>30</td><td>27</td><td>15</td></tr> <tr><td>35</td><td>30</td><td>15</td></tr> <tr><td>40</td><td>36</td><td>20</td></tr> </tbody> </table>	D	W	ℓ₁	6	5	8	8	7	8	10	8	10	12	10	10	13	11	10	10	8	10	16	14	10	20	17	15	13	11	10	25	22	15	30	27	15	35	30	15	40	36	20
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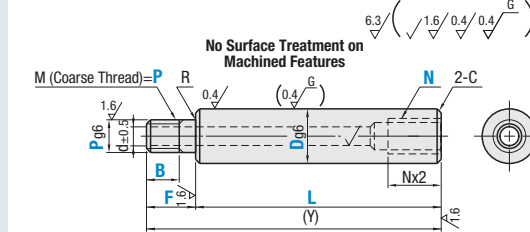
Shafts

One End Threaded Hollow Shafts

Shafts – One End Threaded Hollow Shafts

Type	Material	Hardness	Surface Treatment
SPJD	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened P.199 58 HRC min.	—
PSPJD			Hard Chrome Plating Plating Hardness: 750 HV min. Plating Thickness: 5μ or More
RSPJD			Low Temperature Black Chrome Plating

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① About Hollow Shaft Wall Thickness Deviations. P.198

RoHS10

Part Number	Type	Dg6	1 mm Increments			P	N (Coarse)	d	(Y) Max.	R	C			
			L	F / T	B / S									
SPJD		6	25-598	2 ≤ F ≤ Px5	B ≤ F-2 (When P ≤ 6)	6	3	2	600	—	0.5 or Less			
		8	25-798		B ≤ F-3 (When P = 8, 10)							8	3	800
		10	25-798		B ≤ F-5 (When P ≤ 12)							8 10	4	1000
		12	25-998		B = 0 (Without threads)							10 12	6	1200
PSPJD		13	25-998		16	10	1000	0.3 or Less	0.5 or Less					
		16	25-1198							S ≤ T-2 (When Q ≤ 6)	12 T1 (RC1/8)	7	1200	
RSPJD (D ≤ 30, L ≤ 500)		20	25-1198		24 30	16	1200	0.5 or Less	1.0 or Less					
		25	25-1198							S ≤ T-3 (When Q = 8, 10)	10 T1 (RC1/8)	14	1500	
		30	25-1498							S ≤ T-5 (When Q ≥ 12)	12 T1 (RC1/4)	16	1500	
		35	25-1498							S = 0 (Without threads)	16 T1 (RC3/8)	17	1500	

- ① 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).
- ① Thread machining will not be applied when B=0 is specified. ① Overall length L requires Nx3 ≤ L.

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

Part Number Alterations
 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																																																																																																
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