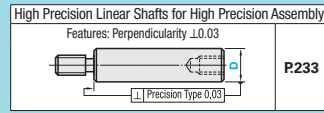


Shafts

One End Threaded One End Tapped with Undercut



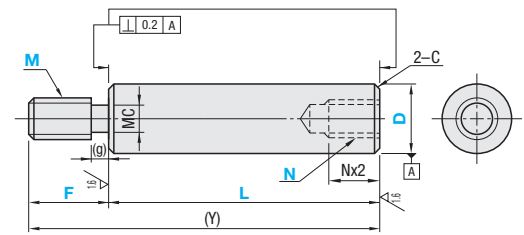
For High Precision Linear Shafts with high perpendicular precision of the shaft end ($\perp 0.03$), see **P.233**. For Shafts with Wrench Flats / Cross-Drilled Hole, see **P.175**.

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



Type			Material	Hardness	Surface Treatment	D Tol.			
D Tol. g6	D Tol. h5	D Tol. f8				D	g6	h5	f8
SAFD	SFDU	-	SUJ2 Equivalent	Effective Hardened	-	8	-0.005	0	-0.013
SSAFD	SSFUDU	-	SUS440C or 13Cr stainless	Depth of Induction	-	10	-0.014	-0.006	-0.035
PSAFD	PSFDU	-	SUJ2 Equivalent	Hardening P.142	Hard Chrome Plating - Plating	12	-	-	-
PSSAFD	PSSFDU	-	SUS440C or 13Cr stainless	SUJ2 Equivalent 58HRC-60HRC	Hardness: HV750 -, Plating Thickness: 5µ or More	13	-0.006	0	-0.016
RSADF	-	-	SUJ2 Equivalent	SUS440C or 13Cr stainless 58HRC-60HRC	Low Temp. Black Chrome Plating	15	-0.017	-0.008	-0.043
-	-	PSAGD	S45C Equivalent	-	Hard Chrome Plating - Plating	16	-	-	-
-	-	PSSAGD	SUS304	-	Hardness: HV750 -, Plating Thickness: 10µ or More	18	-	-	-
20	-	-	-	-	-	20	-0.007	0	-0.020
25	-	-	-	-	-	25	-0.020	-0.009	-0.053
35	-	-	-	-	-	35	-0.009	0	-0.025
40	-	-	-	-	-	40	-0.025	-0.011	-0.064
50	-	-	-	-	-	50	-	-	-

For plated products, the surface roughness of D part is $\sqrt{0.4}$; and for unplated products, it is $\sqrt{0.6}$.



- Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm). **P.142**
- L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.141**
- Features of Low Temp. Black Chrome Plating **P.156**

Part Number Type	D	1mm Increments		M (Coarse Selection)	N (Coarse Selection)	(Y) Max.	C	Coarse Thread Undercut Dimensions			
		L	F					M Pitch	MC	(g)	
(D Tol. g6) SAFD, SSAFD, PSAFD, PSSAFD, RSADF	8	25~995		6	3 4 5	800	0.5 or Less	6	1.0	4.4	2
	10	25~995		6 8	3 4 5 6	800		8	1.25	6.0	
	12	25~1195		6 8 10	4 5 6 8	1000		10	1.5	7.7	3
	13	25~1195		6 8 10 12	4 5 6 8	1000		12	1.75	9.4	
	15	25~1195		6 8 10 12	4 5 6 8 10	1000		16	2.0	13.0	4
	16	25~1195		6 8 10 12	4 5 6 8 10	1200		20	2.5	16.4	
	18	25~1195		6 8 10 12 16	4 5 6 8 10 12	1200		24	3.0	19.6	5
	20	25~1195		6 8 10 12 16	4 5 6 8 10 12	1200		30	3.5	25.0	
	25	25~1193		8 10 12 16 20 24	4 5 6 8 10 12 16	1200					
	30	25~1493		8 10 12 16 20 24	6 8 10 12 16 20	1500					
(D Tol. f8) PSAGD, PSSAGD	35	25~1492		10 12 16 20 24 30	8 10 12 16 20 24	1500	1.0 or Less				
	40	40~1490		12 16 20 24 30	10 12 16 20 24 30	1500					
	50	50~1490		16 20 24 30	12 16 20 24 30	1500					

Full length L requires Nx2.5+4<L.

Ordering Example: Part Number - L - F - M - N
SAFD20 - 277 - F25 - M10 - N12

Alterations: Part Number - L - F - M(MMC, MMS) - N(NSC, ND) - (LKC...etc.)
SAFD30 - 250 - F40 - M20 - N20 - LKC

Alteration Details **P.143**

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
	WSC	Wrench Flats at Two Locations Ordering Code: WSC12-X8 WSC, X = 1mm Increment WSC+X+δ1x2<L WSC(X)>0 Orientation between two set screw flats is not coplanar.
	FC	Set Screw Flat at One Location Ordering Code: FC10-E8 FC, E = 1mm Increment D<30: FC<5xD D>35: FC<3xD E=0 or E<2 Not available in combination with WFC.
	WFC	Set Screw Flats at Two Locations Ordering Code: WFC8-A8-E4 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.

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.
	MMC, MMS	Change to Fine Thread Ordering Code: MMC14 (M is changed to MMC) MMS14 (M is changed to MMS)
	NSC	Change to Fine Tapped Thread Ordering Code: NSC14 (N is changed to NSC) Application Notes: Applicable to D=12 or more
	ND	Change the effective length of tapped part to Nx3. Ordering Code: ND6 (N is changed to ND) Application Notes: Only applicable to D=10~30 and N=6~20 One End Tapped: NDx3.5+7<L

- 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.
- Alterations may lower hardness. See **P.142**.

Part Number Type	D	Unit Price																											
		Min. L	L51	L101	L151	L201	L251	L301	L351	L401	L451	L501	L551	L601	L651	L701	L751	L801	L851	L901	L951	L1001	L1101	L1201	L1301	L1401			
SAFD	8																												
	10																												
	12																												
	13																												
	15																												
	16																												
	18																												
	20																												
	25																												
	30																												
SSAFD	8																												
	10																												
	12																												
	13																												
	15																												
	16																												
	18																												
	20																												
	25																												
	30																												
PSAFD	8																												
	10																												
	12																												
	13																												
	15																												
	16																												
	18																												
	20																												
	25																												
	30																												

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

Part Number Type	D	Unit Price						
		Min. L	L51	L101	L151	L201	L301	L401
RSADF	8							
	10							
	12							
	13							
	15							
	16							
	18							
	20							
	25							
	30							

Part Number Type	D	Unit Price						
		Min. L	L101	L201	L401	L601	L801	L1001
PSAGD	8							
	10							
	12, 13							
	15, 16							
	18, 20							
	25							
	30							
	35							
	40							
	50							
PSSAGD	8							
	10							
	12, 13							
	15, 16							
	18, 20							
	25							