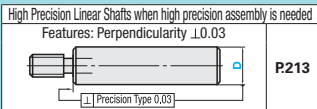


Shafts

One End Threaded with Undercut



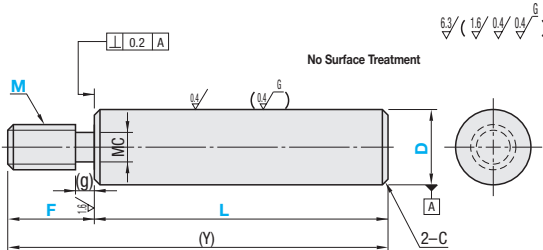
- For High Precision Linear Shafts with high perpendicular precision of the shaft end (⊥ 0.03), see **P.213**.
- For Shafts With Wrench Flats, see **P.169**.



- ⚠ Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm). **P.112**
- ⚠ L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.111**
- ⚠ Features of LTBC Plating **P.128**

Type			Material	Hardness	Surface Treatment
D Tol. g6	D Tol. h5	D Tol. f8			
SAFN	SFNU	-	EN 1.3505 Equiv.	Effective Hardened Depth of Induction Hardening P.112 EN 1.3505 Equiv. EN 1.4037 Equiv.	- Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 5µ or More LTBC Plating
SSAFN	SSFNU	-	EN 1.4037 Equiv.		
PSAFN	PSFNU	-	EN 1.3505 Equiv.		
PSSAFN	PSSFNU	-	EN 1.4037 Equiv.		
RSAFN	-	-	EN 1.3505 Equiv.		
-	-	PSAGN	EN 1.1191 Equiv.	-	Hard Chrome Plating Plating Hardness: HV750 ~ Plating Thickness: 10µ or More
-	-	PSSAGN	EN 1.4301 Equiv.		

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



Part Number		1mm Increment		Selection		(Y) Max.	C
Type	D	L	F	M (Coarse)			
(D Tolerance g6) SAFN (D Tolerance h5) SFNU SSAFN PSAFN PSSAFN RSAFN (D≤30, L≤500)	8	25~795	5≤F≤Mx3	6		800	0.5 or Less
	10	25~795		6 8		800	
	12	25~995		6 8 10		1000	
	13	25~995		6 8 10 12		1000	
	15	25~995		6 8 10 12		1000	
	16	25~1195		6 8 10 12		1200	1.0 or Less
	18	25~1195		6 8 10 12 16		1200	
	20	25~1195		6 8 10 12 16		1200	
	25	25~1195		8 10 12 16 20 24		1200	
	30	25~1495		8 10 12 16 20 24		1500	
(D Tol. f8) PSAGN PSSAGN	35	25~1495	⚠ F-(g)≥Pitchx3	10 12 16 20 24 30		1500	1.0 or Less
	40	25~1495		12 16 20 24 30		1500	
	50	25~1495		16 20 24 30		1500	

Coarse Thread Undercut Dimension

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

Ordering Example

Part Number	-	L	-	F	-	M
SAFN13	-	200	-	F20	-	M10
SFNU13	-	800	-	F23	-	M10

Alterations

Part Number	-	L	-	F	-	M (MMC, MMS)	-	(LKC-etc.)
SAFN30	-	250	-	F20	-	M10	-	LKC

Alteration Details **P.113**

Alterations	Code	Spec.
	LKC	Alteration to L dimension tolerance (Ordering Code) LKC (Application Notes) L dimensions can be specified in 0.1mm increment for LKC. ⚠ L<200 → ±0.03 200≤L<500 → ±0.05 L≥500 → ±0.1 ⚠ Not applicable when D-M≤2
	FC	Set Screw Flat at One Location (Ordering Code) FC10-E8 FC, E=1mm Increment ⚠ FC≤3xD ⚠ When 1.5xD<FC, FC≤L/2 ⚠ 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 ⚠ WFC≤3xD ⚠ When 1.5xD<WFC, 2WFC≤L/2 ⚠ 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	Change to Fine Thread (Ordering Code) MMC14 (M is changed to MMC)
	MMS	MMS14 (M is changed to MSC)
	KC	Add keyway at one location. (Ordering Code) KC10-G10 (Application Notes) Only applicable to D=12, 16, 20, 25 and 30.

⚠ Please see Shaft Alteration Overview for details if provided. **P.113**

⚠ When selecting multiple alteration additions, the distance between machined areas should be greater than 2mm.

⚠ Alterations may lower hardness. See **P.112**

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
SAFN ⚠ SFNU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				
SSAFN ⚠ SSFNU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				
PSAFN ⚠ PSFNU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				
PSSAFN ⚠ PSSFNU	8																				
	10																				
	12																				
	13																				
	15																				
	16																				
	18																				
	20																				
	25																				
	30																				

Part Number		Unit Price							
Type	D	Min. L	L101	L201	L401	L601	L801	L1001	L1201
PSAGN	8								
	10								
	12, 13								
	15, 16								
	18, 20								
	25								
	30								
	35								
	40								
	50								
PSSAGN	8								
	10								
	12, 13								
	15, 16								
	18, 20								
	25								
	30								
	35								
	40								
	50								

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