


High Precision Linear Shafts

One End Threaded with Undercut / Wrench Flats

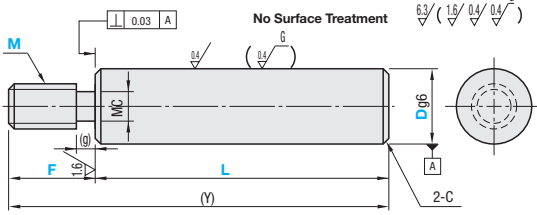
■ Suitable for assemblies of parts requiring high precision and high perpendicular precision of the shaft end ($\perp 0.03$).



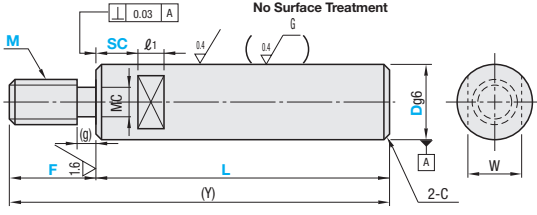
RoHS10

Type		D Tol.	Material	Hardness	Surface Treatment
W/o Wrench Flats	With Wrench Flats				
VAFN	VAFS	g6	SUJ2 Equivalent SUS440C or 13Cr stainless	Effective Hardened Depth of Induction Hardening P.112	Hard Chrome Plating Plating Hardness HW750 - Plating Thickness: 5µ or More Low Temp. Black Chrome Plating
VSAFN	VSAFS				
VPAFN	VPAFS				
VPSAFN	VPSAFS				
VRFN	VRFS				

W/o Wrench Flats



With Wrench Flats



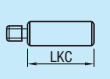
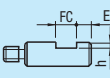
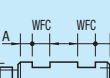
- ⚠ Annealing may lower hardness at wrench flats, cross-drilled hole and shaft end machined areas (effective thread length + approx. 10mm). P.112
- ⚠ Cross-drilled hole areas may be out of 0.D. tolerances due to annealing-induced deformation.
- ⚠ L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111
- ⚠ Features of Low Temp. Black Chrome Plating P.128


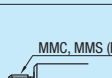
Part Number	1mm Increment			Selection	Wrench Flats Dimensions			(Y) Max.	C	Coarse Thread Details			
	Type	D	L		F	M (Coarse)	SC			W	l1	M	Pitch
(W/o Wrench Flats) (With Wrench Flats)	8	25-295	5 ≤ F ≤ Mx3 ⚠ F-(g) ≥ Pitchx3	6	SC=1mm Increment ⚠ SC+l1 ≤ L ⚠ SC=0 ⚠ Details of Wrench Flats P.112	7	8	300	0.5 or Less	6	1.0	4.2	2
	10	25-345		6 8		8	350	8		3			
	12	25-345		6 8 10		10	350	10		4			
	13	25-345		6 8 10		11	350	11		5			
	15	25-345		6 8 10 12		13	350	13		6			
	16	25-345		6 8 10 12		14	350	14		7			
	18	25-345		6 8 10 12 16		16	350	16		8			
	20	25-445		6 8 10 12 16		17	450	17		9			
	25	25-445		8 10 12 16 20		22	450	22		10			
	30	25-445		8 10 12 16 20 24		27	450	27		11			
						15	450	1.0 or Less	20	2.5	16.4	5	
						27	15	450		24	3.0	19.6	

⚠ Shaft ends may have centering holes.

Ordering Example
 Part Number - L - F - M - SC
 VAFS13 - 200 - F20 - M10 - SC10

Alterations
 Part Number - L - F - M (MMC, MMS) - SC - (LKC-etc.)
 VAFS30 - 250 - F20 - M10 - SC20 - LKC

Alterations	Code	Spec.
	LKC	Alteration to L dimension tolerance (Ordering Code) LKC (Application Notes) Applicable when L=200 or less. L dimensions can be specified in 0.1mm increment for LKC. ⚠ L<200 → L±0.03 ⚠ 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.
	SX	Second Set of Wrench Flats (Ordering Code) SX15 (Application Notes) Only applicable to Shafts with Wrench Flats. SX=1mm increment ⚠ SX+SC+l1x2<L ⚠ SX≥0 ⚠ 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) For details, see Shaft Alteration Overview. P.113

⚠ 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. P.114
 ⚠ Alterations may lower hardness. See P.112