

RS 100 025 - S1 A - N1 - W0 - F1 - M04 - C175 - E00 - B00 - Lxxx.xxx

Rolled Screw

Screw Diameter

100 - 1.000 inch

Screw Lead

025 - 0.250 inch **100** - 1.000 inch
050 - 0.500 inch

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) **N5** - NPL Turcite nut (RFT)
N2 - NPL ball nut (LFT) **N6** - NPL Turcite nut (LFT)
N3 - PL ball nut (RFT) **N7** - PL Turcite nut (RFT)
N4 - PL ball nut (LFT) **N8** - PL Turcite nut (LFT)
N9 - other

Nut Wipers

W0 - none **W1** - Wipers on Ball Nut

Nut Flange Type

F0 - none **F2** - Vertical bracket (E) **F4** - L bracket (E)
F1 - Round flange **F3** - Vertical bracket (M) **F5** - L bracket (M)
F9 - other

Motor Mount

M00 - none **M10** - NEMA 42 mount (E)
M04 - NEMA 34 mount (E) **M11** - NEMA 42 mount (M)
M05 - NEMA 34 mount (M) **M12** - NEMA 42 (RH) wrap
M08 - NEMA 34 (RH) wrap **M13** - NEMA 42 (LH) wrap
M09 - NEMA 34 (LH) wrap **M99** - other

Coupling Type

C000 - none **C064 to C068** - C125 **C212 to C222** - H163
C999 - other **C091 to C097** - C150 **C455 to C462** - G126
C175 to C182 - H131 **C492 to C502** - G158

Rotary Encoder

E00 - none **E24** - 500 lines/rev
E99 - other **E25** - 1000 lines/rev
E26 - 1270 lines/rev

Power-off Brake

B00 - none **B22** - 24 VDC
B99 - other **B23** - 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

Specifications subject to change without notice

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)
RS100025 1.000 inch dia. 0.250 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	1.000 (25,40)	0.250 (6,35)	0.836 (21,23)	0.156 (3,96)	2	30,750 (13947)	3,350 (1519)
	<i>Preloaded</i> Ball (N3/N4)						30,415 (13796)	3,015 (1367)
	<i>Non-preloaded</i> Turcite (N5/N6)				n/a	n/a	1,500 (680)	195 (88)
	<i>Preloaded</i> Turcite (N7/N8)				n/a	n/a	1,500 (680)	175 (79)
RS100050 1.000 inch dia. 0.500 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	1.000 (25,40)	0.500 (12,70)	0.879 (22,32)	0.156 (3,96)	2	32,300 (14650)	3,950 (1791)
	<i>Preloaded</i> Ball (N3/N4)						31,905 (14471)	3,555 (1612)
	<i>Non-preloaded</i> Turcite (N5/N6)				n/a	n/a	1,500 (680)	195 (88)
	<i>Preloaded</i> Turcite (N7/N8)				n/a	n/a	1,500 (680)	175 (79)
RS100100 1.000 inch dia. 1.000 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	1.000 (25,40)	1.000 (25,40)	0.836 (21,23)	0.156 (3,96)	2	13,750 (6236)	2,250 (1020)
	<i>Preloaded</i> Ball (N3/N4)						13,525 (6134)	2,025 (918)
	<i>Non-preloaded</i> Turcite (N5/N6)				n/a	n/a	1,500 (680)	195 (88)
	<i>Preloaded</i> Turcite (N7/N8)				n/a	n/a	1,500 (680)	175 (79)

Other Specifications

Maximum Acceleration Rate	Ball nut: 772 inches/sec ² (19.6 m/sec ²) Turcite nut: 193 inches/sec ² (4.9 m/sec ²)
Maximum Speed	Ball nut: 3000 rpm Turcite nut: 1500 rpm
Screw Material Screw Extensions	Right Hand Thread, Case Hardened Rc 58 Steel Rolled Ball Screw 605 Woodruff Keyways on Both Extensions from Support Housings
Screw Maximum Length ⁽²⁾ Screw Weight	144 inches (3657 mm) 2.33 lbs/ft (34,7 g/cm)
Support Housings	Aluminum with Black Anodized Finish or Steel with Black Oxide Finish 45° Chamfer x .03 inch (0,76) 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 51 for further travel life ratings.
 (2) Maximum stock length (not the maximum thread length with bearing housings). See page 50 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)
RS100025 1.000 inch dia. 0.250 inch lead & RS100050 1.000 inch dia. 0.500 inch lead & RS100100 1.000 inch dia. 1.000 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	90	< 0.009 (0,229)	< 0.009 (0,229)	+/- 0.0002 (0,0050)	+ 0.0002 to - 0.0092 (0,0050) (0,2300)
	<i>Preloaded</i> Ball (N3/N4)					+ 0.0002 to - 0.0002 (0,0050) (0,0050)
	<i>Non-preloaded</i> Turcite (N5/N6)	60	< 0.009 (0,229)	< 0.009 (0,229)	+/- 0.0002 (0,0050)	+ 0.0002 to - 0.0092 (0,0050) (0,2300)
	<i>Preloaded</i> Turcite (N7/N8)					+ 0.0002 to - 0.0002 (0,0050) (0,0050)

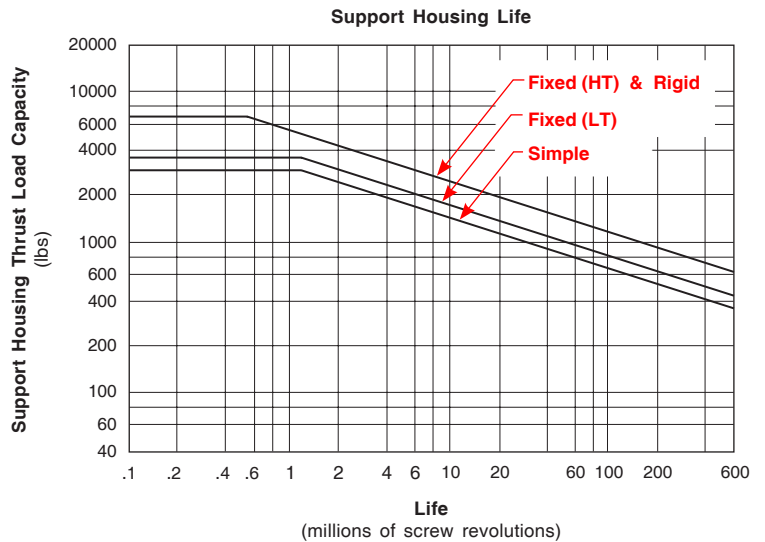
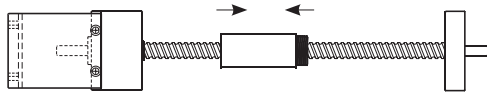
Assembly Specifications

Model Number	Nut Type	Breakaway Torque oz-in (N-m)				
		Simple-Simple	Fixed(LT)-Simple	Fixed(HT)-Simple	Rigid-Simple	Rigid-Rigid
RS100025 1.000 inch dia. 0.250 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 20 (0,14)	< 25 (0,18)	< 35 (0,25)	< 35 (0,25)	< 50 (0,35)
	<i>Preloaded</i> Ball (N3/N4)	< 35 (0,25)	< 40 (0,28)	< 50 (0,35)	< 50 (0,35)	< 65 (0,45)
	<i>Non-preloaded</i> Turcite (N5/N6)	< 30 (0,21)	< 35 (0,25)	< 45 (0,32)	< 45 (0,32)	< 60 (0,42)
	<i>Preloaded</i> Turcite (N7/N8)	< 55 (0,39)	< 60 (0,42)	< 70 (0,49)	< 70 (0,49)	< 85 (0,60)
RS100050 1.000 inch dia. 0.500 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 25 (0,18)	< 30 (0,21)	< 50 (0,35)	< 50 (0,35)	< 65 (0,45)
	<i>Preloaded</i> Ball (N3/N4)	< 45 (0,32)	< 50 (0,35)	< 70 (0,49)	< 70 (0,49)	< 80 (0,56)
	<i>Non-preloaded</i> Turcite (N5/N6)	< 40 (0,28)	< 45 (0,32)	< 65 (0,45)	< 65 (0,45)	< 80 (0,56)
	<i>Preloaded</i> Turcite (N7/N8)	< 75 (0,53)	< 80 (0,56)	< 100 (0,70)	< 100 (0,70)	< 115 (0,81)
RS100100 1.000 inch dia. 1.000 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 30 (0,21)	< 35 (0,25)	< 55 (0,39)	< 55 (0,39)	< 75 (0,53)
	<i>Preloaded</i> Ball (N3/N4)	< 55 (0,39)	< 60 (0,42)	< 80 (0,56)	< 80 (0,56)	< 100 (0,71)
	<i>Non-preloaded</i> Turcite (N5/N6)	< 45 (0,32)	< 50 (0,35)	< 70 (0,49)	< 70 (0,49)	< 90 (0,64)
	<i>Preloaded</i> Turcite (N7/N8)	< 85 (0,60)	< 90 (0,64)	< 110 (0,79)	< 110 (0,79)	< 130 (0,92)

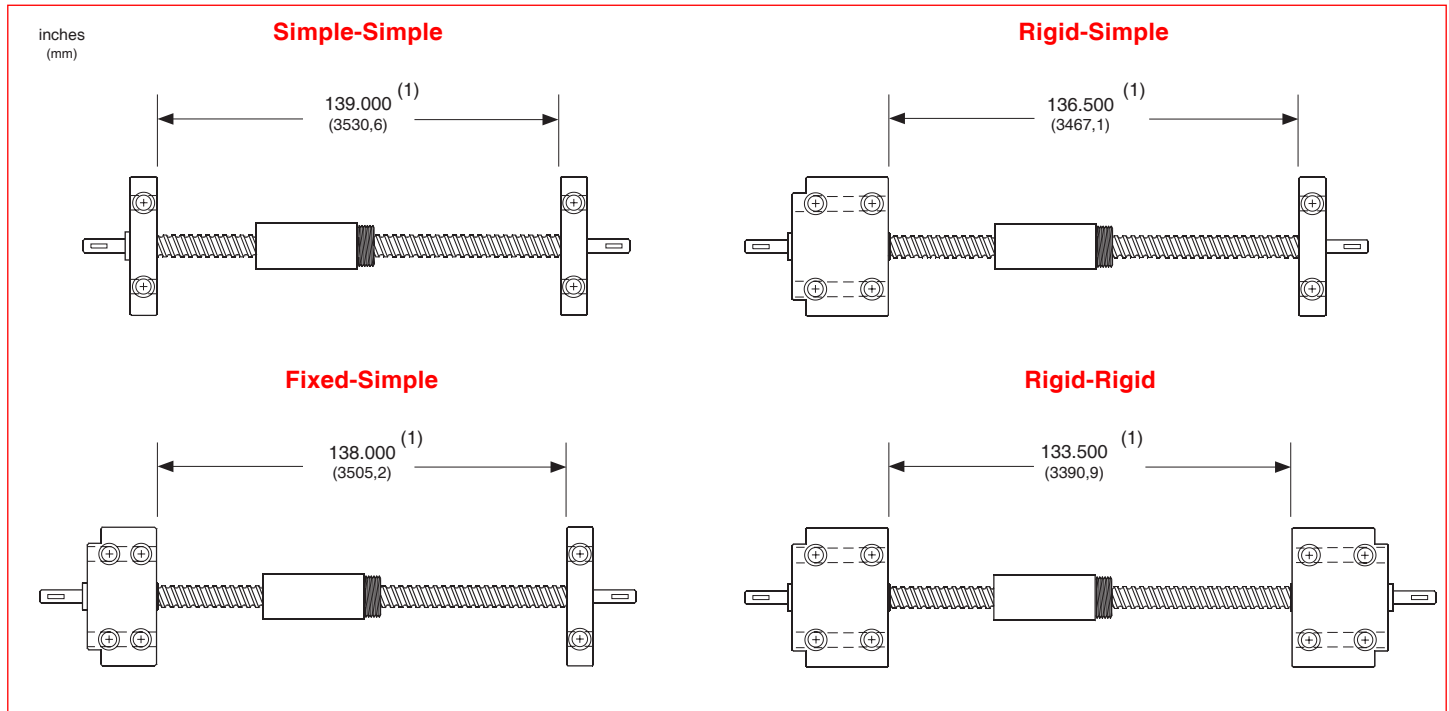
Support Housing Specifications

Support Housing Life millions of screw revolutions	Support Housing Thrust Load Capacity - (Axial)			
	Simple	Fixed (LT)	Fixed (HT)	Rigid
Static	2,880 (1306)	3,630 (1646)	6,615 (3000)	6,615 (3000)
1	2,880 (1306)	3,630 (1646)	5,240 (2377)	5,240 (2377)
2	2,285 (1036)	2,880 (1306)	4,160 (1887)	4,160 (1887)
10	1,335 (606)	1,685 (764)	2,430 (1102)	2,430 (1102)
50	805 (365)	990 (449)	1,420 (644)	1,420 (644)
100	620 (281)	795 (360)	1,130 (512)	1,130 (512)
500	375 (170)	455 (206)	660 (299)	660 (299)

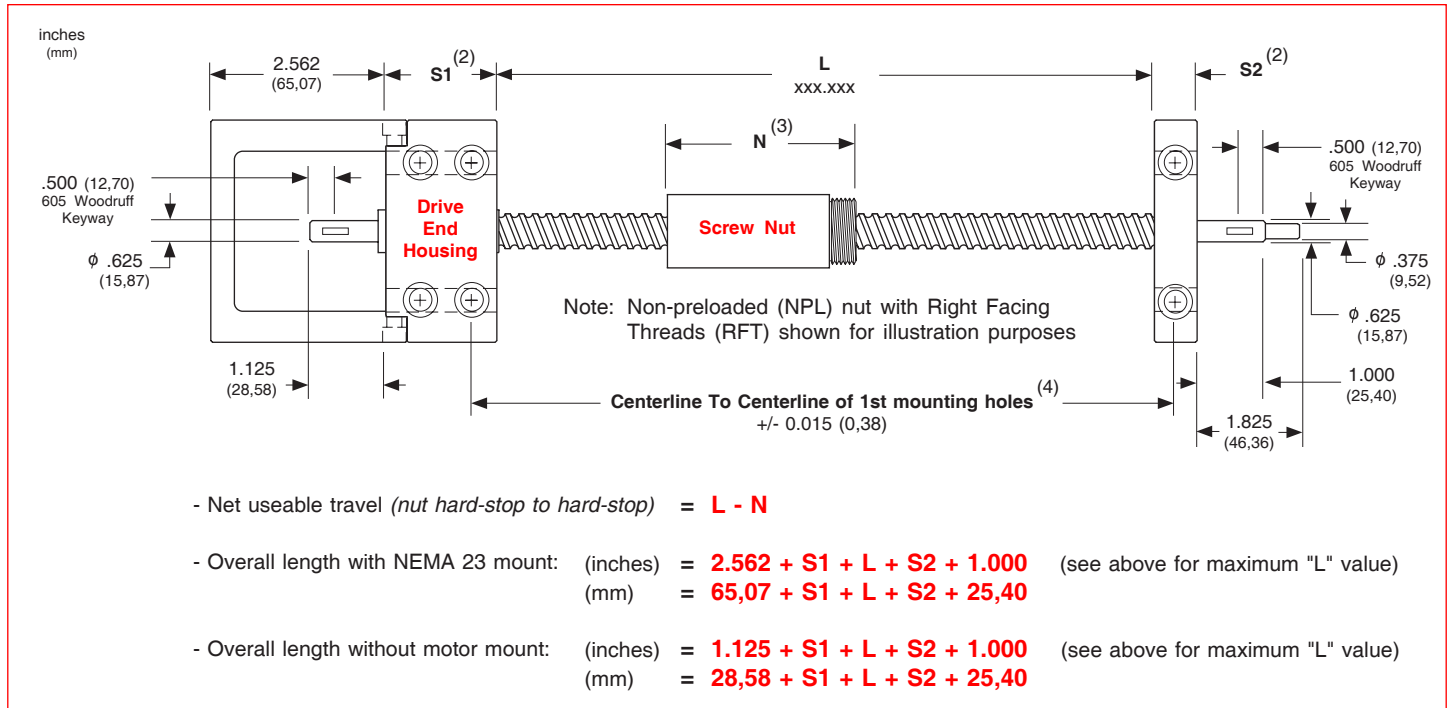
Thrust force applied in either direction



Available Configurations



Overall Length Diagram

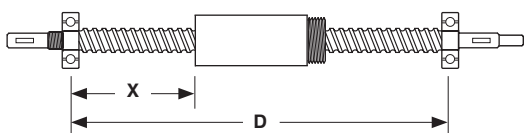


Footnotes:

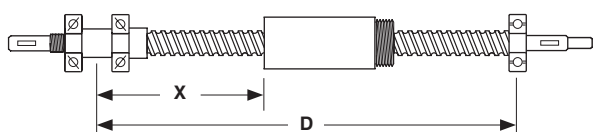
- (1) Maximum available standard screw thread length for the bearing support housing configuration shown.
- (2) Fixed-simple support configuration shown for reference. See page 53 for length values for simple, fixed, and rigid housings.
- (3) See page 52 for available nut styles. Refer to A1 & A2 values for the nut length. See page 96 for wiper kit lengths.
- (4) Tolerance shown is for base mounted support housings. Tolerance also applies to face mounted support housings.

Performance Charts

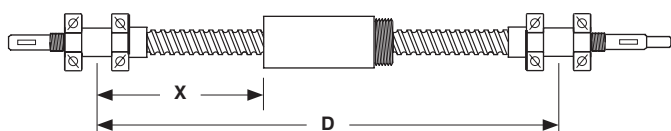
Simple-Simple



Rigid-Simple

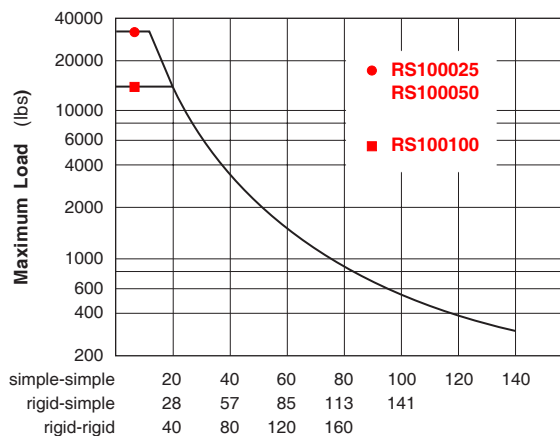


Rigid-Rigid



Maximum Compression Load ⁽¹⁾

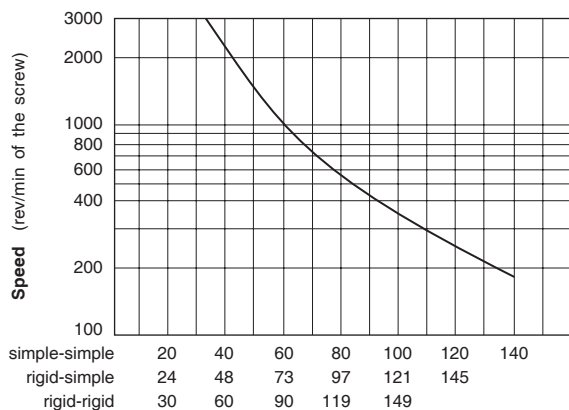
X inches	(mm)	simple-simple		rigid-simple		rigid-rigid	
		lbs	(kgf)	lbs	(kgf)	lbs	(kgf)
40	(1016)	3430	(1556)	6860	(3112)	13720	(6223)
80	(2032)	855	(388)	1710	(776)	3420	(1551)
120	(3048)	380	(172)	760	(345)	1520	(690)



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

Maximum Speed ⁽¹⁾

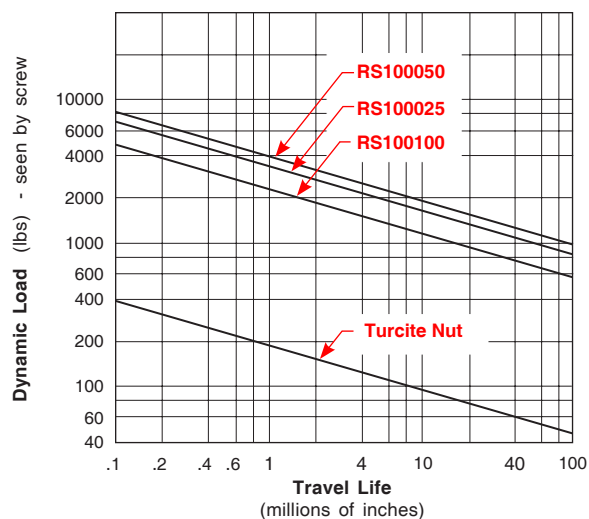
D inches	(mm)	simple-simple		rigid-simple		rigid-rigid	
		rpm		rpm		rpm	
34	(864)	3000		3000		3000	
60	(1524)	970		1425		2160	
100	(2540)	345		510		775	
140	(3556)	175		260		395	



Maximum "D" distance between bearing supports (inches)

Screw Travel Life ⁽²⁾

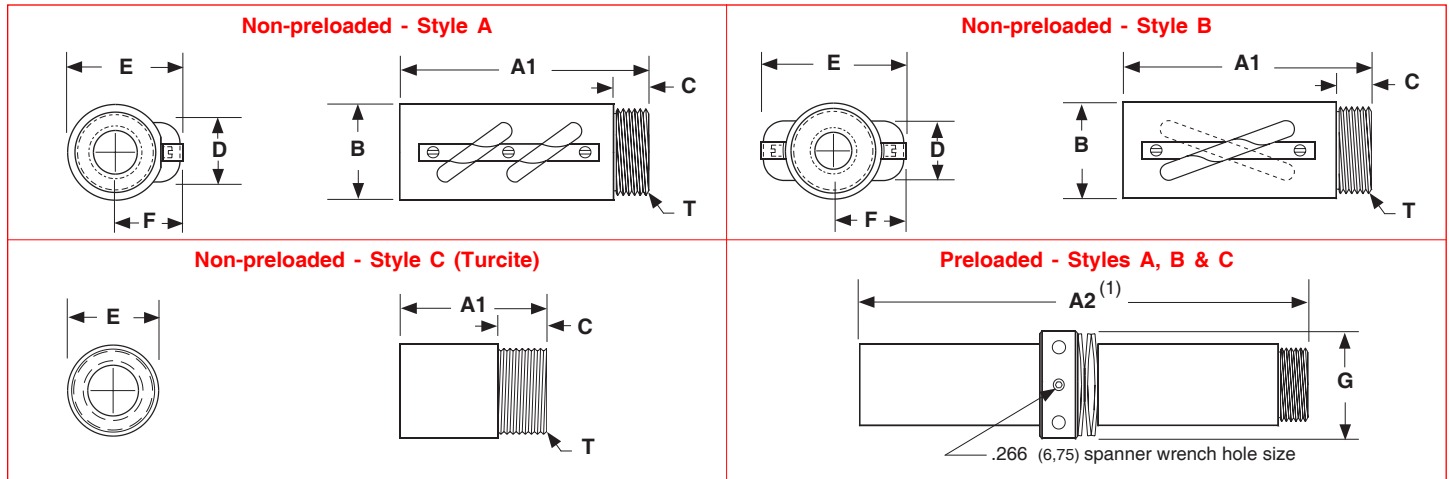
Life millions of inches (km)	100025		100050		100100		Turcite Nut	
	lbs	(kgf)	lbs	(kgf)	lbs	(kgf)	lbs	(kgf)
1	(25)	3350 (1520)	3950 (1792)	2250 (1020)	195	(88)		
2	(50)	2710 (1229)	3200 (1451)	1820 (825)	160	(72)		
50	(1270)	990 (449)	1100 (499)	670 (304)	55	(29)		
100	(2540)	810 (367)	970 (440)	560 (254)	45	(20)		



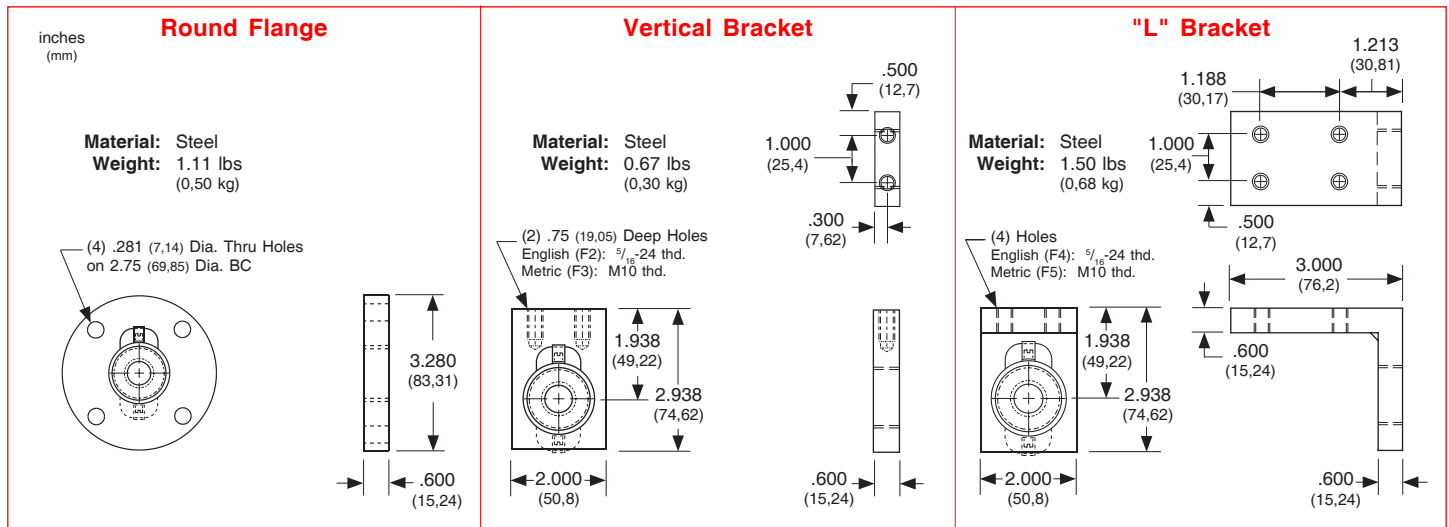
Footnotes:

- (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)								T - "V" Threads ⁽²⁾	G	Nut ⁽³⁾ Weight lbs (kg)
		A1	A2 ⁽¹⁾	B	C	D	E	F				
RS100025	A	3.140 (79,76)	6.640 (168,66)	1.692 (42,98)	0.630 (16,00)	1.191 (30,25)	1.882 (47,80)	1.120 (28,45)	1 9/16 - 18 UNEF-2A (39,68 - 18 UNEF-2A)	2.070 (52,57)	1.25 (0,56)	
RS100050	B	3.130 (79,50)	6.640 (168,66)	1.692 (42,98)	0.630 (16,00)	1.191 (30,25)	1.882 (47,80)	1.120 (28,45)	1 9/16 - 18 UNEF-2A (39,68 - 18 UNEF-2A)	2.070 (52,57)	1.25 (0,56)	
RS100100	B	3.100 (78,74)	6.520 (165,61)	1.692 (42,98)	0.605 (15,37)	1.200 (30,48)	2.172 (55,17)	1.170 (29,72)	1 9/16 - 18 UNEF-2A (39,68 - 18 UNEF-2A)	2.070 (52,57)	1.25 (0,56)	
RS100025	C	1.500 (38,10)	3.500 (88,90)	n/a	0.600 (15,24)	n/a	1.750 (44,45)	n/a	1 9/16 - 18 UNEF-2A (39,68 - 18 UNEF-2A)	n/a	0.35 (0,15)	
RS100050	C	1.500 (38,10)	3.500 (88,90)	n/a	0.600 (15,24)	n/a	1.750 (44,45)	n/a	1 9/16 - 18 UNEF-2A (39,68 - 18 UNEF-2A)	n/a	0.35 (0,15)	
RS100100	C	1.500 (38,10)	3.500 (88,90)	n/a	0.600 (15,24)	n/a	1.750 (44,45)	n/a	1 9/16 - 18 UNEF-2A (39,68 - 18 UNEF-2A)	n/a	0.35 (0,15)	

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.

Specifications subject to change without notice

Support Housing Dimensions

<p>inches (mm)</p> <p>.813 (20,65) 2.750 (69,85)</p> <p>(4) .406 (10,31) Dia.Thru Holes</p> <p>(4) 10-32 Dia. x .50 (12,7) Deep on 2.500 (63,5) BC</p> <p>3.625 (92,08) 2.625 (66,68)</p> <p>1.813 (46,05)</p> <p>.500 (12,70) 2.188 (55,58) 4.375 (111,13)</p>	<p>Simple</p> <p>Weight (each) Aluminum: 0.9 lbs (0,41 kg) Steel: 2.4 lbs (1,09 kg)</p> <p>605 Woodruff Keyways on Both Extensions</p>	<p>.375 (9,52) (2) .406 (10,3) Dia. Thru Holes, .620 (15,75) Dia. C' Bored x .75 (19,05) Deep</p> <p>.375 (9,52)</p> <p>.750 (19,05) .750 (19,05)</p> <p>Drive End non-Drive End</p>
<p>.813 (20,65) 2.750 (69,85)</p> <p>(4) .406 (10,31) Dia.Thru Holes</p> <p>(4) 10-32 Dia. x .50 (12,7) Deep on 2.500 (63,5) BC</p> <p>3.625 (92,08) 2.625 (66,68)</p> <p>1.813 (46,05)</p> <p>.500 (12,70) 2.188 (55,58) 4.375 (111,13) .375 (9,52)</p>	<p>Fixed</p> <p>Weight (each) Aluminum: 2.4 lbs (1,09 kg) Steel: 6.7 lbs (3,04 kg)</p> <p>605 Woodruff Keyways on Both Extensions</p>	<p>1.125 (28,57) .500 (12,70)</p> <p>(4) .406 (10,3) Dia. Thru Holes, .620 (15,75) Dia. C' Bored x .75 (19,05) Deep</p> <p>1.875 (47,63)</p> <p>(2) 10-32 x .44 (11,18) Deep, both sides</p> <p>.875 (22,23) .125 (3,17) 2.125 (53,97)</p>
<p>.813 (20,65) 2.750 (69,85)</p> <p>(4) .406 (10,31) Dia.Thru Holes</p> <p>(4) 10-32 Dia. x .50 (12,7) Deep on 2.500 (63,5) BC</p> <p>3.625 (92,08) 2.625 (66,68)</p> <p>1.813 (46,05)</p> <p>.500 (12,70) 2.188 (55,58) 4.375 (111,13) .375 (9,52)</p>	<p>Rigid</p> <p>Weight (each) Aluminum: 4.2 lbs (1,91 kg) Steel: 12.1 lbs (5,049 kg)</p> <p>605 Woodruff Keyways on Both Extensions</p>	<p>(4) .406 (10,3) Dia. Thru Holes, .620 (15,75) Dia. C' Bored x .75 (19,05) Deep</p> <p>2.625 (66,67) .500 (12,70)</p> <p>1.875 (47,63)</p> <p>(2) 10-32 x .44 (11,18) Deep, both sides</p> <p>.875 (22,23) .125 (3,17) 3.625 (92,07)</p>
<p>NEMA 34 Motor Mount</p> <p>Material: Aluminum Weight: 2.0 lbs (0,91 kg)</p> <p>(4) Holes on 3.875 (98,42) BC Dia. English (M04): #10-24 thd. Metric (M05): M5 thd.</p> <p>2.876 (73,05) Pilot Dia. TYP</p> <p>3.460 (87,88)</p> <p>3.187 (80,95) .313 (7,95)</p> <p>2.062 (52,37)</p> <p>3.375 (85,73)</p> <p>1.688 (42,88)</p> <p>(2) .221 (5,61) Dia.Thru Holes, .344 (8,74) Dia. C' Bored x .200 (5,08) Deep, both sides</p>	<p>NEMA 42 Motor Mount</p> <p>Material: Aluminum Weight: 3.2 lbs (1,45 kg)</p> <p>(4) Holes on 4.950 (125,73) BC Dia. English (M10): # 1/2-20 thd. Metric (M11): M6 thd.</p> <p>2.189 (55,60) Pilot Dia. TYP</p> <p>3.460 (87,88)</p> <p>3.187 (80,95) .313 (7,95)</p> <p>3.062 (77,77)</p> <p>4.250 (107,95)</p> <p>2.125 (53,98)</p> <p>(2) .221 (5,61) Dia.Thru Holes, .344 (8,74) Dia. C' Bored x .200 (5,08) Deep, both sides</p>	

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