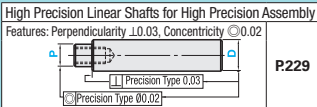


Shafts

One End Stepped and Tapped / One End Stepped



P.229

For High Precision Linear Shafts with high perpendicular precision of the shaft end (0.03), see P.229. For Shafts with Wrench Flats, see P.167.

Type

One End Stepped and Tapped			One End Stepped			Material	Hardness	Surface Treatment
D Tol. g6	D Tol. h5	D Tol. f8	D Tol. g6	D Tol. h5	D Tol. f8			
SFAG	SFUG	-	SFAC	SFCU	-	SUJ2	Effective Hardened	-
SSFAG	SSFUG	-	SSFAC	SSFCU	-	SUS440C Equivalent	Depth of Induction	-
PSFAG	PSFUG	-	PSFAC	PSFCU	-	SUJ2	Hardening P.142	Hard Chrome Plating - Plating Thickness: 5μ or More
PSSFAG	PSSFUG	-	PSSFAC	PSSFCU	-	SUJ2	56HRC	Low Temp. Black Chrome Plating
RSFAG	-	-	RSFAC	-	-	SUJ2	SUS440C Equivalent 56HRC	Hard Chrome Plating - Plating Thickness: 10μ or More
-	-	-	PSFGG	-	-	S45C Equivalent	-	-
-	-	-	PSSFGG	-	-	PSSCGC	-	-

For plated products, the surface roughness of D part is 0.4/0.2; and for unplated products, it is 0.4/0.2.

One End Stepped and Tapped

One End Stepped

D Tol.

D	g6	h5	f8
8	-0.005	0	-0.013
10	-0.014	-0.006	-0.035
12	-	-	-
13	-	-	-
15	-0.006	0	-0.016
16	-0.017	-0.008	-0.043
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	-	-	-

RoHS 10

Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm). P.142

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	L	F	P	M (Coarse) Selection	(Y) Max.	R	C
One End Stepped and Tapped (D Tol. g6)	SFAG	8	25-998		6	3	800		
(D Tol. h5)	SFUG	10	25-998		6-8	3 4 5	800		
One End Stepped (D Tol. g6)	SFAC	12	25-1198		6-10	3 4 5 6	1000		
(D Tol. h5)	SFCU	13	25-1198		6-11	3 4 5 6 8	1000		
SSFAG	SSFUG	15	25-1198		6-13	3 4 5 6 8 10	1000		
PSFAG	PSFUG	16	25-1198		6-14	3 4 5 6 8 10	1200		
PSSFAG	PSSFUG	18	25-1198		8-16	4 5 6 8 10 12	1200		
RSFAG		20	25-1198		8-17	4 5 6 8 10 12	1200		
(D≤30, L≤500)		25	25-1198		8-22	4 5 6 8 10 12 16	1200		
(D Tol. f8)	PSFGG	30	25-1498		9-27	5 6 8 10 12 16 20 24	1500		
(D Tol. f8)	PSSFGG	35	25-1498		9-32	5 6 8 10 12 16 20 24	1500		
		40	25-1498		11-37	6 8 10 12 16 20 24 30	1500		
		50	25-1498		11-47	6 8 10 12 16 20 24 30	1500		

One End Stepped and Tapped P dimensions require M+3≤P. When Mx2.5+4≥Y, tap pilot holes may go through.

Ordering Example	Part Number	L	F	P	M
SFAG20	- 400 -	F25 -	P16 -	M10	
SFUG20	- 400 -	F25 -	P16 -	M10	
SFAC20	- 500 -	F25 -	P16 -		

Alterations	Part Number	L	F	P	M(MD)	(LKC, FC--etc.)
SFAG30	- 400 -	F25 -	P16 -	M10		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
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.

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.

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.
KC		Keyway at One Location:KC Keyways at Two Locations:WKC
WKC		Keyway at One Location:KC Keyways at Two Locations:WKC Application Notes Only applicable to D=12, 16, 20, 25 and 30.
MD		Change the effective length of tapped part to Mx3. Ordering Code MD6 (M is changed to MD) Application Notes Only applicable to D=10~30 and M=6~20 One End Tapped: MDx3.5+4≤L Not available in combination with KC, WSC.
LFC		Set Screw Flat at Step Parts Ordering Code LFC10-A0 LFC+A≤F D-M≥1

Part Number	Type	D	Unit Price
SFAG		8	
SFUG		10	
SFAC		12	
SFCU		13	
SSFAG		15	
SSFUG		16	
SSFAC		18	
SSFCU		20	
PSFAG		25	
PSFUG		30	
PSFAC		35	
PSFCU		40	
PSSFAG		50	
PSSFUG		8	
PSSFAC		10	
PSSFCU		12	
PSSFAG		13	
PSSFUG		15	
PSSFAC		16	
PSSFCU		18	
PSSFAG		20	
PSSFUG		25	
PSSFAC		30	
PSSFCU		35	
PSSFAG		40	
PSSFUG		50	
PSSFAC		8	
PSSFCU		10	
PSSFAG		12	
PSSFUG		13	
PSSFAC		15	
PSSFCU		16	
PSSFAG		18	
PSSFUG		20	
PSSFAC		25	
PSSFCU		30	
PSSFAG		35	
PSSFUG		40	
PSSFAC		50	
PSSFCU		8	
PSSFAG		10	
PSSFUG		12	
PSSFAC		13	
PSSFCU		15	
PSSFAG		16	
PSSFUG		18	
PSSFAC		20	
PSSFCU		25	
PSSFAG		30	
PSSFUG		35	
PSSFAC		40	
PSSFCU		50	

One End Stepped and Tapped For D tolerance h5, add the relevant surcharge to the prices above.

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

For D tolerance g6, subtract the relevant charge from the prices above.

Part Number	Type	D	Unit Price
RSFAG		8	
RSFAC		10	
RSFUG		12	
RSFAC		13	
RSFUG		15	
RSFAC		16	
RSFUG		18	
RSFAC		20	
RSFUG		25	
RSFAC		30	

For One End Stepped Shafts, subtract the relevant charge from the prices above.

Part Number	Type	D	Unit Price
PSFGG		8, 10	
PSSCGC		12, 13	
PSFGG		15, 16	
PSSCGC		18, 20	
PSFGG		25	
PSSCGC		30	
PSFGG		35	
PSSCGC		40	
PSFGG		50	

For One End Stepped Shafts, subtract the relevant charge from the prices above.

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

Part Number	Type	D	Unit Price
PSSFAG		8, 10	
PSSFCU		12, 13	
PSSFAG		15, 16	
PSSFCU		18, 20	
PSSFAG		25	
PSSFCU		30	
PSSFAG		35	
PSSFCU		40	
PSSFAG		50	

For One End Stepped Shafts, subtract the relevant charge from the prices above.