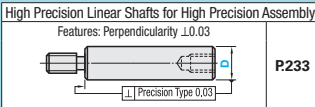


Shafts

One End Threaded One End Tapped with Undercut



P.233

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

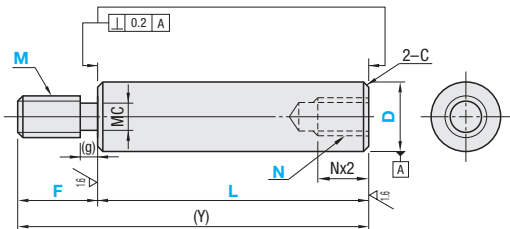


RoHS10

- 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

Type			Material	Hardness	Surface Treatment
D Tol. g6	D Tol. h5	D Tol. f8			
SAFD	SFDU	-	SUJ2	Effective Hardened Depth of Induction Hardening P.142 SUJ2 58HRC- SUS440C Equivalent 56HRC-	Hard Chrome Plating - Plating Hardness: HV750 -, Plating Thickness: 5µ or More Low Temp. Black Chrome Plating
SSAFD	SSFUDU	-	SUS440C Equivalent		
PSAFD	PSFDU	-	SUJ2		
PSSAFD	PSSFDU	-	SUS440C Equivalent		
RSAFD	-	-	SUJ2	S45C Equivalent	Hard Chrome Plating - Plating Hardness: HV750 -, Plating Thickness: 10µ or More
-	PSAGD	-	SUS304		
-	PSSAGD	-	SUS304	-	-

For plated products, the surface roughness of D part is 0.4; and for unplated products, it is 0.6. (0.3 / 0.15 / 0.05 / 0.025 / 0.0125)



Part Number		1mm Increments		M (Coarse) Selection	N (Coarse) Selection	(Y) Max.	C
Type	D	L	F				
(D Tol. g6) SAFD SSAFD PSAFD PSSAFD RSAFD (D≤30, L≤500)	8	25~ 995	5≤F≤Mx3 F-g≥Pitchx3	6	3 4 5	800	0.5 or Less
	10	25~ 995		6 8	3 4 5 6	800	
	12	25~1195		6 8 10	4 5 6 8	1000	
	13	25~1195		6 8 10 12	4 5 6 8	1000	
	15	25~1195		6 8 10 12	4 5 6 8 10	1000	
	16	25~1195		6 8 10 12	4 5 6 8 10	1200	
	18	25~1195		6 8 10 12 16	4 5 6 8 10 12	1200	
	20	25~1195		6 8 10 12 16	4 5 6 8 10 12	1200	
	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	
	50	50~1490		16 20 24 30	12 16 20 24 30	1500	

Coarse Thread Undercut Dimensions			
M	Pitch	MC	(g)
6	1.0	4.4	2
8	1.25	6.0	3
10	1.5	7.7	3
12	1.75	9.4	4
16	2.0	13.0	4
20	2.5	16.4	5
24	3.0	19.6	5
30	3.5	25.0	5

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.

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

Part Number		Unit Price																			
Type	D	Min. L	L51	L101	L151	L201	L251	L301	L351	L401	L451	L501	L551	L601	L651	L701	L751	L801	L851	L901	L951
SAFD SFDU	8	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				
SSAFD SSFUDU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				
PSAFD PSFDU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				
PSSAFD PSSFDU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				

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

Part Number		Unit Price							
Type	D	Min. L	L51	L101	L151	L201	L251	L301	L401
RSAGD	8	50	100	150	200	250	300	350	400
	10								
	12								
	13								
	15								
	16								
	18								
	20								
	25								
	30								

Part Number		Unit Price							
Type	D	Min. L	L101	L201	L401	L601	L801	L1001	L1201
PSAGD	8	100	200	400	600	800	1000	1200	1493
	10								
	12, 13								
	15, 16								
	18, 20								
	25								
	30								
	35								
	40								
	50								
PSSAGD	8								
	10								
	12, 13								
	15, 16								
	18, 20								
	25								