


High Precision Linear Shafts

One End Tapped / One End Tapped with Wrench Flats

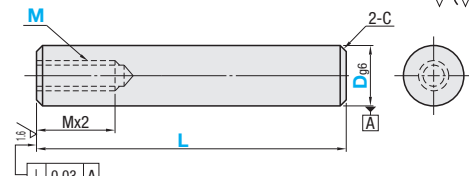
This type of Shaft is suitable for being used in environments where combination of high perpendicular precision ($\perp 0.03$) and high accuracy is required.

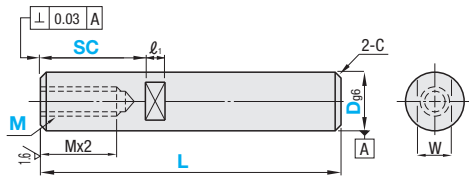
For products uncovered by the e-Catalog Standards, see P.131.



Type		D Tol.	Material	Hardness	Surface Treatment	D Tol.	
W/o Wrench Flats	With Wrench Flats					D	g6
VFJT	VFJC	g6	SUJ2	Induction Hardened Effective	-	4	-0.004
VSFJT	VSFJC		SUS440C Equivalent			5	-0.012
VPFJT	VPFJC		SUJ2	Hardened Depth \geq P.142		6	
VPSFJT	VPSFJC		SUS440C Equivalent			8	-0.005
VRJT	VRJC		SUJ2	58HRC~		10	-0.014
			SUS440C Equivalent	56HRC~		12	
				13			
				15	-0.006		
				16	-0.017		
				18			
				20	-0.007		
				25	-0.020		
				30			

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

W/o Wrench Flats: 

With Wrench Flats: 

RoHS

- Annealing required for wrench flats machining and shaft end threading (effective thread length + approx. 10mm) may lower hardness. P.142
- Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.141
- Shafts may have centering holes at end faces.
- Features of Low Temp. Black Chrome Plating P.156

Part Number Type	D	L specified in 1mm increments	M (Coarse) Selection	Wrench Flats Dimensions			C
				SC	W	l1	
(W/o Wrench Flats) (D4-D30) VFJT VSFJT VPFJT VPSFJT VRJT	4	25~200	2	-	-	-	0.2 or Less
	5	25~300	2.6 3	-	-	-	
	6	20~350	3	-	-	-	
	8	20~350	3 4 5	-	-	-	
	10	20~400	3 4 5 6	-	-	-	
	12	20~400	4 5 6 8	5	8		0.5 or Less
	13	20~400	4 5 6 8	7	8		
	15	20~400	4 5 6 8 10	8	10		
	16	20~400	4 5 6 8 10	10	10		
	18	20~400	4 5 6 8 10 12	11	10		
	20	25~500	4 5 6 8 10 12	13	10		
	25	25~500	4 5 6 8 10 12 16	14	10		1.0 or Less
30	25~500	6 8 10 12 16 20	16	10			
			17	10			
			22	15			
			27	15			

SC = 1mm Increment
 $SC + l_1 \leq L$
 $SC \geq 0$
 Details of Wrench Flats P.142

For overall length L, when $Mx2.5 + 4 \geq L$, tap pilot holes may go through.




Ordering Example




Part Number	L	M	SC
VFJT20	100	M8	SC10
VFJC20	100	M8	SC10

Alterations

Part Number	L	M(MSC, MD)	SC	(LKC...etc.)
VFJC20	100	M8	SC10	LKC
VFJT20	100	M8	SC10	FC10-E8

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 → L±0.03
	FC	Set Screw Flat at One Location (Ordering Code) FC10-E8 FC, E=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.

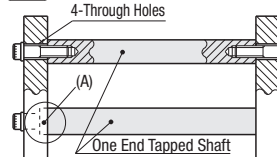
Alterations	Code	Spec.
	SX	Second Set of Wrench Flats (Ordering Code) SX15 (Application Notes) Applicable to D=6 or more SX=1mm increment SC+SX+l1≤L SX≥0 Orientation between two set screw flats is not coplanar.
	MSC	Change to Fine Tapped Thread (Ordering Code) MSC14 (M is changed to MSC) NSC14 (N is changed to NSC) (Application Notes) Applicable to D=12 or more
	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

- 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.
- The distance between wrench flats and cross-drilled holes should be greater than 2mm for alterations.
- Alterations may lower hardness. See P.142.

Part Number Type	D	Unit Price					
		Min. L 50	L51 100	L101 200	L201 300	L301 450	L451 500
VFJT	4						
	5						
	6						
	8						
	10						
	12						
	13						
	15, 16						
	18						
	20						
	25						
	30						
VSFJT	4						
	5						
	6						
	8						
	10						
	12						
	13						
	15, 16						
	18						
	20						
	25						
	30						
VPFJT	4						
	5						
	6						
	8						
	10						
	12						
	13						
	15, 16						
	18						
	20						
	25						
	30						
VPSFJT	4						
	5						
	6						
	8						
	10						
	12						
	13						
	15, 16						
	18						
	20						
	25						
	30						
VRJT	4						
	5						
	6						
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	25						
	30						

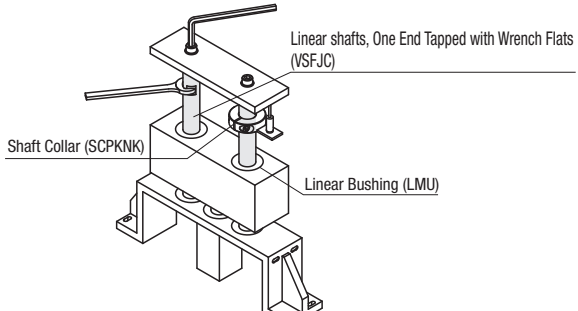
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VFJC	6							
	8							
	10							
	12							
	13							
	15, 16							
	18							
	20							
	25							
	30							
	VSFJC	6						
		8						
10								
12								
13								
15, 16								
18								
20								
25								
30								
VPFJC		6						
		8						
	10							
	12							
	13							
	15, 16							
	18							
	20							
	25							
	30							
	VPSFJC	6						
		8						
10								
12								
13								
15, 16								
18								
20								
25								
30								
VRJC		6						
		8						
	10							
	12							
	13							
	15, 16							
	18							
	20							
	25							
	30							

Example



4-Through Holes
 One End Tapped Shaft

Precision Type does not require stepped machining as (A), which enables effective assembly.



Linear shafts, One End Tapped with Wrench Flats (VSFJC)
 Shaft Collar (SCPKNK)
 Linear Bushing (LMU)