

Shafts

Standard & Precision Type / One End Threaded with Undercut

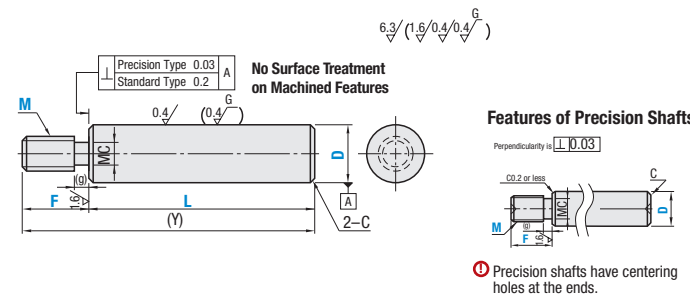
Shafts – Standard & Precision Type / One End Threaded with Undercut



RcHS10

- Annealing may lower hardness at wrench flats, cross-drilled hole and shaft end machined areas (effective thread length + approx. 10 mm). **P.199**
- Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.198**.
- Features of Low Temp. Black Chrome Plating **P.213**.
- For Shafts with wrench flats, **P.226**.

Precision Type	Type				Material	Hardness	Surface Treatment
	Standard						
D Tol. g6	D Tol. g6	D Tol. h5	D Tol. f8				
VAFN	SAFN	SFNU	—	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened P.199	—	—
VSAFN	SSAFN	SSFNU	—	SUS440C (13Cr) Stainless Steel Equivalent			
VPAFN	PSAFN	PSFNU	—	52100 Bearing Steel Equivalent	52100 Bearing Steel Equivalent 58 HRC min.	Hard Chrome Plating Plating Hardness: HV 750~ Plating Thickness: 5 μ or More	—
VPSAFN	PSSAFN	PSSFNU	—	SUS440C (13Cr) Stainless Steel Equivalent	SUS440C (13Cr) Stainless Steel Equivalent 56 HRC min.		
VRFN	RSAFN	—	—	52100 Bearing Steel Equivalent	—	—	Low Temperature Black Chrome Plating
—	—	—	PSAGN	1045 Carbon Steel Equivalent			Hard Chrome Plating Plating Hardness: HV 750~ Plating Thickness: 10 μ or More
—	—	—	PSSAGN	304 Stainless Steel	—	—	—



D Tolerance			
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			
25	-0.007	0	-0.020
30	-0.020	-0.009	-0.053
35			
40	-0.009	0	-0.025
50	-0.025	-0.011	-0.064

Part Number	1 mm Increment			Selection	(Y) Max.	C
	Type	D	L			
Precision Type Shafts with Wrench Flats D Tolerance g6 VAFN VSAFN VPAFN VPSAFN VRFN	8	25-295	5 ≤ F ≤ Mx3 F-(g) ≥ Pitchx3	6	300	0.5 or Less
	10	25-345		6 8	300	
	12	25-345		6 8 10	350	
	13	25-345		6 8 10	350	
	15	25-345		6 8 10 12	350	
	16	25-345		6 8 10 12	350	
	18	25-345		6 8 10 12 16	350	1.0 or Less
	20	25-445		6 8 10 12 16	450	
	25	25-445		8 10 12 16 20	450	
	30	25-445		8 10 12 16 20 24	450	

Coarse Thread Undercut Dimensions			
M	Pitch	MC	(g)
6	1.0	4.4 (4.2)	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

Ⓢ Shaft ends may have centering holes.

MC dimensions in () are for Precision Type M6 (Coarse).

Part Number	1 mm Increment			Selection	(Y) Max.	C
	Type	D	L			
Standard Type D Tolerance g6 SAFN SSAFN PSAFN PSSAFN RSAFN D≤30, L≤500 D Tolerance f8 PSAGN PSSAGN	8	25-1095	5 ≤ F ≤ Mx3 F-(g) ≥ Pitchx3	(5) 6	1100	0.5 or Less
	10	25-1195		(5) 6 8	1200	
	12	25-1395		(5) 6 8 10	1400	
	13	25-1395		(5) 6 8 10	1400	
	15	25-1395		(5) 6 8 10 12	1400	
	16	25-1395		(5) 6 8 10 12	1400	
	18	25-1395		(5) 6 8 10 12	1400	
	20	25-1395		(5) 6 8 10 12 16	1400	
	25	25-1395		(5) (6) 8 10 12 16 20 24	1400	1.0 or Less
	30	25-1495		(6) 8 10 12 16 20 24	1500	
	35	25-1495		10 12 16 20 24 30	1500	
	40	25-1495		12 16 20 24 30	1500	
	50	25-1495		16 20 24 30	1500	

Ⓢ M() dimensions are applicable only for D diameter tolerance with g6.

Shafts

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Part Number Example

Part Number	L	F	M
VAFN13	200	F20	M10
SAFN13	800	F23	M10

Part Number Alterations

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

Alteration Details **P.200**

Alterations	Code	Spec.
	LKC	Alteration to L dimension tolerance Ordering Code: LKC Application Notes: Applicable when L=200 or less to precision type. L dimensions can be specified in 0.1 increment for LKC. Ⓢ L<200 → L±0.03 200≤L<500 → L±0.05 L≥500 → L±0.1 Ⓢ Not applicable when D-M≤2
	FC	Set Screw Flat at One Location Ordering Code: FC10-E8 Application Notes: Ⓢ Not applicable to precision shafts. 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
	WFC	Set Screw Flats at Two Locations Ordering Code: WFC8-A8-E4 Application Notes: Ⓢ Not applicable to precision shafts. WFC, A, E = 1 mm increment Ⓢ WFC≤3xD Ⓢ When 1.5xD<FC, 2WFC≤L/2 Ⓢ A (E)=0 or A (E)≥2 Ⓢ Orientation between set screw flats is random. Not available in combination with FC.
	KC	Add keyway at one location. Ordering Code: KC10-G10 Application Notes: Applicable only to D=12, 16, 20, 25 or 30. Ⓢ Not applicable to precision shafts. Ⓢ For details, see Shaft Alteration Overview P.200 .

Alterations	Code	Spec.
	RC	90° Set Screw Flat at One Location Ordering Code: RC10 Application Notes: Applicable to D=10-30 Ⓢ Not applicable to precision shafts. Ⓢ 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: Applicable to D=10-30 Ⓢ Not applicable to precision shafts. Ⓢ Not available in combination with RC. Ⓢ Orientation between set screw features is random. Ⓢ For details, see Shaft Alteration Overview P.200 .
	MMC MMS	Change to Fine Thread Ordering Code: MMC14 (M is changed to MMC) MMS14 (M is changed to MSC) Ⓢ For details, see Shaft Alteration Overview P.200 .

- Ⓢ Please see Shaft Alteration Overview 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**