


High Precision Linear Shafts

Both Ends Tapped / Both Ends Tapped with Wrench Flats

This type of Shaft is suitable for being used in environments where combination of high perpendicular precision ($\perp 0.03$) and high accuracy is required.

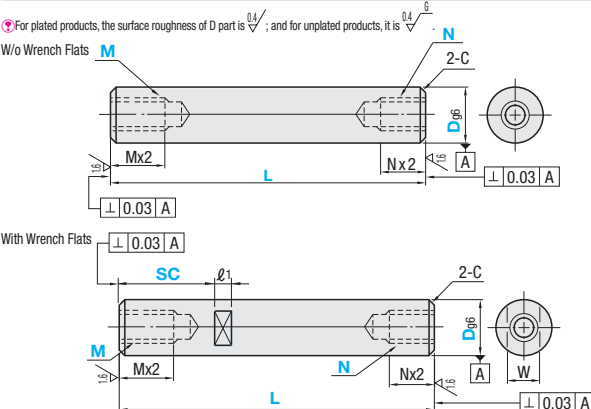


RoHS10

- ⚡ Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm). **P.142**
- ⚡ Full Length Hardness Guaranteed Shafts **P.155**
- ⚡ L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.141**
- ⚡ Features of Low Temp. Black Chrome Plating **P.156**

Type	D Tol.	Material	Hardness	Surface Treatment
W/o Wrench Flats	g6	SUJ2 Equivalent	Induction Hardened Effective Hardened Depth P.142 SUJ2 Equivalent 58HRC- SUS440C or 13Cr stainless 56HRC-	Hard Chrome Plating Plating Hardness HV750 ~ Plating Thickness: 5µ or More Low Temp. Black Chrome Plating
VFJW		SUS440C or 13Cr stainless		
VSFJW		SUJ2 Equivalent		
VPFJW		SUS440C or 13Cr stainless		
VPSFJW		SUJ2 Equivalent		
With Wrench Flats				
VFJZ				
VSFJZ				
VPFJZ				
VPSFJZ				
VRJW				
VRJZ				

⚡ For plated products, the surface roughness of D part is $\sqrt{0.4}$; and for unplated products, it is $\sqrt{0.7}$.



D Tol.	
D	g6
4	
5	-0.004 -0.012
6	
8	-0.005 -0.014
10	
12	
13	
15	-0.006 -0.017
16	
18	
20	
25	-0.007 -0.020
30	

Part Number Type	D	L specified in 1mm increments	M (Coarse), N (Coarse) Selection		Wrench Flats Dimensions			C
					SC	W	l ₁	
(W/o Wrench Flats) (D4-D30) VFJW VSFJW VPFJW VPSFJW VRJW	4	25-200	2		-	-	-	0.2 or Less
	5	25-300	2.6 3		-	-	-	0.5 or Less
	6	25-350	3		5	8	10	
	8	25-350	3 4 5		7			
	10	25-400	3 4 5 6		8			
	12	25-400	4 5 6 8		10			
	13	25-400	4 5 6 8		11			
	15	25-400	4 5 6 8 10		13			
	16	25-400	4 5 6 8 10		14			
	18	25-400	4 5 6 8 10 12		16			
	20	30-500	4 5 6 8 10 12		17			
	25	30-500	4 5 6 8 10 12 16		22			1.0 or Less
	30	30-500	6 8 10 12 16 20		27			

L requires Mx2+Nx2≤L. ⚡ When Mx2.5+4+Nx2.5+4≥L, tap pilot holes may go through and the effective length of the smaller tap part may be shortened.




Ordering Example

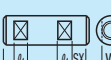
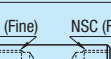
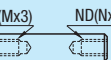
Part Number	-	L	-	M	-	N	-	SC
VFJW20	-	100	-	M8	-	N8	-	SC10
VFJZ20	-	100	-	M8	-	N8	-	SC10

Alterations

Part Number	-	L	-	M(MSC, MD)	-	N(NSC, ND)	-	SC	-	(LKC--etc.)
VFJW20	-	100	-	M8	-	N8	-	SC10	-	LKC
VFJZ20	-	100	-	M8	-	N8	-	SC10	-	FC10-A8

Alteration Details **P.143**

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 → ±0.03
	FC	Set Screw Flat at One Location (Ordering Code) FC10-A8 FC, A=1mm Increment ⚡ FC≤5xD ⚡ E=0 or A≥2 ⚡ Not available in combination with WFC.
	WFC	Set Screw Flats at Two Locations (Ordering Code) WFC8-A8-E2 WFC, A, E=1mm Increment ⚡ WFC≤5xD ⚡ 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 ⚡ SX+SC+2l ₁ ≤L ⚡ SC≥0 ⚡ Details of Wrench Flats P.142
	MSC NSC	Change to Fine Tapped Thread (Ordering Code) MSC14 MSC14 (M is changed to MSC) NSC14 (N is changed to NSC) (Application Notes) Applicable to D=12 or more
	MD ND	Change the effective tap depth to M(N)x3. (Ordering Code) MD6/ND6 (M is changed to MD, N is changed to ND) (Application Notes) Only applicable to D=10-30 and M (N) = 6-20 ⚡ One End Tapped: MDx3.5+4-L ⚡ Both Ends Tapped: MDx3.5+4-Lx3.5+4-L

⚡ 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. **P.144**
 ⚡ Alterations may lower hardness. See **P.142**.