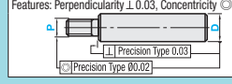
Shafts
One End Threaded

High Precision Linear Shafts for High Precision Assembly
Features: Perpendicularity ⊥ 0.03, Concentricity ◎0.02


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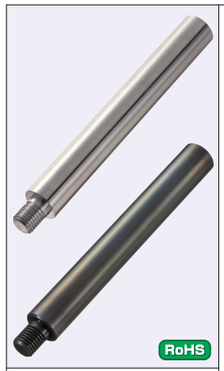
For products uncovered by the e-Catalog Standards, see P.131.

For High Precision Linear Shafts with high perpendicular precision of the shaft end (⊥ 0.03), see P.241. For One End Threaded with O.D. same as Shaft O.D., see P.189. For Shafts with Wrench Flats and Cross-Drilled Hole, see P.193.

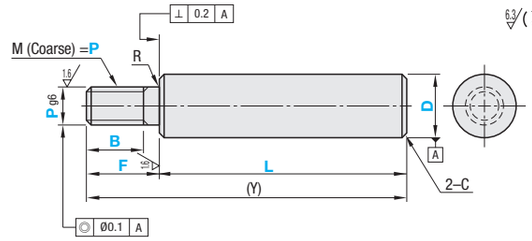


- Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm).
- Features of Low Temp. Black Chrome Plating P.142
- L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.141

Type			M Material	H Hardness	S Surface Treatment
D Tol. g6	D Tol. h5	D Tol. f8			
SFAN	SFUN	-	SUJ2	Effective Hardened Depth of Induction Hardening P.142 SUJ2 58HRC~ SUS440C Equivalent 56HRC~	-
SSFAN	SSFUN	-	SUS440C Equivalent		
PSFAN	PSFUN	-	SUJ2		Hard Chrome Plating - Plating Hardness: HV750 ~, Plating Thickness: 5μ or More
PSSFAN	PSSFUN	-	SUS440C Equivalent		
RSFAN	-	-	SUJ2		Low Temp. Black Chrome Plating
-	-	PSFGN	S45C Equivalent	-	Hard Chrome Plating - Plating Hardness: HV750 ~, Plating Thickness: 10μ or More
-	-	PSSFGN	SUS304		

For plated products, the surface roughness of D part is 0.4S ; and for unplated products, it is 0.4G .

6.3S (1.6S 0.4S 0.4G)



D	D Tol. g6	D Tol. h5	D Tol. f8
4	-0.004 -0.012	0 -0.005	-
5			
6			-0.010 -0.028
8	-0.005 -0.014	0 -0.006	-0.013 -0.035
10			
12	-0.006 -0.017	0 -0.008	-0.016 -0.043
13			
15			
16			
18			
20	-0.007 -0.020	0 -0.009	-0.020 -0.053
25			
30			
35	-0.009 -0.025	0 -0.011	-0.025 -0.064
40			
50			

For O.D. tolerance f8 type, D needs to be 6 or more.

Part Number Type	D	L	F	B	P Selection	(Y) Max.	R	C
(D Tol. g6) SFAN, SSFAN, PSFAN, PSSFAN, RSFAN (D≤30, L≤500) / (D Tol. h5) SFUN, SSFUN, PSFUN, PSSFUN	4	25~ 298	2≤F≤Px5	(When P≤6) B≤F-2	3	300	0.2 or Less	0.2 or Less
	5	25~ 398			3 4	400		
	6	25~ 798			3 4 5	600	0.3 or Less	0.5 or Less
	8	25~ 998			3 4 5 6	800		
	10	25~ 998			4 5 6 8	800		
	12	25~1198		(When P=8, 10) B≤F-3	5 6 8 10	1000		
	13	25~1198			5 6 8 10 12	1000		
	15	25~1198		(When P≥12) B≤F-5	5 6 8 10 12	1000		
	16	25~1198			5 6 8 10 12	1200		
	18	25~1198		(W/o Threads) B=0	5 6 8 10 12 16	1200		
	20	25~1198		B≥Pitchx3	6 8 10 12 16	1200		1.0 or Less
(D Tol. f8) PSFGN (D≥6), PSSFGN (D≥6)	25	25~1198			8 10 12 16 20 24	1200		
	30	25~1498			8 10 12 16 20 24	1500		
	35	25~1498			10 12 16 20 24 30	1500	0.5 or Less	
	40	25~1498			12 16 20 24 30	1500		
	50	25~1498			16 20 24 30	1500		

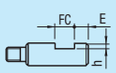
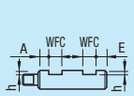
Coarse Thread Dimensions M	pitch
3	0.5
4	0.7
5	0.8
6	1.0
8	1.25
10	1.5
12	1.75
16	2.0
20	2.5
24	3.0
30	3.5

Ordering Example

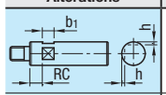
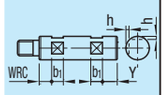
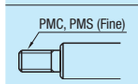
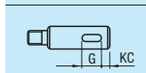
Part Number	-	L	-	F	-	B	-	P
SFAN12	-	500	-	F20	-	B15	-	P6
SFUN8	-	150	-	F20	-	B15	-	P6

Alterations

Part Number	-	L	-	F	-	B	-	P(PMC, PMS)	-	(LKC···etc.)
SFAN30	-	250	-	F40	-	B30	-	P10	-	LKC

Alterations	Code	Spec.
	LKC	Alteration to L dimension tolerance Ordering Code LKC L dimensions can be specified in 0.1mm increment for LKC. L<200 ···L±0.03 200≤L<500···L±0.05 L≥500 ···L±0.1 Not applicable when D-P≤2.
	FC	Set Screw Flat at One Location Ordering Code FC10-E8 Application Notes FC, E=1mm Increment D≤30:FC≤5xD, D≥35:FC≥3xD E=0 or E≥2 Not available in combination with WFC. D / h: 4~ 5 / 0.5; 6~18 / 1; 20~40 / 2; 50 / 3
	WFC	Set Screw Flats at Two Locations Ordering Code WFC8-A8-E4 Application Notes WFC, A, E=1mm Increment D≤30:WFC≤5xD, D≥35:WFC≥3xD A(E)=0 or A(E)≥2 Orientation between set screw flats is not coplanar. Not available in combination with FC. D / h: 4~ 5 / 0.5; 6~18 / 1; 20~40 / 2; 50 / 3

Alteration Details P.143

Alterations	Code	Spec.
	RC	90-deg. Set Screw Flat at One Location Ordering Code RC10 Application Notes Only applicable to D=10 ~ 30. Not available in combination with WRC.
	WRC	90-deg. Set Screw Flats at Two Locations Ordering Code WRC10-Y10 Application Notes Only applicable to D=10 ~ 30. Not available in combination with RC. Orientation between two set screw flats is not coplanar.
	PMC PMS	Change to Fine Thread Ordering Code PMC14 (P is changed to PMC) PMS14 (P is changed to PMS)
	KC	Keyway is added at one location. Ordering Code KC10-G10 Application Notes Only applicable to D=12, 16, 20, 25 and 30.

For details, see Shaft Alteration Overview. P.143

- Please see Shaft Alteration Overview for details if provided. P.143
- When selecting multiple alteration additions, the distance between machined areas should be greater than 2mm.
- The distance between wrench flats and cross-drilled holes should be greater than 2mm for alterations.
- Alterations may lower hardness. See P.142

Part Number Type	D	Unit Price Min. L ~ 50	L51 ~ 100	L101 ~ 150	L151 ~ 200	L201 ~ 250	L251 ~ 300	L301 ~ 350	L351 ~ 400	L401 ~ 450	L451 ~ 500	L501 ~ 550	L551 ~ 600	L601 ~ 650	L651 ~ 700	L701 ~ 750	L751 ~ 800	L801 ~ 850	L851 ~ 900	L901 ~ 950	L951 ~ 1000	L1001 ~ 1100	L1101 ~ 1200	L1201 ~ 1300	L1301 ~ 1400	L1401 ~ 1498
SFAN SFUN	4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6																	-	-	-	-	-	-	-	-	-
	8																					-	-	-	-	-
	10																					-	-	-	-	-
	12																							-	-	-
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	50																									
SSFAN SSFUN	4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6																	-	-	-	-	-	-	-	-	-
	8																					-	-	-	-	-
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PSFAN PSFUN	4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6																	-	-	-	-	-	-	-	-	-
	8																					-	-	-	-	-
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PSSFAN PSSFUN	4							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6																	-	-	-	-	-	-	-	-	-
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	50																									

For D tolerance h5, add the relevant surcharge to the prices above.

Part Number Type	D	Unit Price Min. L ~ 50	L51 ~ 100	L101 ~ 150	L151 ~ 200	L201 ~ 300	L301 ~ 400	L401 ~ 500	L1201 ~ 1498
PSFGN	6					-	-	-	-
	8						-	-	-
	10						-	-	-
	12, 13							-	-
	15, 16								-
	18, 20								-
	25								-
	30								
	35								
	40								
	50								
PSSFGN	6					-	-	-	-
	8						-	-	-
	10						-	-	-
	12, 13							-	-
	15, 16								-
	18, 20								-
	25								-
	30								
	35								
	40								
	50								

Part Number Type	D	Unit Price Min. L ~ 50	L51 ~ 100	L101 ~ 150	L151 ~ 200	L201 ~ 300	L301 ~ 400	L401 ~ 500
RSFAN	4						-	-
	5							-
	6							
	8							
	10							
	12							
	13							
	15							
	16							
	18							
	20							
	25							
	30							