Shafts

One End Stepped & Tapped / One End Threaded & Stepped / One End Threaded

Shafts – One End Stepped & Tapped / One End Threaded & Stepped / One End Threaded

RoHS10

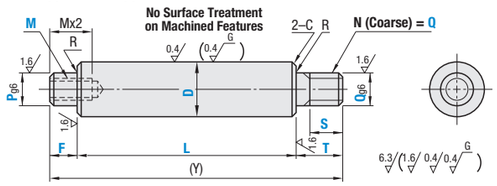
Type: One End Stepped and Tapped – One End Threaded			Type: One End Stepped / One End Threaded			Material	Hardness	Surface Treatment
D Tol. g6	D Tol. h5	D Tol. f8	D Tol. g6	D Tol. h5	D Tol. f8			
SFAB	SFUA	—	SFNB	SFUB	—	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened **P.199**	—
SSFAB	SSFUA	—	SSFNB	SSFUB	—	SUS440C (13Cr) Stainless Steel Equivalent		
PSFAB	PSFUA	—	PSFNB	PSFUB	—	52100 Bearing Steel Equivalent	52100 Bearing Steel Equivalent 58 HRC min. SUS440C (13Cr) Stainless Steel Equivalent 56 HRC min.	Hard Chrome Plating Plating Hardness: 750 HV min. Plating Thickness 5μ or More
PSSFAB	PSSFUA	—	PSSFNB	PSSFUB	—	SUS440C (13Cr) Stainless Steel Equivalent		
RSFAB	—	—	RSFNB	—	—	52100 Bearing Steel Equivalent		Low Temperature Black Chrome Plating
—	—	PSFGB	—	—	PSNGB	1045 Carbon Steel Equivalent	—	Hard Chrome Plating Plating Hardness: 750 HV min. Plating Thickness 10μ or More
—	—	PSSFGB	—	—	PSSNGB	304 Stainless Steel		

D Tolerance			
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			

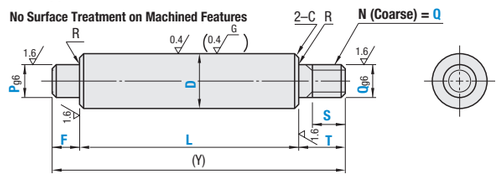
Coarse Thread Dimensions	
M	Pitch
3	0.5
4	0.7
5	0.8
6	1.0
8	1.25
10	1.5
12	1.75
16	2.0
20	2.5
24	3.0
30	3.5

- Shaft End Machined Area (Effective Thread Length + Approx. 10 mm) Annealing may lower hardness **P.199**.
- Circularity, Straightness, Perpendicularity, Concentricity, Changes in Hardness **P.198**.
- Features of Low Temperature Black Chrome Plating **P.213**.

One End Stepped and Tapped – One End Threaded



One End Stepped / One End Threaded



Part Number Type	D	1 mm Increments L	F	T	S	P	M (Coarse Threads)	Q	(Y) Max.	R	C
One End Stepped and Tapped - One End Threaded (D Tol. g6) (D Tol. h5) SFAB SFUA, SSFAB SSFUA, PSFAB PSFUA, PSSFAB PSSFUA, RSFAB; One End Stepped / One End Threaded (D Tol. g6) (D Tol. h5) SFNB SFUB, SSFNB SSFUB, PSFNB PSFUB, PSSFNB PSSFUB, RSFNB; (D≤30, L≤500, Ymax≤800)	8	25–996	2≤F≤Px4	2≤T≤Qx5	(When Q≤6) S≤T-2	6	3	3 4 5 6 8	800	0.3 or Less	0.5 or Less
	10	25–996				6–8	3 4 5	4 5 6 8 10	800		
	12	25–1196			(When Q=8, 10) S≤T-3	6–10	3 4 5 6	5 6 8 10 12	1000		
	13	25–1196				6–11	3 4 5 6 8	5 6 8 10 12	1000		
	15	25–1196			(When Q≥12) S≤T-5	6–13	3 4 5 6 8 10	5 6 8 10 12	1000		
	16	25–1196				6–14	3 4 5 6 8 10	5 6 8 10 12 16	1200		
	18	25–1196			(Without threads) S=0	8–16	4 5 6 8 10 12	5 6 8 10 12 16	1200		
	20	25–1196			! S=0 is only applicable to One End Stepped and Tapped, One End Threaded.	8–17	4 5 6 8 10 12	6 8 10 12 16 20	1200		1.0 or Less
	25	25–1196				8–22	4 5 6 8 10 12 16	8 10 12 16 20 24	1200		
	30	25–1496				9–27	5 6 8 10 12 16 20 24	8 10 12 16 20 24 30	1500		
	35	25–1496				9–32	5 6 8 10 12 16 20 24	10 12 16 20 24 30	1500	0.5 or Less	
	40	25–1496				11–37	6 8 10 12 16 20 24 30	12 16 20 24 30	1500		
	50	25–1496			! S≥Pitchx3	11–47	6 8 10 12 16 20 24 30	16 20 24 30	1500		

Part Number Type	D	1 mm Increments L	F	T	S	P	M (Coarse Threads)	Q	(Y) Max.	R	C
One End Stepped and Tapped - One End Threaded (D Tol. g6) Low Temperature Black Chrome Plating RSFAB; One End Stepped / One End Threaded (D Tol. g6) Low Temperature Black Chrome Plating RSFNB; (D≤30, L≤500, Ymax≤800)	8	25-500	2≤F≤Px4	2≤T≤Qx5	(When Q≤6) S≤T-2	6	3	3 4 5 6 8	800	0.3 or Less	0.5 or Less
	10	25-500				6–8	3 4 5	4 5 6 8 10	800		
	12	25-500			(When Q=8, 10) S≤T-3	6–10	3 4 5 6	5 6 8 10 12	1000		
	13	25-500				6–11	3 4 5 6 8	5 6 8 10 12	1000		
	15	25-500			(When Q≥12) S≤T-5	6–13	3 4 5 6 8 10	5 6 8 10 12	1000		
	16	25-500				6–14	3 4 5 6 8 10	5 6 8 10 12 16	1200		
	18	25-500			(Without threads) S=0	8–16	4 5 6 8 10 12	5 6 8 10 12 16	1200		
	20	25-500			! S=0 is only applicable to One End Stepped and Tapped, One End Threaded.	8–17	4 5 6 8 10 12	6 8 10 12 16 20	1200		1.0 or Less
	25	25-500				8–22	4 5 6 8 10 12 16	8 10 12 16 20 24	1200		
	30	25-500			! S≥Pitchx3	11–47	6 8 10 12 16 20 24 30	16 20 24 30	1500		

! P dimensions require M+3≤P. ! L+F dimensions require Mx4 or more. ! When D=Q, specify T=S as S dimensions. However, L and T dimensions have manufacturing priority and S dimension will be T-(Pitchx2).

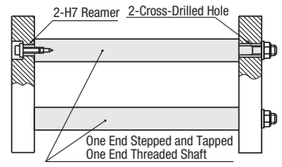
Shafts

One End Stepped & Tapped / One End Threaded & Stepped / One End Threaded, *continued*

Part Number Example

Part Number	-	L	-	F	-	P	-	M	-	T	-	S	-	Q
SFNB20	-	400	-	F25	-	P16			-	T35	-	S25	-	Q16
SFAB20	-	400	-	F25	-	P16	-	M10	-	T35	-	S25	-	Q16

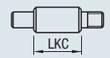
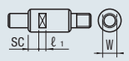
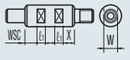
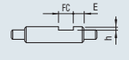
Application Example

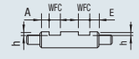
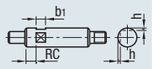
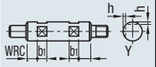
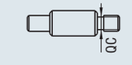


Part Number Alterations

Part Number	-	L	-	F	-	P	-	M	-	T	-	S	-	Q (QMC / QMS)	-	(LKC...etc.)
SFAB20	-	400	-	F25	-	P16	-	M10	-	T35	-	S25	-	Q16	-	LKC-QC

Alteration Details **P.200**

Alterations	Code	Spec.
	LKC	Alteration to L dimension tolerance **Ordering Code:** LKC ⊗ Not applicable when D-P (Q)≤2 L dimensions can be specified in 0.1 increments for LKC. ! L<200 ⟶ L±0.03 200≤L<500 ⟶ L±0.05 L≥50 ⟶ L±0.1
	SC	Wrench Flats at One Location **Ordering Code:** SC5 SC=1 mm Increment ! SC+ℓ1≤L SC≥0 ⊗ Not available in combination with WSC D / W / ℓ1: 8: 7 / 8; 10: 8 / 10; 12: 10 / 13; 15: 11 / 13; 16: 14 / 16; 18: 16 / 20; 17
	WSC	Wrench Flats at Two Locations **Ordering Code:** WSC12-X8 WSC, X = 1 mm Increment ! WSC+X+ℓ1,x2<L ! WSC (X)≥0 ⊗ Orientation between wrench flat features is random. Not available in combination with SC D / W / ℓ1: 25: 22 / 30: 27 / 15; 35: 30 / 40: 36 / 20; 50: 41
	FC	Set Screw Flat at One Location **Ordering Code:** FC10-E8 FC, E = 1 mm Increment ! FC≤3xD ! When 1.5xD<FC, FC≤L/2 ! E=0 or E≥2 ⊗ Not available in combination with WFC D / h: 8–18: 1; 20–40: 2; 50: 3

Alterations	Code	Spec.
	WFC	Set Screw Flats at Two Locations **Ordering Code:** WFC10-A8-E20 WFC, A, E = 1 mm Increment ! WFC≤3xD ! When 1.5xD<WFC, 2WFC≤L/2 ! A (E)=0 or A (E)≥2 ⊗ Orientation between set screw flats is random. Not available in combination with FC. D / h: 8–18: 1; 20–40: 2; 50: 3
	RC	90° Set Screw Flat at One Location **Ordering Code:** RC10 **Application Notes:** Applicable to D=10–30 ⊗ Not available in combination with WRC For details, see Shaft Alteration Overview, **P.200**.
	WRC	90° 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 set screw flats is random. For details, see Shaft Alteration Overview, **P.200**.
	QC	Undercut **Ordering Code:** QC **Application Notes:** Applicable to M=6 or more ⊗ Not Applicable to D=Q For details, see Shaft Alteration Overview, **P.200**.
	QMC QMS	Change to Fine Thread **Ordering Code:** QMC14 (Q is changed to QMC) QMS14 (Q is changed to QMS) For details, see Shaft Alteration Overview, **P.200**.

! Please see Alteration Guides for details if provided. **P.200**
! When selecting multiple alteration additions, the distance between machined areas should be greater than 2 mm. **P.201**
! Alterations may lower hardness. **P.199**