



Precision Linear Shafts – Both Ends Threaded–



Precision Linear Shafts match most common U.S. standards for O.D. tolerance as well as material, hardness and plating specifications. Case Hardened Steel shafts may be used with typical linear bearing applications. The 440 stainless steel shafts are suitable for cleanroom environment or when introduced to rough conditions such as high humidity or unstable temperatures.



One of our most significant advantages is the ability to designate the shaft length without a cutting charge. Use shaft modifications when additional tolerance control factors, such as more precise length tolerance are required. Additional features like wrench flats or thread undercut can also be selected. Simply add the modification ordering code to the end of the part number.



☐: New Price

Material	Heat Treatment	Surface Treatment	Type
Case Hardened Steel	Induction Hardening* 58HRC~	—	U-SFAM
		Hard Chrome Plating** 750HV	U-PSFAM
440C Stainless Steel	Induction Hardening* 56HRC~	—	U-SSFAM

*Hardening Depth and **Plating Thickness **P.38**
 †Material Characteristics **P.628, 629**

Length Tolerance **P.38**
 General Tolerance
 Unless otherwise specified use the table below.

From	To	Tolerance
0.000	5.000	±0.01
5.001	16.000	±0.02
16.001	60.000	±0.05

†Thread or hole location tolerance: ±0.005" non-cumulative.

Surface Roughness: Unless otherwise specified **250**
 Circularity, Straightness, Perpendicularity and Concentricity **P.38**

Part No. Type	D (Class L) Callout/Nominal	Choose in 0.01" Increments				T, U Thread Selection (Callout)											
		L	F, G	B, S	#5-40	#8-32	#10-32	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	3/4-10	1-8	1-1/4-7		
U-SFAM U-PSFAM U-SSFAM	0.25	1/4	1.00 ~ 23.80		5	8	10	0.25									
	0.38	3/8	1.00 ~ 31.80		5	8	10	0.25	0.31	0.38							
	0.50	1/2	1.00 ~ 35.80		8	10	0.25	0.31	0.38	0.50	0.63						
	0.63	5/8	1.00 ~ 35.80	0.08 ≤ F ≤ P x 5	8	10	0.25	0.31	0.38	0.50	0.63						
	0.75	3/4	1.00 ~ 47.80	0.08 ≤ G ≤ Q x 5	8	10	0.25	0.31	0.38	0.50	0.63	0.75	1.00				
	1.00	1"	1.00 ~ 47.80		8	10	0.25	0.31	0.38	0.50	0.63	0.75	1.00	1.25			
	1.25	1-1/4	1.00 ~ 59.80							0.38	0.50	0.63	0.75	1.00	1.25		
1.50	1-1/2	1.00 ~ 59.80							0.38	0.50	0.63	0.75	1.00	1.25			

Order Example The part number consists only of the fields with blue characters. Please refer to the table below for technical information.

Part No. — L — F — B — T — G — S — U

Type D

U-SFAM 0.75 — L 30.50 — F 1.38 — B 1.25 — T 0.31 — G 1.75 — S 1.50 — U 0.38

Technical Information

Callout	D		C	R	(Y) Max.	
	Nominal	Tolerance				
0.25	1/4	0.2495	0.2490	0.015	0.010	24.00
0.38	3/8	0.3745	0.3740	0.015	0.010	32.00
0.50	1/2	0.4995	0.4990	0.015	0.010	36.00
0.63	5/8	0.6245	0.6240	0.015	0.010	36.00
0.75	3/4	0.7495	0.7490	0.015	0.010	48.00
1.00	1"	0.9995	0.9990	0.030	0.010	48.00
1.25	1-1/4	1.2495	1.2490	0.030	0.020	60.00
1.50	1-1/2	1.4994	1.4989	0.030	0.020	60.00

T, U (Thread)		P, Q		
Callout	Thread Size	Dimension	Tolerance	
5	#5-40	0.1250	0.1248	0.1245
8	#8-32	0.1640	0.1638	0.1635
10	#10-32	0.1900	0.1898	0.1895
0.25	1/4-20	0.2500	0.2498	0.2494
0.31	5/16-18	0.3125	0.3123	0.3119
0.38	3/8-16	0.3750	0.3748	0.3744
0.50	1/2-13	0.5000	0.4997	0.4993
0.63	5/8-11	0.6250	0.6247	0.6243
0.75	3/4-10	0.7500	0.7497	0.7492
1.00	1-8	1.0000	0.9997	0.9992
1.25	1-1/4-7	1.2500	1.2496	1.2490

Selection Criteria: If D=T (P Dia.) and D=U (Q Dia.) specify dimension B (S) as F (G). However, since the part is manufactured according to dimensions L and F (L and G), the working length of B (S) will be approximately 2 threads shorter than F (G).

No threads when B=0, S=0. When D-P (Q) ≤ 0.10, C chamfering will be 0.010 or less. L+F+G ≤ Y Max.



Standard

3 Days Non-Returnable **P.30**

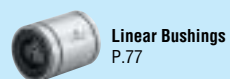
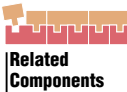
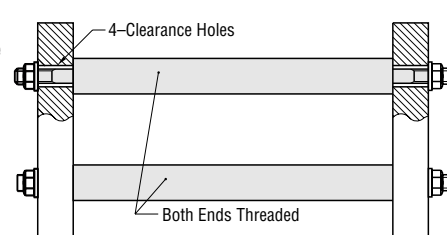
Express

1 Day (Specify Express A) \$ 8.00/piece **P.30**

A flat charge of \$21.60 for 3 or more identical pieces.



Example



Optional Modifications Part No. — L — F — B — T — G — S — U — (Ordering Code) (QC, LKC, SC...etc)
Type D
U-SFAM 0.75 — L 30.125 — F 1.38 — B 1.25 — T 0.31 — G 1.75 — S 1.50 — U 0.38 — LKC — PC — QC

Optional Modifications	L Tolerance	Wrench Flats Added	Two Wrench Flats Added	Undercut Added																																																																								
Ordering Code	LKC	SC	WSC	PC, QC																																																																								
Details	Example LKC L < 20.00 → L ± 0.002 L ≥ 20.00 → L ± 0.004 Not available for D=T If LKC is used, 0.001" increments can be specified for length (L) dimension. Please refer to order example.	Example SC0.25 Adds wrench flats. SC = 0.01" increments SC + Δ1 ≤ L SC = 0 or SC ≥ 0.05 <table border="1"> <thead> <tr> <th>D</th> <th>W (Wrench Size)</th> <th>Δ1</th> </tr> </thead> <tbody> <tr><td>0.25</td><td>3/16</td><td>0.31</td></tr> <tr><td>0.38</td><td>5/16</td><td>0.38</td></tr> <tr><td>0.50</td><td>7/16</td><td>0.38</td></tr> <tr><td>0.63</td><td>1/2</td><td>0.38</td></tr> <tr><td>0.75</td><td>5/8</td><td>0.38</td></tr> <tr><td>1.00</td><td>7/8</td><td>0.38</td></tr> <tr><td>1.25</td><td>1-1/8</td><td>0.38</td></tr> <tr><td>1.50</td><td>1-3/8</td><td>0.75</td></tr> </tbody> </table>	D	W (Wrench Size)	Δ1	0.25	3/16	0.31	0.38	5/16	0.38	0.50	7/16	0.38	0.63	1/2	0.38	0.75	5/8	0.38	1.00	7/8	0.38	1.25	1-1/8	0.38	1.50	1-3/8	0.75	Example WSC0.13-X0.25 Adds two wrench flats. WSC, X = 0.01" increments WSC + X + Δ1 × 2 < L WSC = 0 or WSC ≥ 0.05 X = 0 or X ≥ 0.05 <table border="1"> <thead> <tr> <th>D</th> <th>W (Wrench Size)</th> <th>Δ1</th> </tr> </thead> <tbody> <tr><td>0.25</td><td>3/16</td><td>0.31</td></tr> <tr><td>0.38</td><td>5/16</td><td>0.38</td></tr> <tr><td>0.50</td><td>7/16</td><td>0.38</td></tr> <tr><td>0.63</td><td>1/2</td><td>0.38</td></tr> <tr><td>0.75</td><td>5/8</td><td>0.38</td></tr> <tr><td>1.00</td><td>7/8</td><td>0.38</td></tr> <tr><td>1.25</td><td>1-1/8</td><td>0.38</td></tr> <tr><td>1.50</td><td>1-3/8</td><td>0.75</td></tr> </tbody> </table>	D	W (Wrench Size)	Δ1	0.25	3/16	0.31	0.38	5/16	0.38	0.50	7/16	0.38	0.63	1/2	0.38	0.75	5/8	0.38	1.00	7/8	0.38	1.25	1-1/8	0.38	1.50	1-3/8	0.75	Example PC Adds relief on P and Q. Not available for D=P, D=Q Not available for #5-#10 thread <table border="1"> <thead> <tr> <th>Thread</th> <th>PC</th> </tr> </thead> <tbody> <tr><td>0.25</td><td>0.20</td></tr> <tr><td>0.31</td><td>0.25</td></tr> <tr><td>0.38</td><td>0.31</td></tr> <tr><td>0.50</td><td>0.42</td></tr> <tr><td>0.63</td><td>0.53</td></tr> <tr><td>0.75</td><td>0.64</td></tr> <tr><td>1.00</td><td>0.87</td></tr> <tr><td>1.25</td><td>1.10</td></tr> </tbody> </table>	Thread	PC	0.25	0.20	0.31	0.25	0.38	0.31	0.50	0.42	0.63	0.53	0.75	0.64	1.00	0.87	1.25	1.10
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\$ Price Adder	4.00	4.00	8.00	Free of Charge																																																																								

When using Optional Modifications, add the "Price Adder" to the standard "Unit Price".



Quantity Discount Rate
 Quantity 1 2-4 5-19 20-
 Rate — 5% 15% 20%
 Prices below include Set-Up Charges.
 For larger quantity orders "Days to Ship" may differ from published catalog term. **P.29**

Part No. Type	D	\$ Unit Price											
		Min. L 2.00	L2.01 4.00	L4.01 6.00	L6.01 8.00	L8.01 12.00	L12.01 16.00	L16.01 20.00	L20.01 24.00	L24.01 32.00	L32.01 40.00	L40.01 48.00	L48.01 60.00
U-SFAM	0.25	9.10	14.30	19.40	24.50	29.70	34.90	40.00	45.10	-	-	-	-
	0.38	9.70	13.40	17.30	21.10	25.00	28.80	32.60	36.40	48.80	-	-	-
	0.50	9.90	15.00	19.90	25.00	29.90	35.00	40.00	45.00	55.00	60.10	-	-
	0.63	11.90	17.30	22.70	28.20	33.60	38.90	44.30	49.70	60.60	66.00	-	-
	0.75	12.10	17.80	23.50	29.20	34.90	40.50	46.20	51.90	63.30	71.30	76.00	-
	1.00	12.80	18.60	24.40	30.30	36.10	41.80	47.60	53.50	65.10	76.70	88.30	-
	1.25	19.60	29.40	39.20	48.70	58.60	68.30	78.10	87.80	107.40	126.90	146.70	157.00
U-PSFAM	0.25	11.30	17.70	24.00	30.40	36.70	43.00	49.40	55.70	-	-	-	-
	0.38	11.10	17.20	23.20	29.30	35.40	41.50	47.50	53.60	70.50	-	-	-
	0.50	12.10	20.00	27.90	35.90	43.80	51.70	59.60	67.50	83.40	91.30	-	-
	0.63	13.40	21.30	29.30	37.20	45.10	53.00	60.90	68.80	84.70	92.60	-	-
	0.75	16.40	25.20	34.10	42.90	51.70	60.60	69.40	78.30	95.90	110.90	123.00	-
	1.00	17.30	26.40	35.50	44.70	53.70	62.80	71.90	81.10	99.20	117.50	135.70	-
	1.25	25.90	39.50	53.00	66.80	80.40	93.90	107.70	121.20	148.40	175.00	202.20	216.40
U-SSFAM	0.25	30.60	46.60	62.60	78.70	94.70	110.70	126.70	142.70	174.80	206.80	238.80	254.90
	0.38	12.40	20.40	28.30	36.20	44.10	52.00	60.00	67.90	-	-	-	-
	0.50	14.10	23.30	32.60	41.80	51.00	60.30	69.50	78.80	97.20	106.50	-	-
	0.63	15.70	24.90	33.90	43.00	52.10	61.30	70.40	79.40	97.70	106.80	-	-
	0.75	19.10	29.50	39.70	50.10	60.30	70.60	81.00	91.20	111.80	129.10	143.10	-
	1.00	20.20	30.80	41.40	51.90	62.50	73.00	83.60	94.20	115.30	136.40	161.30	-
	1.25	28.70	46.30	63.90	81.40	99.10	116.70	134.00	151.50	186.80	221.80	259.70	277.90
1.50	32.90	54.90	76.90	99.00	121.00	143.00	165.00	187.00	231.10	275.10	319.20	341.20	



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