



Precision Linear Shafts –One End Stepped and Tapped–



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 440C 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 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-SFAG
		Hard Chrome Plating** 750HV	U-PSFAG
440C Stainless Steel	Induction Hardening* 56HRC~	—	U-SSFAG

*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 **25/10**
 Ⓢ Circularity, Straightness, Perpendicularity and Concentricity **P.38**

Part No. Type	D (Class L) Callout Nominal	L Choose in 0.01" Increments	P Choose in 0.0005" Increments		F Choose in 0.01" Increments	T Thread Selection (Callout)										
			Diameter	Tolerance		#5-40	#6-32	#8-32	#10-32	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	3/4-10	
U-SFAG U-PSFAG U-SSFAG	0.38	3/8	1.00 ~ 31.90	0.2500~0.3125	-0.0002/-0.0006	0.08≤F≤Px4	5	6	8							
	0.50	1/2	1.00 ~ 35.90	0.3125~0.3750	-0.0002/-0.0006	0.08≤F≤Px4	5	6	8	10	0.25					
	0.63	5/8	1.00 ~ 35.90	0.3750~0.5000	-0.0002/-0.0006	0.08≤F≤Px4	5	6	8	10	0.25	0.31				
	0.75	3/4	1.00 ~ 47.90	0.5000~0.6250	-0.0003/-0.0007	0.08≤F≤Px4				8	10	0.25	0.31	0.38		
	1.00	1"	1.00 ~ 47.90	0.7500~0.8750	-0.0003/-0.0008	0.08≤F≤Px4				8	10	0.25	0.31	0.38	0.50	0.63
	1.25	1-1/4	1.00 ~ 59.90	0.7500~1.0000	-0.0003/-0.0008	0.08≤F≤Px4						0.25	0.31	0.38	0.50	0.63
	1-1/2	1.00 ~ 59.90	1.0000~1.2500	-0.0004/-0.0010	0.08≤F≤Px4						0.25	0.31	0.38	0.50	0.63	0.75

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 — P — F — T

Type D

U-SFAG 1.00 — L 12.25 — P 0.7500 — F 1.50 — T 0.25

Technical Information

Callout	D		C	R	(Y) Max.	
	Nominal	Tolerance				
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	0.010	60.00
1.50	1-1/2	1.4994	1.4989	0.030	0.020	60.00

Callout	T (Thread)		T1
	Thread Size	Thread Diameter	
5	#5-40	0.125	0.25
6	#6-32	0.138	0.28
8	#8-32	0.164	0.33
10	#10-32	0.190	0.38
0.25	1/4-20	0.250	0.50
0.31	5/16-18	0.313	0.63
0.38	3/8-16	0.375	0.75
0.50	1/2-13	0.500	1.00
0.63	5/8-11	0.625	1.25
0.75	3/4-10	0.750	1.50

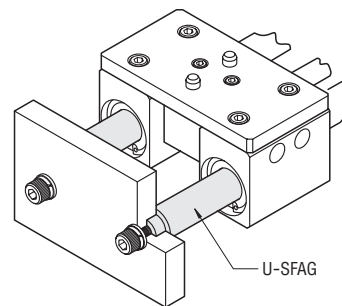
Selection Criteria: Ⓢ P ≥ Thread diameter (T) + 0.125 Ⓢ If Y ≤ T1 x 2, the pilot hole may be through. Ⓢ When D - P ≤ 0.10, C chamfering will be 0.010 or less.

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

Example

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

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



Optional Modifications Part No. — L — P — F — T — (Ordering Code) (SC, FC, LKC) Type D U-SFAG 1.00 — L 12.125 — P 0.7500 — F 1.50 — T 0.25 — LKC

Optional Modifications	L Tolerance	Wrench Flats Added	Set Screw Flat																																								
Ordering Code	LKC	SC	FC																																								
Details	Example LKC Ⓢ L < 20.00 → L ± 0.002 L ≥ 20.00 → L ± 0.004 Ⓢ Not available for D = P Ⓢ If LKC is used, 0.001" Increments can be specified for length (L) dimension. Please refer to order example.	Example SC0.13 Adds wrench flats. Ⓢ SC = 0.01" Increments Ⓢ SC + Δ ≤ L SC = 0 or SC ≥ 0.05 <table border="1"> <thead> <tr> <th rowspan="2">D</th> <th colspan="2">W</th> <th rowspan="2">Δ1</th> </tr> <tr> <th>Wrench Size</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>0.38</td> <td>5/16</td> <td>0.313</td> <td>0.38</td> </tr> <tr> <td>0.50</td> <td>7/16</td> <td>0.438</td> <td>0.38</td> </tr> <tr> <td>0.63</td> <td>1/2</td> <td>0.500</td> <td>0.38</td> </tr> <tr> <td>0.75</td> <td>5/8</td> <td>0.625</td> <td>0.38</td> </tr> <tr> <td>1.00</td> <td>7/8</td> <td>0.875</td> <td>0.38</td> </tr> <tr> <td>1.25</td> <td>1-1/8</td> <td>1.125</td> <td>0.38</td> </tr> <tr> <td>1.50</td> <td>1-3/8</td> <td>1.375</td> <td>0.75</td> </tr> </tbody> </table>	D	W		Δ1	Wrench Size	Actual	0.38	5/16	0.313	0.38	0.50	7/16	0.438	0.38	0.63	1/2	0.500	0.38	0.75	5/8	0.625	0.38	1.00	7/8	0.875	0.38	1.25	1-1/8	1.125	0.38	1.50	1-3/8	1.375	0.75	Example FC0.25 - E0.13 Adds set screw flat. Ⓢ FC, E = 0.01" Increments Ⓢ 0.01 ≤ FC ≤ 3xD Ⓢ E = 0 or E ≥ 2xC Ⓢ When E is not specified, it is manufactured as E = 0 <table border="1"> <thead> <tr> <th>D</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>0.63</td> <td>0.030</td> </tr> <tr> <td>0.75-1.50</td> <td>0.060</td> </tr> </tbody> </table>	D	H	0.63	0.030	0.75-1.50	0.060
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When using Optional Modifications, add the "Price Adder" to the standard "Unit Price".



Quantity	Discount Rate
1	—
2-4	5%
5-19	15%
20-	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-SFAG	0.38	6.60	10.10	13.80	17.30	20.90	24.40	27.90	31.60	38.70	-	-	-
	0.50	6.70	11.00	15.20	19.40	23.70	27.80	32.10	36.30	44.80	50.80	-	-
	0.63	7.20	11.80	16.40	21.00	25.60	30.30	34.90	39.50	48.70	53.40	-	-
	0.75	8.00	13.00	17.80	22.70	27.60	32.50	37.40	42.20	52.00	59.20	63.60	-
	1.00	11.20	17.10	22.90	28.60	34.40	40.30	46.10	51.90	63.50	75.10	89.30	-
	1.25	14.40	23.20	32.00	40.80	49.40	58.20	67.10	75.80	93.10	110.70	129.70	151.70
U-PSFAG	0.38	8.60	13.20	17.80	22.40	27.10	31.70	36.30	40.90	50.20	-	-	-
	0.50	9.00	14.50	20.00	25.60	31.10	36.70	42.20	47.70	58.90	66.20	-	-
	0.63	9.20	15.20	21.10	27.10	33.00	38.90	44.90	50.80	62.70	68.60	-	-
	0.75	10.50	16.70	23.10	29.50	35.80	42.10	48.40	54.80	67.40	76.80	82.90	-
	1.00	14.00	21.30	28.60	36.10	43.50	50.70	58.10	65.50	80.10	94.80	115.30	-
	1.25	18.60	30.00	41.50	52.80	64.40	75.70	87.10	98.60	121.40	144.10	170.10	181.90
U-SSFAG	0.38	8.60	15.70	23.10	30.50	37.80	45.30	52.70	60.10	74.80	-	-	-
	0.50	9.00	17.40	25.90	34.30	42.80	51.40	59.80	68.20	76.70	85.10	-	-
	0.63	10.30	17.80	25.30	32.90	40.40	48.00	55.40	62.90	78.00	85.60	-	-
	0.75	12.30	20.70	29.20	37.60	46.10	54.60	62.90	71.40	88.30	103.00	115.40	-
	1.00	16.00	26.80	37.50	48.30	59.20	69.90	80.60	91.30	113.00	134.50	156.00	-
	1.25	26.10	46.10	66.10	86.20	106.30	126.30	146.30	166.30	206.90	247.10	287.50	307.80
	1.50	32.20	58.70	85.40	112.00	138.60	165.20	191.70	218.40	271.60	324.70	378.00	404.60

Related Components



Express Options P.30

MISUMI www.misumiusa.com E-mail: inquire@misumiusa.com

TEL.1-847-843-9105 FAX.1-847-843-9107 TOLL FREE TEL.1-800-681-7475 TOLL FREE FAX.1-800-681-7402