


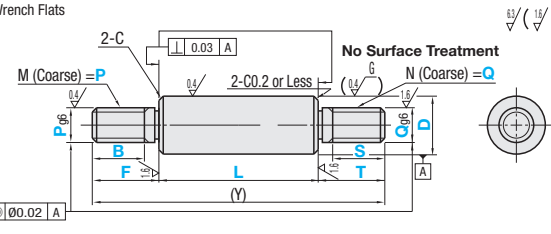
High Precision Linear Shafts

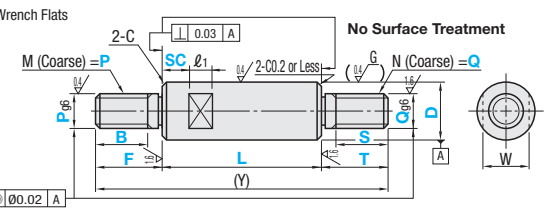
Both Ends Threaded / Both Ends Threaded with Wrench Flats

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



Type		D Tolerance	Material	Hardness	Surface Treatment	D Tol.	
W/o Wrench Flats	With Wrench Flats					D	g6
VFBM	VFBU	g6	SUJ2 Equivalent SUS440C or 13Cr stainless	Induction Hardened Effective Hardened Depth P.112	Hard Chrome Plating Plating Hardness H750 ~ Plating Thickness: 5μ or More	5	-0.004
VSFBM	VSFBU					6	-0.012
VPFBM	VPFBU	g6	SUJ2 Equivalent SUS440C or 13Cr stainless	58HRC~ 56HRC~	Low Temp. Black Chrome Plating	8	-0.005
VPSFBM	VPSFBU					10	-0.014
VRBM	VRBU		SUJ2 Equivalent			12	
						13	
						15	-0.006
						16	-0.017
						18	
						20	-0.007
						25	-0.020
						30	

W/o Wrench Flats: 

With Wrench Flats: 

RoHS10

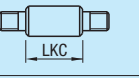
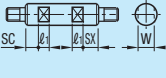
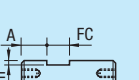
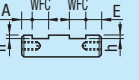
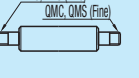
- Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm).
- Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.111
- Features of Low Temp. Black Chrome Plating P.128

Part Number	Type	1mm Increment			P, Q Selection	Wrench Flats Dimensions			(Y) Max.	C	Course Thread Dimension	
		D	L	F, T		B, S	SC	W			ℓ1	M
		5	25-292		3				300	0.2 or Less	3	0.5
		6	25-292		3 4				300		4	0.7
		8	25-292		3 4 5 6				300		5	0.8
		10	25-340		4 5 6 8				350		6	1.0
		12	25-340		5 6 8 10				350		8	1.25
		13	25-340		5 6 8 10				350		10	1.5
		15	25-340		5 6 8 10 12				350		12	1.75
		16	25-340		5 6 8 10 12				450		16	2.0
		18	25-340		5 6 8 10 12 16				450		20	2.5
		20	25-440		6 8 10 12 16				450		24	3.0
		25	25-440		8 10 12 16 20				450			
		30	25-440		8 10 12 16 20 24				450			

Shafts have grinding undercuts at the bottom of threads. Shaft ends may have centering holes. Thread machining will not be applied to B=0 or S=0. D>P(Q)

Ordering Example: Part Number - L - F - B - P - T - S - Q - SC
 VFBU15 - 200 - F28 - B16 - P6 - T17 - S12 - Q12 - SC8

Alterations: Part Number - L - F - B - P (PMC, PMS) - T - S - Q (QMC, QMS) - SC - (LKC-etc.)
 VSFBU30 - 300 - F40 - B30 - P20 - T50 - S40 - Q16 - SC10 - LKC

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 0.1mm increment for LKC. L≤200 → L±0.03
	SX	Second Set of Wrench Flats Ordering Code: SX15 Application Notes: D=6 or more Only applicable to Shafts with Wrench Flats. SX=1mm increment SC+SX+ℓ1x2<L SX≥0 Orientation between two set screw flats is not coplanar.
	FC	Set Screw Flat at One Location Ordering Code: FC10-A8 Application Notes: FC, A=1mm increment FC≤3xD When 1.5xD<FC, FC≤L/2 A=0 or A≥2 Not available in combination with WFC.
	WFC	Set Screw Flats at Two Locations Ordering Code: WFC8-A8-E2 Application Notes: 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.
	PMC PMS QMC QMS	Change to Fine Thread Ordering Code: PMC14 (P is changed to PMC) PMS14 (P is changed to PMS) QMC14 (Q is changed to QMC) QMS14 (Q is changed to QMS) 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

Part Number	Type	D	Unit Price				
			Min. L 50	L51 100	L101 200	L201 300	L301 440
VFBM		5					
VFBM		6					
VFBM		8					
VFBM		10					
VFBM		12					
VFBM		13					
VFBM		15					
VFBM		16					
VFBM		18					
VFBM		20					
VFBM		25					
VFBM		30					
VSFBM		5					
VSFBM		6					
VSFBM		8					
VSFBM		10					
VSFBM		12					
VSFBM		13					
VSFBM		15					
VSFBM		16					
VSFBM		18					
VSFBM		20					
VSFBM		25					
VSFBM		30					
VPFBM		5					
VPFBM		6					
VPFBM		8					
VPFBM		10					
VPFBM		12					
VPFBM		13					
VPFBM		15					
VPFBM		16					
VPFBM		18					
VPFBM		20					
VPFBM		25					
VPFBM		30					
VPSFBM		5					
VPSFBM		6					
VPSFBM		8					
VPSFBM		10					
VPSFBM		12					
VPSFBM		13					
VPSFBM		15					
VPSFBM		16					
VPSFBM		18					
VPSFBM		20					
VPSFBM		25					
VPSFBM		30					
VRBM		5					
VRBM		6					
VRBM		8					
VRBM		10					
VRBM		12					
VRBM		13					
VRBM		15					
VRBM		16					
VRBM		18					
VRBM		20					
VRBM		25					
VRBM		30					

Part Number	Type	D	Unit Price				
			Min. L 50	L51 100	L101 200	L201 300	L301 440
VFBU		6					
VFBU		8					
VFBU		10					
VFBU		12					
VFBU		13					
VFBU		15					
VFBU		16					
VFBU		18					
VFBU		20					
VFBU		25					
VFBU		30					
VSFBU		6					
VSFBU		8					
VSFBU		10					
VSFBU		12					
VSFBU		13					
VSFBU		15					
VSFBU		16					
VSFBU		18					
VSFBU		20					
VSFBU		25					
VSFBU		30					
VPFBU		6					
VPFBU		8					
VPFBU		10					
VPFBU		12					
VPFBU		13					
VPFBU		15					
VPFBU		16					
VPFBU		18					
VPFBU		20					
VPFBU		25					
VPFBU		30					
VPSFBU		6					
VPSFBU		8					
VPSFBU		10					
VPSFBU		12					
VPSFBU		13					
VPSFBU		15					
VPSFBU		16					
VPSFBU		18					
VPSFBU		20					
VPSFBU		25					
VPSFBU		30					
VRBU		6					
VRBU		8					
VRBU		10					
VRBU		12					
VRBU		13					
VRBU		15					
VRBU		16					
VRBU		18					
VRBU		20					
VRBU		25					
VRBU		30					

