

	PS	075	020	-	S1	A	-	N1	-	F1	-	M02	-	C165	-	E00	-	B00	-	Lxxx.xxx
Precision Screw																				
Screw Diameter																				
075 - 0.750 inch	20M - 20 mm																			
Screw Lead																				
020 - 0.200 inch	05M - 5 mm 20M - 20 mm																			
Support Configurations																				
S1 - Simple - Simple	S4 - Rigid - Simple																			
S2 - Fixed (LT) - Simple	S5 - Rigid - Rigid																			
S3 - Fixed (HT) - Simple	S9 - other																			
Support Material																				
- Steel	A - Aluminum																			
Nut Type																				
N1 - NPL ball nut (RFT)	N9 - other																			
N2 - NPL ball nut (LFT)																				
N3 - PL ball nut (RFT)																				
N4 - PL ball nut (LFT)																				
Nut Flange Type																				
F0 - none	F2 - Vertical bracket (E)																			
F1 - Round flange	F3 - Vertical bracket (M)																			
	F4 - L bracket (E)																			
	F5 - L bracket (M)																			
	F9 - other																			
Motor Mount																				
M00 - none	M06 - NEMA 23 (RH) wrap																			
M01 - Hand crank	M07 - NEMA 23 (LH) wrap																			
M02 - NEMA 23 mount (E)	M08 - NEMA 34 (RH) wrap																			
M03 - NEMA 23 mount (M)	M09 - NEMA 34 (LH) wrap																			
M04 - NEMA 34 mount (E)																				
M05 - NEMA 34 mount (M)	M99 - other																			
Coupling Type																				
C000 - none	C056 to C063 - C125																			
C999 - other	C084 to C090 - C150																			
	C165 to C174 - H131																			
	C201 to C211 - H163																			
	C445 to C454 - G126																			
	C481 to C491 - G158																			
Rotary Encoder																				
E00 - none	E20 - 500 lines/rev																			
E99 - other	E21 - 1000 lines/rev																			
	E22 - 1270 lines/rev																			
Power-off Brake																				
B00 - none	B20 - 24 VDC																			
B99 - other	B21 - 90 VDC																			
Thread Length																				
Lxxx.xxx - screw thread length (inches)																				

(E) - English Interface	(M) - Metric Interface
(LFT) - Left Facing Thread	(NPL) - Non Preloaded
(LH) - Left Hand	(PL) - Preloaded
(LT) - Low Thrust	(RFT) - Right Facing Thread
(HT) - High Thrust	(RH) - Right Hand

Screw & Nut Specifications

Model Number	Nut Type	Diameter inches (mm)	Lead inches (mm)	Root Diameter inches (mm)	Ball Diameter inches (mm)	Number of Circuits	Static Load lbs (kgf)	Dynamic Load ⁽¹⁾ lbs (kgf)
PS075020 0.750 inch dia. 0.200 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	0.750 (19,05)	0.200 (5,08)	0.635 (16,13)	0.125 (3,17)	1	3,360 (1524)	964 (437)
	<i>Preloaded</i> Ball (N3/N4)						3,025 (1372)	867 (393)
PS20M05M 20 mm dia. 5 mm lead	<i>Non-preloaded</i> Ball (N1/N2)	0.787 (20,00)	0.196 (5,00)	0.665 (16,89)	0.125 (3,17)	1	3,990 (1809)	1,070 (485)
	<i>Preloaded</i> Ball (N3/N4)						3,590 (1628)	960 (435)
PS20M20M 20 mm dia. 20 mm lead	<i>Non-preloaded</i> Ball (N1/N2)	0.787 (20,00)	0.787 (20,00)	0.672 (17,07)	0.125 (3,17)	2	3,505 (1589)	1,293 (586)
	<i>Preloaded</i> Ball (N3/N4)						3,150 (1428)	1,160 (526)

Other Specifications

Maximum Acceleration Rate	Ball nut: 772 inches/sec ² (19.6 m/sec ²)
Maximum Speed	Ball nut: 3000 rpm
Screw Material	Right Hand Thread, Case Hardened Rc 58 Steel Precision Rolled Ball Screw
Screw Extensions	Woodruff Keyways on Support Housings - 404 Drive End; 303 Opposite End
Screw Maximum Length ⁽²⁾	118.11 inches (3000 mm)
Screw Weight	1.35 lbs/ft (20,1 g/cm)
Support Housings	Aluminum with Black Anodized Finish or Steel with Black Oxide Finish 45° Chamfer x .02 inch (0,50) all Straight Edges Base or Face Mount with Integral Seals
Nut Flanges	Steel with Black Oxide Finish English or Metric Load Mounting Interface

Footnotes:

- (1) Load based upon 1 million inches (25 Km) of travel life. See page 75 for further travel life ratings.
 (2) Maximum stock length (not the maximum thread length with bearing housings). See page 74 for maximum thread lengths for each configuration.

Screw Specifications

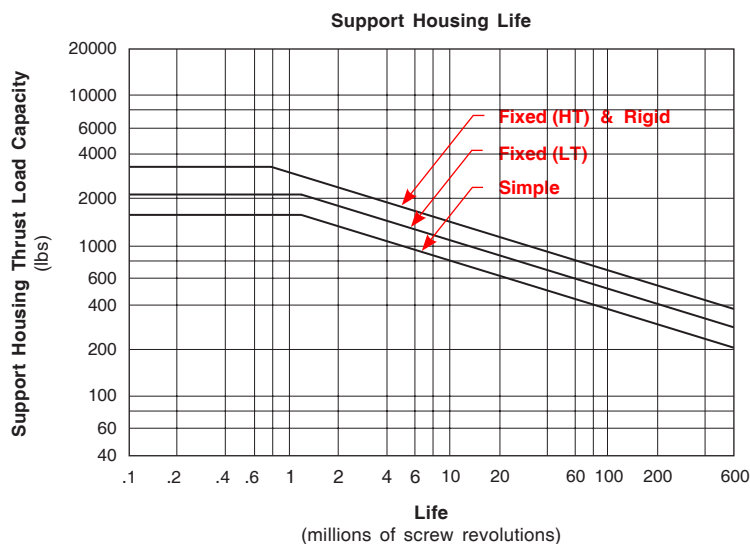
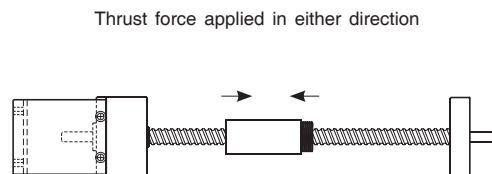
Model Number	Nut Type	Screw Efficiency %	Lead Error inch/ft (mm/300 mm)	Backlash inches (mm)	Unidirectional Repeatability inches (mm)	Bidirectional Repeatability inches (mm)
PS075020 0.750 inch dia. 0.200 inch lead & PS20M05M 20 mm dia. 5 mm lead & PS20M20M 20 mm dia. 20 mm lead	<i>Non-preloaded</i> Ball (N1/N2)	90	< 0.002 (0,050)	< 0.003 (0,076)	+/- 0.0002 (0,0050)	+ 0.0002 to - 0.0032 (0,0050) (0,0813)
	<i>Preloaded</i> Ball (N3/N4)	90	< 0.002 (0,050)	0	+/- 0.0002 (0,0050)	+ 0.0002 to - 0.0002 (0,0050) (0,0050)

Assembly Specifications

Model Number	Nut Type	Breakaway Torque oz-in (N-m)				
		Simple-Simple	Fixed(LT)-Simple	Fixed(HT)-Simple	Rigid-Simple	Rigid-Rigid
PS075020 0.750 inch dia. 0.200 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 10 (0,07)	< 15 (0,11)	< 25 (0,18)	< 25 (0,18)	< 45 (0,32)
	<i>Preloaded</i> Ball (N3/N4)	< 20 (0,14)	< 25 (0,18)	< 35 (0,25)	< 35 (0,25)	< 55 (0,39)
PS20M05M 20 mm dia. 5 mm lead	<i>Non-preloaded</i> Ball (N1/N2)	< 10 (0,07)	< 15 (0,11)	< 25 (0,18)	< 25 (0,18)	< 45 (0,32)
	<i>Preloaded</i> Ball (N3/N4)	< 20 (0,14)	< 25 (0,18)	< 35 (0,25)	< 35 (0,25)	< 55 (0,39)
PS20M20M 20 mm dia. 20 mm lead	<i>Non-preloaded</i> Ball (N1/N2)	< 20 (0,14)	< 25 (0,18)	< 40 (0,28)	< 40 (0,28)	< 55 (0,39)
	<i>Preloaded</i> Ball (N3/N4)	< 35 (0,25)	< 40 (0,28)	< 55 (0,39)	< 55 (0,39)	< 70 (0,49)

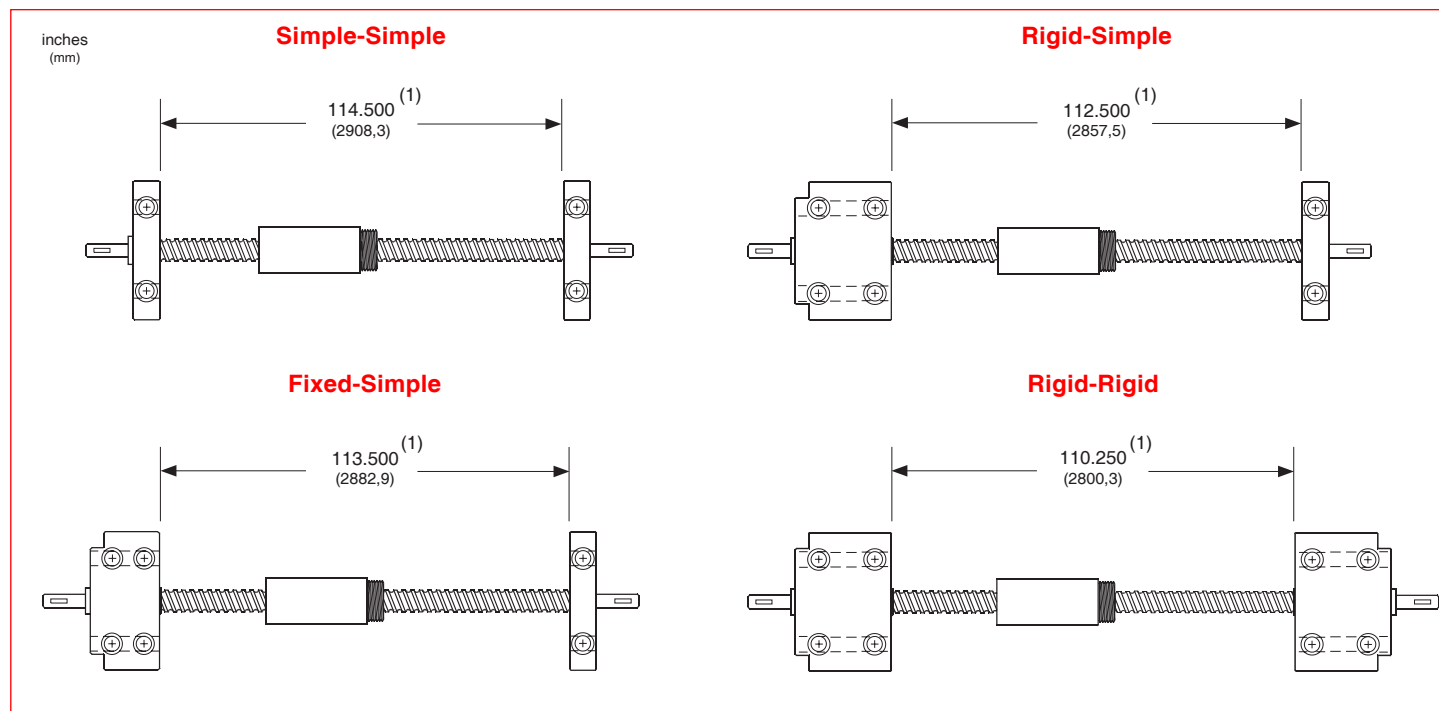
Support Housing Specifications

Support Housing Life millions of screw revolutions	Support Housing Thrust Load Capacity - (Axial)			
	Simple	Fixed (LT)	Fixed (HT)	Rigid
Static	1,675 (760)	2,110 (957)	3,350 (1520)	3,350 (1520)
1	1,675 (760)	2,110 (957)	3,035 (1377)	3,035 (1377)
2	1,365 (619)	1,720 (780)	2,275 (1032)	2,275 (1032)
10	795 (361)	1,050 (476)	1,375 (624)	1,375 (624)
50	465 (211)	585 (265)	820 (372)	820 (372)
100	370 (168)	465 (211)	650 (295)	650 (295)
500	215 (98)	270 (122)	390 (177)	390 (177)

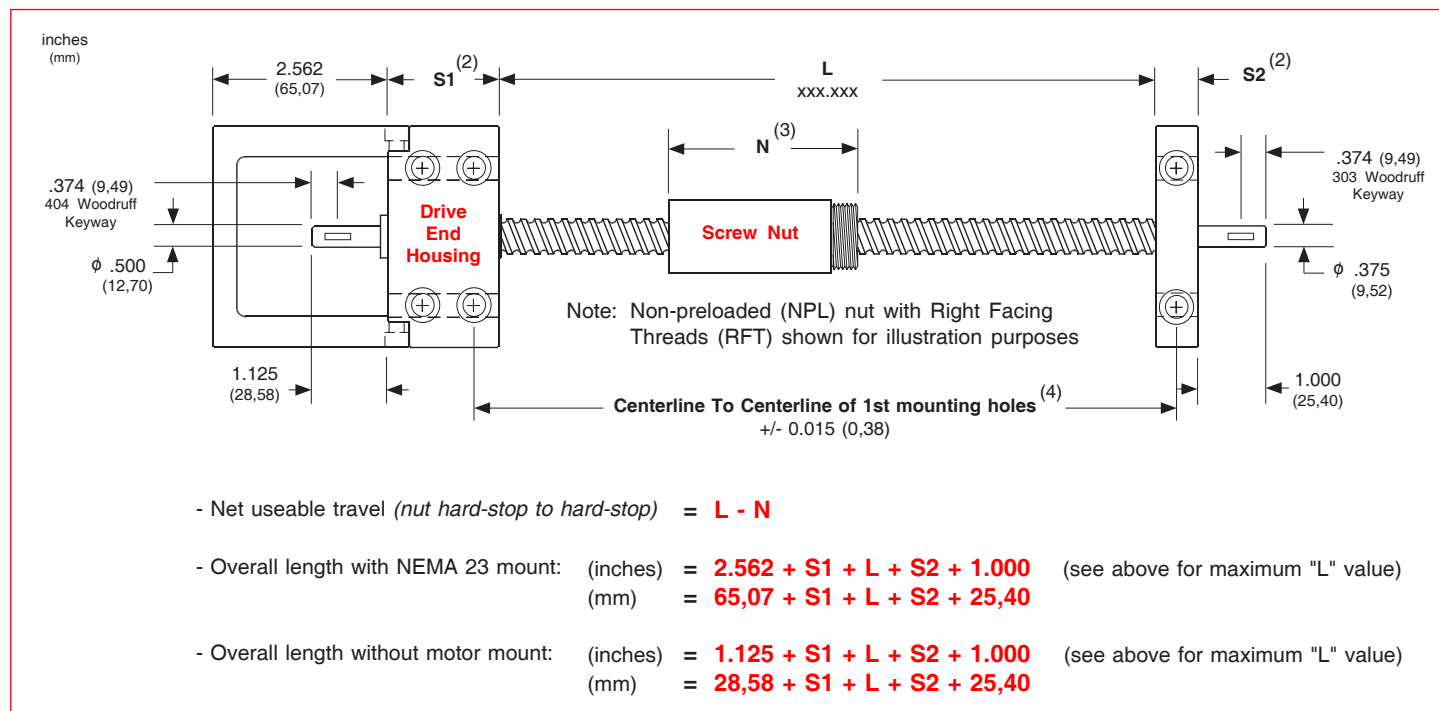


Note: Multiply screw revolutions by the screw lead in order to convert to inches (or mm) traveled by the nut.

Available Configurations



Overall Length Diagram

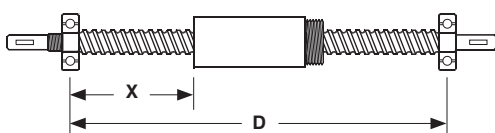


Footnotes:

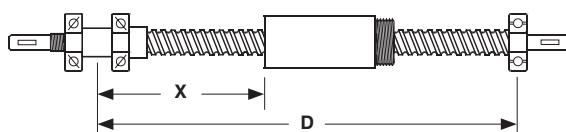
- (1) Maximum available standard screw thread length for the bearing support housing configuration shown.
- (2) Fixed-simple support configuration shown for reference. See page 77 for length values for simple, fixed, and rigid housings.
- (3) See page 76 for available nut styles. Refer to A1 & A2 values for the nut length.
- (4) Tolerance shown is for base mounted support housings. Tolerance also applies to face mounted support housings.

Performance Charts

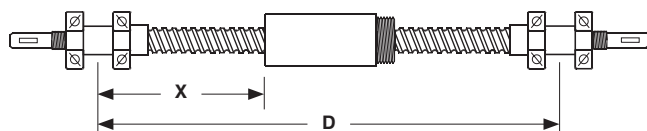
Simple-Simple



Rigid-Simple

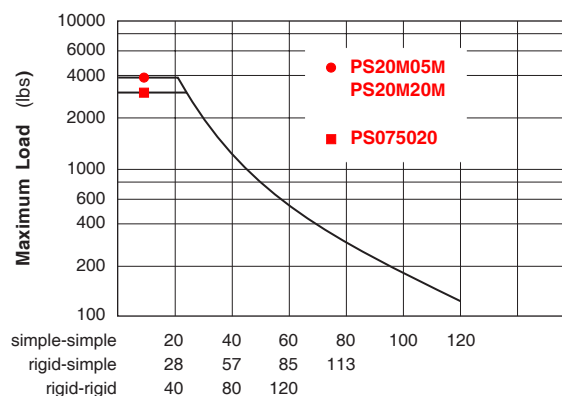


Rigid-Rigid



Maximum Compression Load ⁽¹⁾

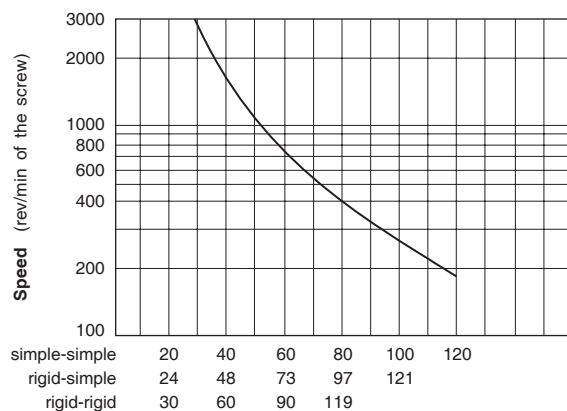
X inches (mm)	simple-simple		rigid-simple		rigid-rigid	
	lbs	(kgf)	lbs	(kgf)	lbs	(kgf)
20 (508)	3360	(1524)	3360	(1524)	3360	(1524)
60 (1524)	505	(229)	1010	(458)	2020	(916)
90 (2286)	225	(102)	450	(204)	900	(408)



Maximum "X" distance between bearing support and Load (inches)

Maximum Speed ⁽¹⁾

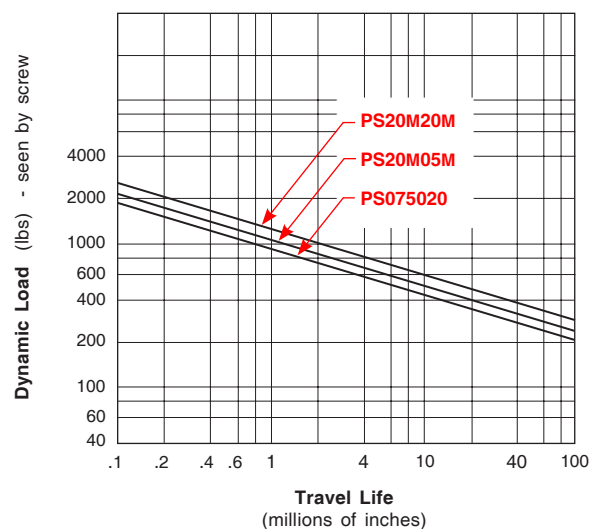
D inches (mm)	simple-simple		rigid-simple		rigid-rigid	
	rpm		rpm		rpm	
29 (737)	3000		3000		3000	
60 (1524)	730		1070		1625	
90 (2286)	325		475		720	
120 (3048)	180		260		400	



Maximum "D" distance between bearing supports (inches)

Screw Travel Life ⁽²⁾

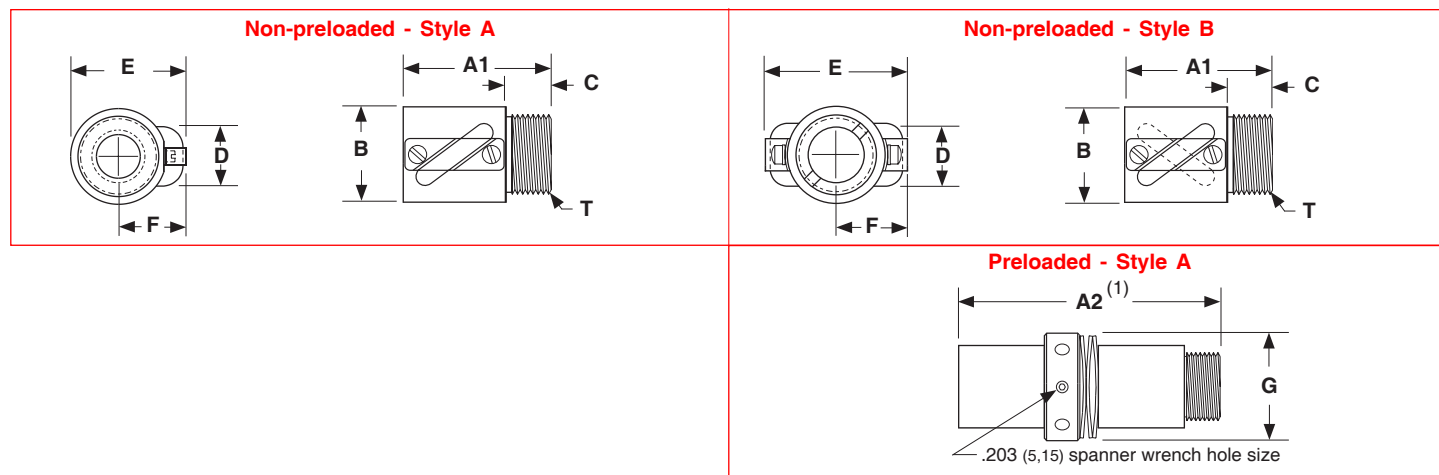
Life millions of inches (km)	075020		20M05M		20M20M	
	lbs	(kgf)	lbs	(kgf)	lbs	(kgf)
1 (25)	964	(437)	1070	(485)	1293	(386)
2 (50)	767	(347)	850	(385)	1029	(466)
50 (1270)	265	(120)	294	(133)	355	(161)
100 (2540)	210	(95)	234	(106)	283	(128)



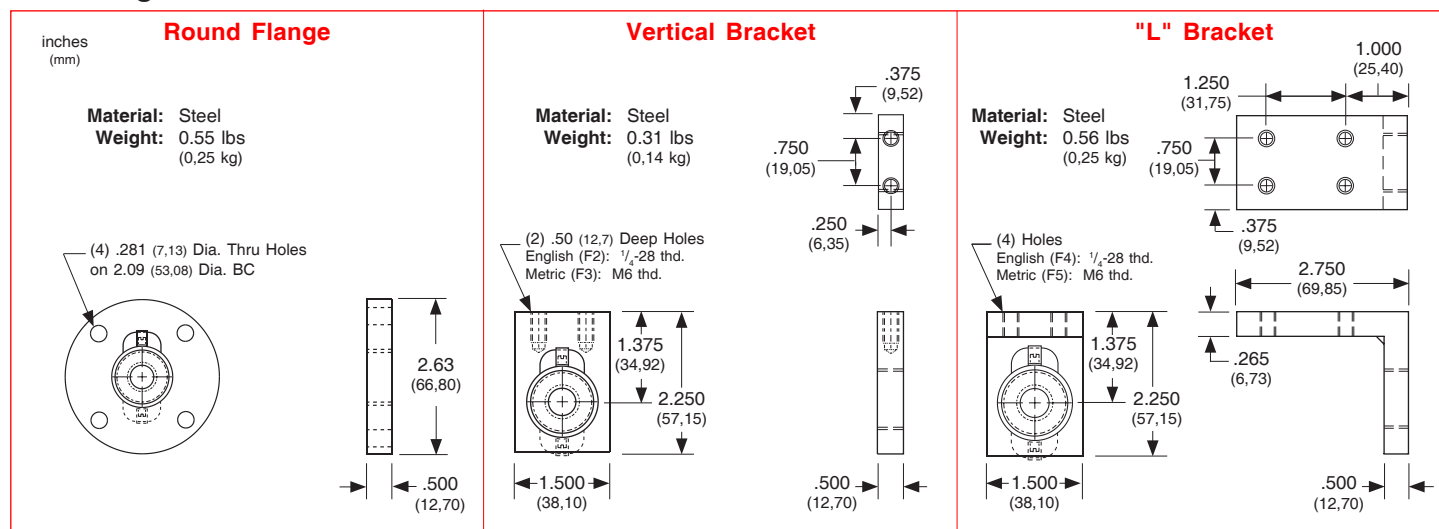
Footnotes:

- (1) Refer to the simple-simple support lengths for fixed-simple configurations. A fixed housing performs like a simple housing for critical speed and compression load specifications. Maximum speeds may not be reached using a Turcite nut due to system friction.
- (2) Multiply life value from chart (or graph) by 0.90 to obtain the life for a preloaded ball nut.

Nut Dimensions



Nut Flange Dimensions



Model Number	Nut Style	Nut Dimensions inches (mm)									Nut Weight ⁽³⁾ lbs (kg)
		A1	A2 ⁽¹⁾	B	C	D	E	F	T - "V" Threads ⁽²⁾	G	
PS075020	A	1.780 (45,21)	3.850 (97,79)	1.378 (35,00)	0.500 (12,70)	1.063 (27,00)	1.674 (42,52)	0.985 (25,02)	1.173 - 18 UNS-2A (29,79 - 18 UNS-2A)	1.670 (42,42)	0.68 (0,31)
PS20M05M	A	1.780 (45,21)	3.850 (97,79)	1.378 (35,00)	0.500 (12,70)	1.063 (27,00)	1.674 (42,52)	0.985 (25,02)	1.173 - 18 UNS-2A (29,79 - 18 UNS-2A)	1.670 (42,42)	0.68 (0,31)
PS20M20M	B	2.370 (60,20)	5.050 (128,27)	1.418 (36,02)	0.500 (12,70)	1.103 (28,02)	2.126 (54,00)	1.063 (27,00)	1 1/4 - 16 UN-2A (31,75 - 16 UN-2A)	1.670 (42,42)	0.90 (0,41)

Footnotes:

- (1) This is the length for a preloaded nut. Preloaded nut consists of two (2) non-preloaded nuts with a locking spanner nut, and belville springs.
- (2) All flange threads are internal (Type 2B) to match the external nut threads.
- (3) Weight of the non-preloaded nut. Multiply value by 2.1 to obtain the weight for the preloaded nut assembly.

Support Housing Dimensions

