

Note: See page 14 for a complete description of the above part number system.

- (E) - English Interface
- (LFT) - Left Facing Thread
- (LH) - Left Hand
- (LT) - Low Thrust
- (HT) - High Thrust
- (M) - Metric Interface
- (NPL) - Non Preloaded
- (PL) - Preloaded
- (RFT) - Right Facing Thread
- (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 <sup>(1)</sup> lbs (kgf)
<b>RS150025</b> 1.500 inch dia. 0.250 inch lead	<i>Non-preloaded Ball (N1/N2)</i>	1.500 (38,10)	0.250 (6,35)	1.379 (35,03)	0.156 (3,96)	2	47,450 (21523)	4,050 (1837)
	<i>Preloaded Ball (N3/N4)</i>						47,045 (21339)	3,645 (1653)
<b>RS150050</b> 1.500 inch dia. 0.500 inch lead	<i>Non-preloaded Ball (N1/N2)</i>	1.500 (38,10)	0.500 (12,70)	1.265 (32,13)	0.312 (7,92)	2	102,300 (46402)	12,900 (5851)
	<i>Preloaded Ball (N3/N4)</i>						101,010 (45817)	11,610 (5266)
<b>RS150100</b> 1.500 inch dia. 1.000 inch lead	<i>Non-preloaded Ball (N1/N2)</i>	1.500 (38,10)	1.000 (25,40)	1.143 (29,03)	0.344 (8,73)	2	47,800 (21682)	8,250 (3742)
	<i>Preloaded Ball (N3/N4)</i>						46,975 (21307)	7,425 (3368)
<b>RS150200</b> 1.500 inch dia. 2.000 inch lead	<i>Non-preloaded Ball (N1/N2)</i>	1.500 (38,10)	2.000 (50,80)	1.210 (30,73)	0.281 (7,13)	2	31,250 (14175)	7,600 (3447)
	<i>Preloaded Ball (N3/N4)</i>						28,240 (12809)	6,840 (3103)

## Other Specifications

<b>Maximum Acceleration Rate</b>	Ball nut: 772 inches/sec <sup>2</sup> (19.6 m/sec <sup>2</sup> )
<b>Maximum Speed</b>	Ball nut: 3000 rpm
<b>Screw Material</b>	Right Hand Thread, Case Hardened Rc 58 Steel Rolled Ball Screw
<b>Screw Extensions</b>	605 Woodruff Keyways on Extensions from Support Housings
<b>Screw Maximum Length<sup>(2)</sup></b>	144 inches (3657 mm)
<b>Screw Weight</b>	5.58 lbs/ft (83,1 g/cm)
<b>Support Housings</b>	Steel with Black Oxide Finish, 45° Chamfer x .03 inch (0,76) all Straight Edges
<b>Support Housing Features</b>	Base or Face Mount with Integral Seals
<b>Nut Flanges</b>	Steel with Black Oxide Finish
<b>Nut Flange Features</b>	English or Metric Load Mounting Interface

### Footnotes:

- (1) Load based upon 1 million inches (25 Km) of travel life. See page 59 for further travel life ratings.  
 (2) Maximum stock length (not the maximum thread length with bearing housings). See page 58 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)
<b>RS150025</b> 1.500 inch dia. 0.250 inch lead & <b>RS150050</b> 1.500 inch dia. 0.500 inch lead & <b>RS150100</b> 1.500 inch dia. 1.000 inch lead & <b>RS150200</b> 1.500 inch dia. 2.000 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	90	< 0.009 (0,229)	< 0.013 (0,330)	+/- 0.0002 (0,0050)	+ 0.0002 to - 0.0132 (0,0050) (0,3353)
	<i>Preloaded</i> Ball (N3/N4)	90	< 0.009 (0,229)	0	+/- 0.0002 (0,0050)	+ 0.0002 to - 0.0002 (0,0050) (0,0050)

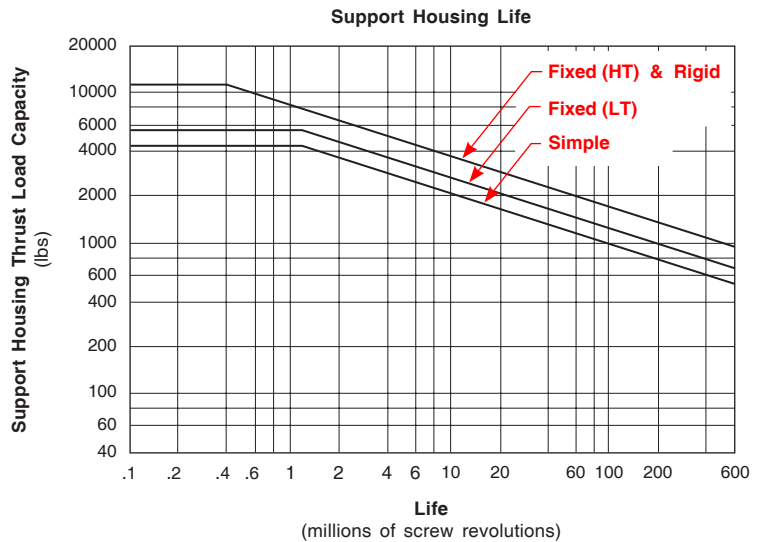
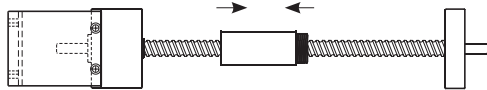
## Assembly Specifications

Model Number	Nut Type	Breakaway Torque oz-in (N-m)				
		Simple-Simple	Fixed(LT)-Simple	Fixed(HT)-Simple	Rigid-Simple	Rigid-Rigid
<b>RS150025</b> 1.500 inch dia. 0.250 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 35 (0,25)	< 50 (0,35)	< 70 (0,49)	< 70 (0,49)	< 90 (0,64)
	<i>Preloaded</i> Ball (N3/N4)	< 70 (0,49)	< 85 (0,60)	< 105 (0,74)	< 105 (0,74)	< 125 (0,88)
<b>RS150050</b> 1.500 inch dia. 0.500 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 40 (0,28)	< 55 (0,39)	< 75 (0,53)	< 75 (0,53)	< 95 (0,67)
	<i>Preloaded</i> Ball (N3/N4)	< 80 (0,56)	< 95 (0,67)	< 115 (0,81)	< 115 (0,81)	< 135 (0,95)
<b>RS150100</b> 1.500 inch dia. 1.000 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 45 (0,32)	< 60 (0,42)	< 80 (0,56)	< 80 (0,56)	< 100 (0,71)
	<i>Preloaded</i> Ball (N3/N4)	< 90 (0,64)	< 105 (0,74)	< 125 (0,88)	< 125 (0,88)	< 145 (1,02)
<b>RS150200</b> 1.500 inch dia. 2.000 inch lead	<i>Non-preloaded</i> Ball (N1/N2)	< 60 (0,42)	< 75 (0,53)	< 95 (0,67)	< 95 (0,67)	< 115 (0,81)
	<i>Preloaded</i> Ball (N3/N4)	< 120 (0,85)	< 135 (0,95)	< 155 (1,09)	< 155 (1,09)	< 175 (1,24)

## Support Housing Specifications

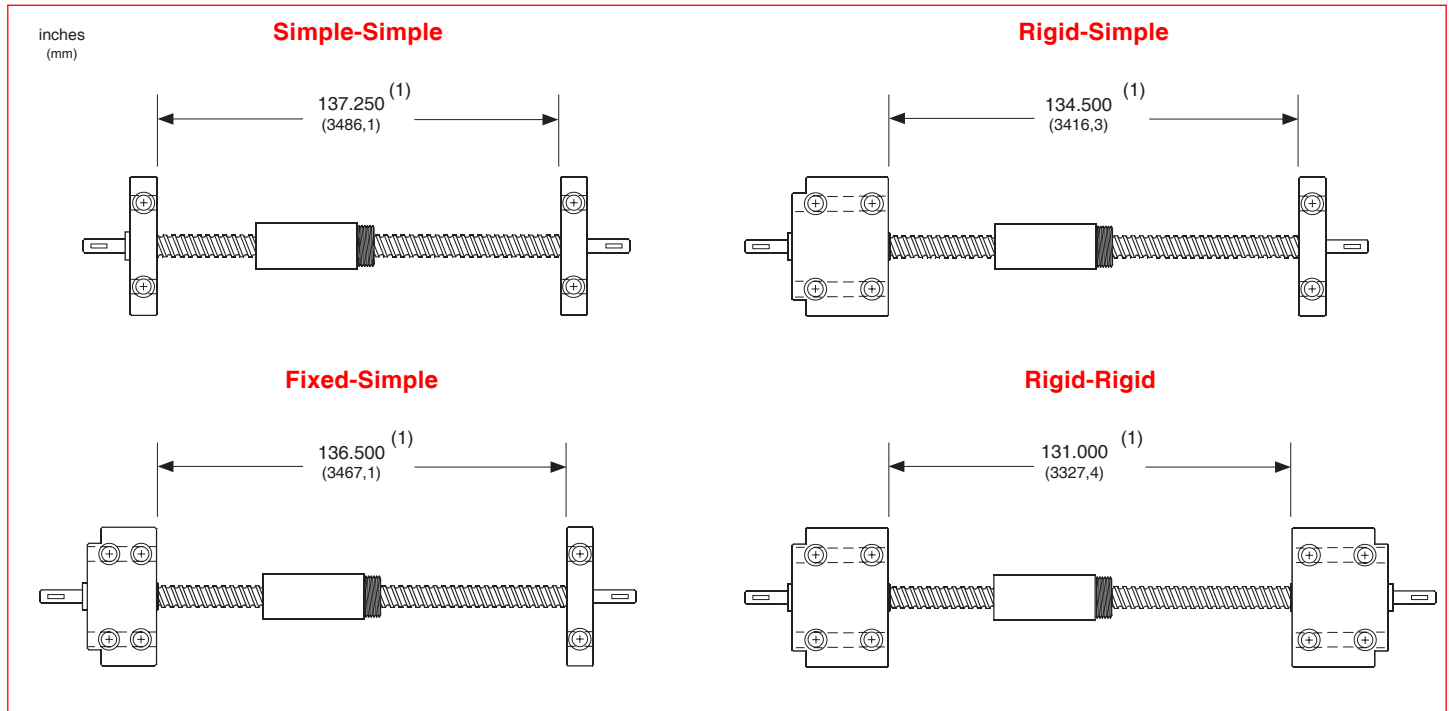
Support Housing Life millions of screw revolutions	Support Housing Thrust Load Capacity - (Axial)			
	Simple	Fixed (LT)	Fixed (HT)	Rigid
<b>Static</b>	4,380 (1987)	5,520 (2504)	11,700 (5307)	11,700 (5307)
<b>1</b>	4,380 (1987)	5,520 (2504)	8,060 (3656)	8,060 (3656)
<b>2</b>	3,475 (1576)	4,380 (1987)	6,400 (2903)	6,400 (2903)
<b>10</b>	2,035 (923)	2,565 (1163)	3,740 (1696)	3,740 (1696)
<b>50</b>	1,190 (540)	1,500 (680)	2,185 (991)	2,185 (991)
<b>100</b>	945 (429)	1,190 (540)	1,735 (787)	1,735 (787)
<b>500</b>	550 (249)	695 (315)	1,015 (460)	1,015 (460)

Thrust force applied in either direction

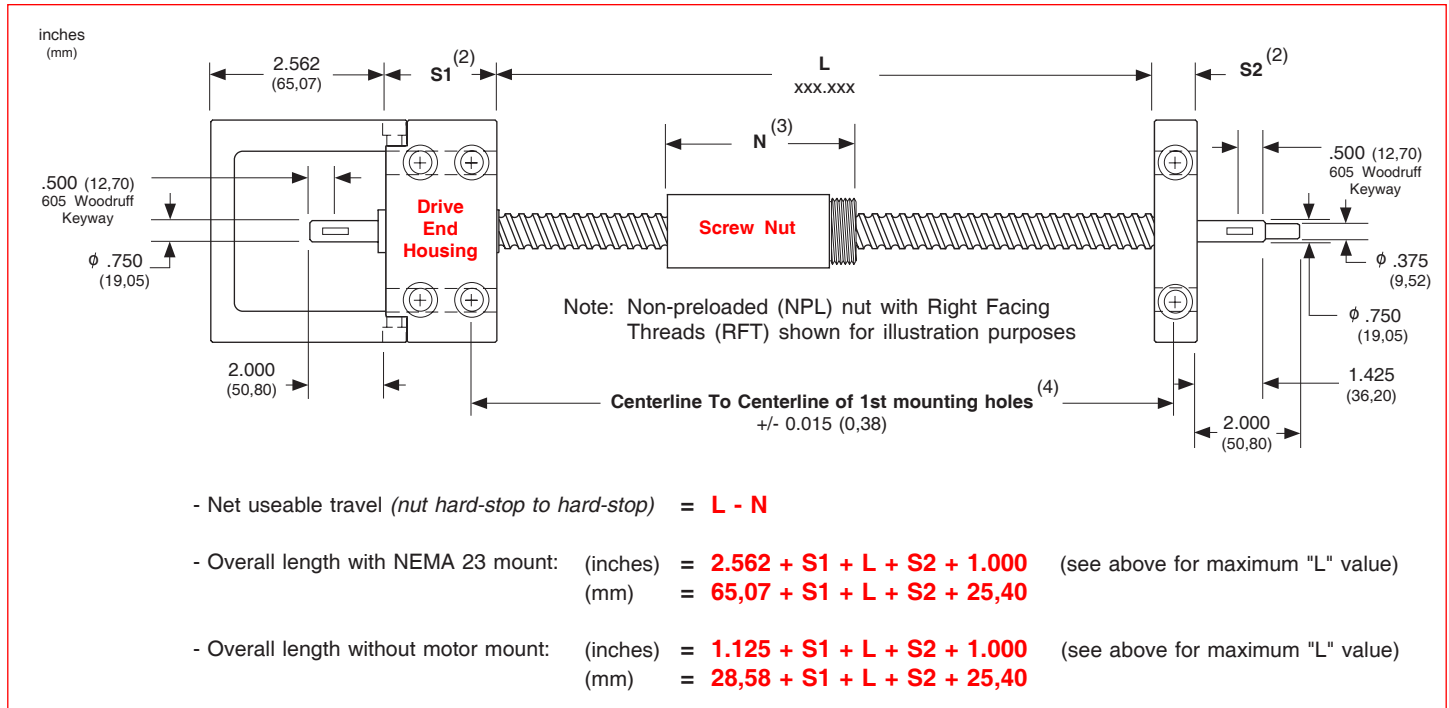


Note: Multiply screw revolutions by the screw lead in order to convert to inches (or mm) traveled by the nut.

Available Configurations



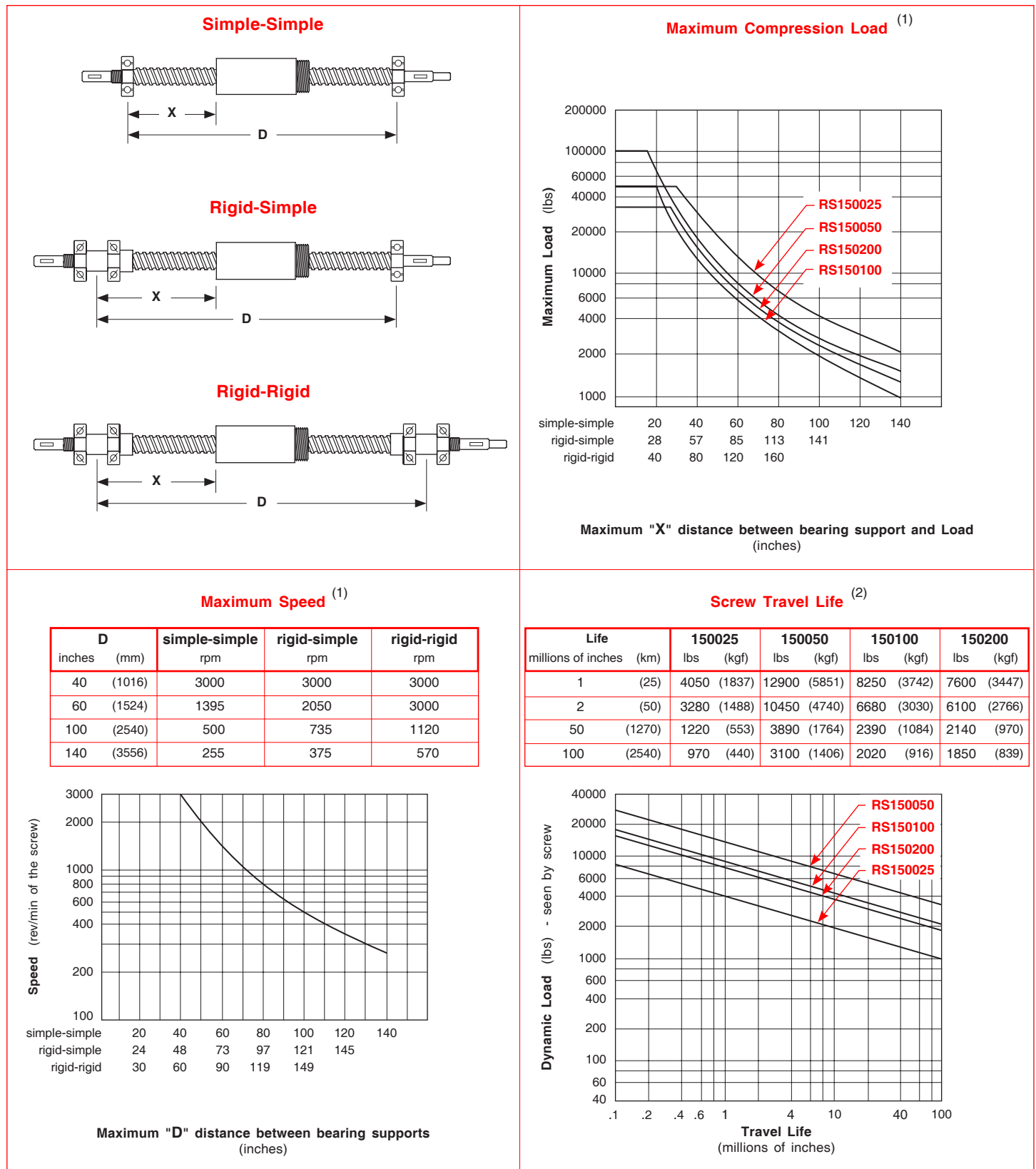
Overall Length Diagram



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 61 for length values for simple, fixed, and rigid housings.
- (3) See page 60 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.

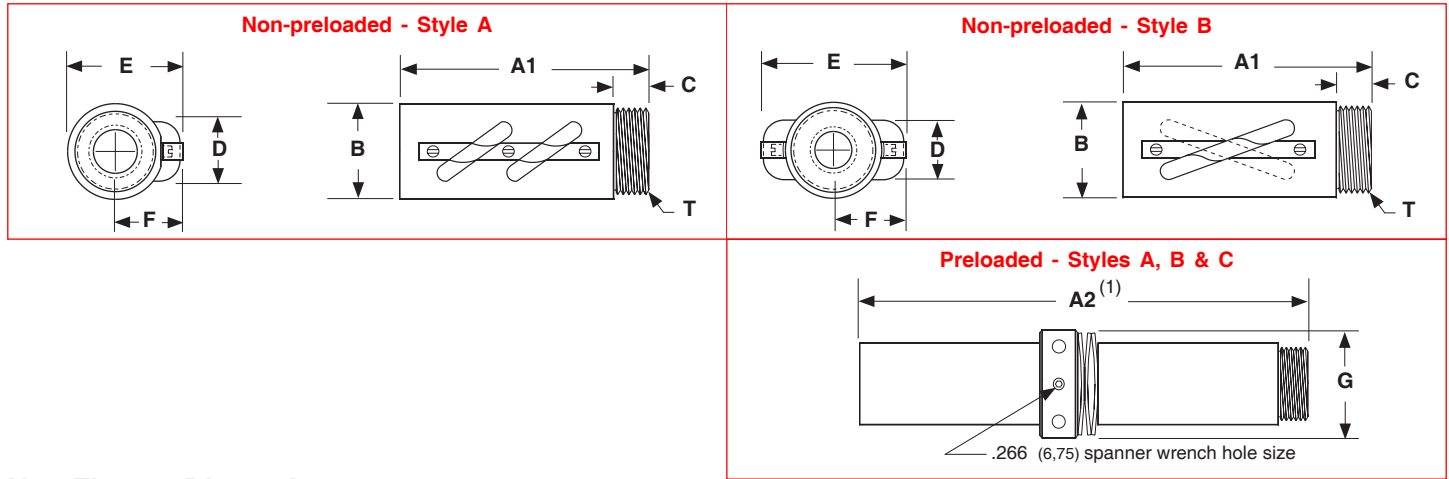
## Performance Charts



### 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

**Round Flange**

inches (mm)

Weight = 3.3 lbs (1,5 kg)

(4) "L" Dia. Thru Holes on "K" Dia. BC

	H	J	K	L
RS150025	4.410 (112,0)	.760 (19,3)	3.500 (88,9)	.397 (10,08)
RS150050	4.650 (118,1)	.750 (19,1)	3.875 (98,4)	.531 (13,49)
RS150100	4.970 (126,2)	1.000 (25,4)	4.125 (104,8)	.531 (13,49)
RS150200				

**Vertical Bracket**

Weight = 2.0 lbs (0,9 kg)

(2) .75 (19,05) Deep Holes English (F2): 1/2-20 thd. Metric (F3): M12 thd.

	H	J	K	L
RS150025	3.875 (98,4)	2.313 (58,8)	.760 (19,3)	.380 (9,7)
RS150050	4.438 (112,7)	2.750 (69,9)	.750 (19,1)	.375 (9,5)
RS150100	4.438 (112,7)	2.750 (69,9)	1.000 (25,4)	.500 (12,7)
RS150200				

**"L" Bracket**

Weight = 4.0 lbs (1,8 kg)

(4) Holes English (F4): 1/2-20 thd. Metric (F5): M12 thd.

	H	J	K	L	M	N
RS150025	3.875 (98,4)	2.313 (58,8)	.760 (19,3)	4.250 (107,9)	.740 (18,8)	1.510 (38,4)
RS150050	4.438 (112,7)	2.750 (69,9)	.750 (19,1)	4.250 (107,9)	.625 (15,9)	1.500 (38,1)
RS150100	4.438 (112,7)	2.750 (69,9)	1.000 (25,4)	4.500 (114,3)	.625 (15,9)	1.750 (44,5)
RS150200						

Model Number	Nut Style	Nut Dimensions inches (mm)									Nut (3) Weight lbs (kg)
		A1	A2 <sup>(1)</sup>	B	C	D	E	F	T - "V" Threads <sup>(2)</sup>	G	
RS150025	A	3.260 (82,80)	7.000 (177,80)	2.098 (53,29)	0.760 (19,30)	1.733 (44,02)	2.427 (61,65)	1.530 (38,86)	1.967 - 18 UNS-2A (49,96 - 18 UNS-2A)	2.420 (61,47)	2.75 (1,25)
RS150050	A	5.590 (141,99)	12.100 (307,34)	2.630 (66,80)	0.755 (19,17)	1.564 (39,73)	3.177 (80,70)	1.930 (49,02)	2.360 - 18 UNS-2A (59,94 - 18 UNS-2A)	3.114 (79,09)	5.50 (2,49)
RS150100	B	3.650 (92,71)	8.160 (207,26)	2.630 (66,80)	1.010 (25,65)	1.737 (44,12)	3.696 (93,88)	1.960 (49,78)	2 1/4 - 20 UN-2A (57,15 - 20 UN-2A)	3.114 (79,09)	3.25 (1,47)
RS150200	B	5.260 (133,60)	11.250 (285,75)	2.620 (66,55)	1.005 (25,53)	1.576 (40,03)	3.400 (86,36)	1.680 (42,67)	2 1/4 - 20 UN-2A (57,15 - 20 UN-2A)	3.114 (79,09)	5.25 (2,38)

### 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><b>Simple</b></p> <p>Weight = 5.0 lbs (2,27 kg)</p>	<p><b>Drive End</b>      <b>non-Drive End</b></p>
<p><b>Fixed</b></p> <p>Weight = 11.5 lbs (5,22 kg)</p>	
<p><b>Rigid</b></p> <p>Weight = 21.2 lbs (9,62 kg)</p>	
<p><b>NEMA 34 Motor Mount</b></p> <p>Weight = 4.0 lbs (1,82 kg)</p>	<p><b>NEMA 42 Motor Mount</b></p> <p>Weight = 4.0 lbs (1,82 kg)</p>

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