

RS	150	025	S1	A	N1	W0	F1	M04	C223	E00	B00	Lxxx.xxx
Rolled Screw												
Screw Diameter	150 - 1.500 inch											
Screw Lead	025 - 0.250 inch 100 - 1.000 inch 050 - 0.500 inch 200 - 2.000 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) N9 - other N2 - NPL ball nut (LFT) N3 - PL ball nut (RFT) N4 - PL ball nut (LFT)											
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 C223 to C233 - H163 C503 to C513 - G158 C999 - other C281 to C291 - H197 C561 to C571 - G177 C337 to C347 - H225 C617 to C627 - G220											
Rotary Encoder	E00 - none E27 - 500 lines/rev E99 - other E28 - 1000 lines/rev E29 - 1270 lines/rev											
Power-off Brake	B00 - none B24 - 24 VDC B99 - other B25 - 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)
RS150025 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)
RS150050 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)
RS150100 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)
RS150200 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

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 Rolled Ball Screw
Screw Extensions	605 Woodruff Keyways on Both Extensions from Support Housings
Screw Maximum Length⁽²⁾	144 inches (3657 mm)
Screw Weight	5.58 lbs/ft (83,1 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 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)
RS150025 1.500 inch dia. 0.250 inch lead & RS150050 1.500 inch dia. 0.500 inch lead & RS150100 1.500 inch dia. 1.000 inch lead & RS150200 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)

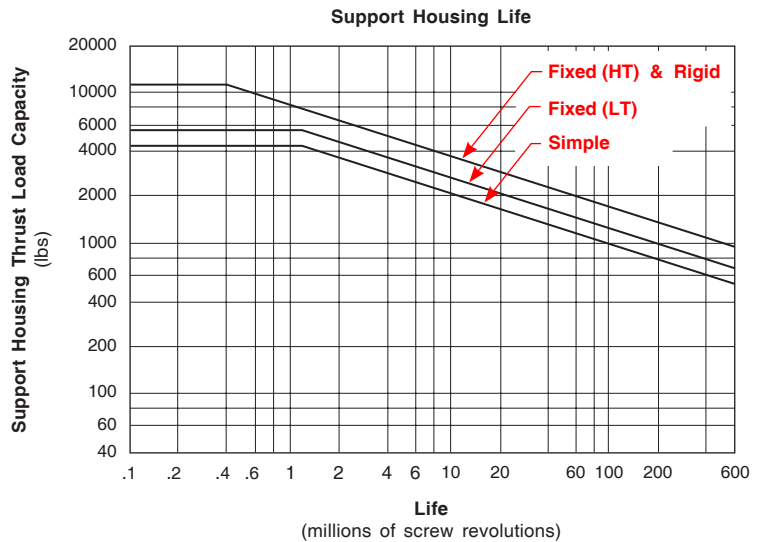
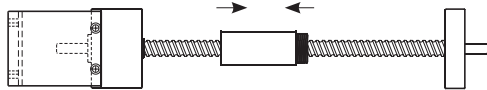
Assembly Specifications

Model Number	Nut Type	Breakaway Torque oz-in (N-m)				
		Simple-Simple	Fixed(LT)-Simple	Fixed(HT)-Simple	Rigid-Simple	Rigid-Rigid
RS150025 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)
RS150050 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)
RS150100 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)
RS150200 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

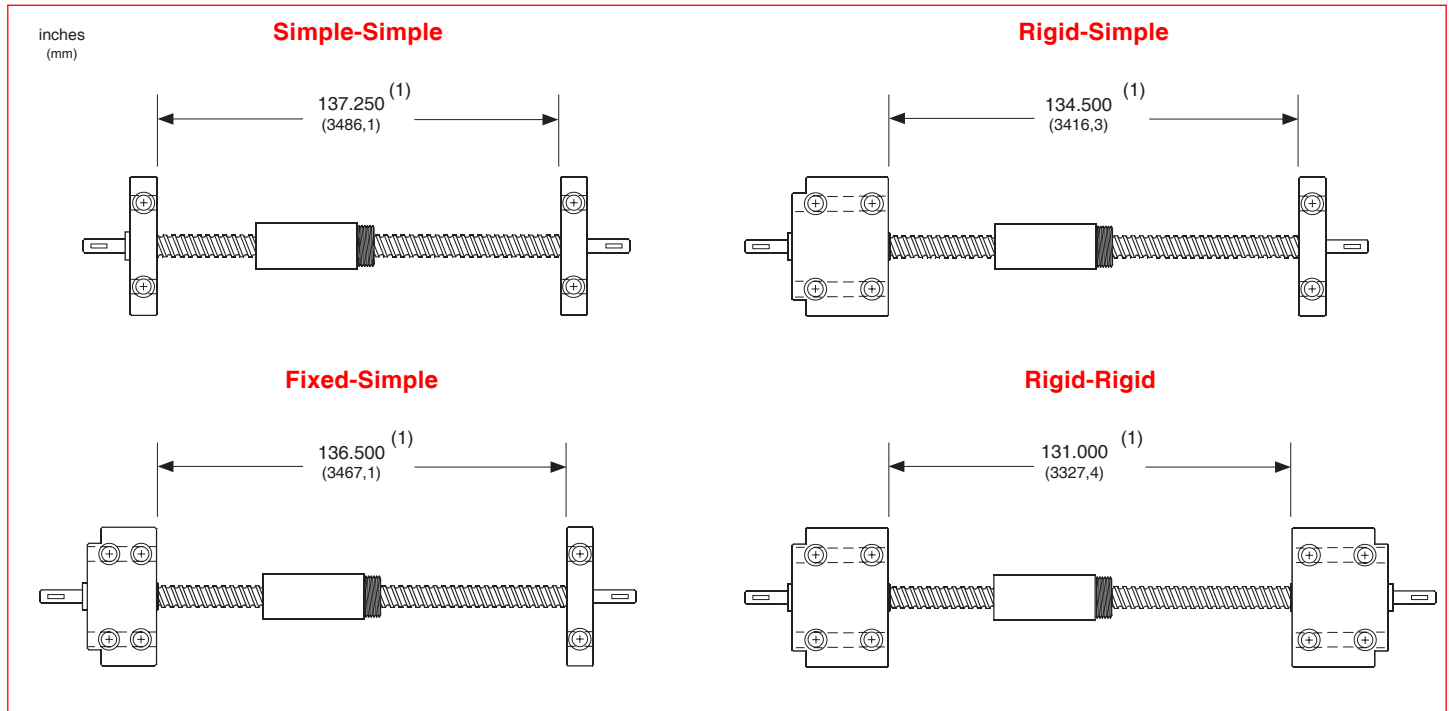
Support Housing Life millions of screw revolutions	Support Housing Thrust Load Capacity - (Axial)			
	Simple	Fixed (LT)	Fixed (HT)	Rigid
Static	4,380 (1987)	5,520 (2504)	11,700 (5307)	11,700 (5307)
1	4,380 (1987)	5,520 (2504)	8,060 (3656)	8,060 (3656)
2	3,475 (1576)	4,380 (1987)	6,400 (2903)	6,400 (2903)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

Thrust force applied in either direction

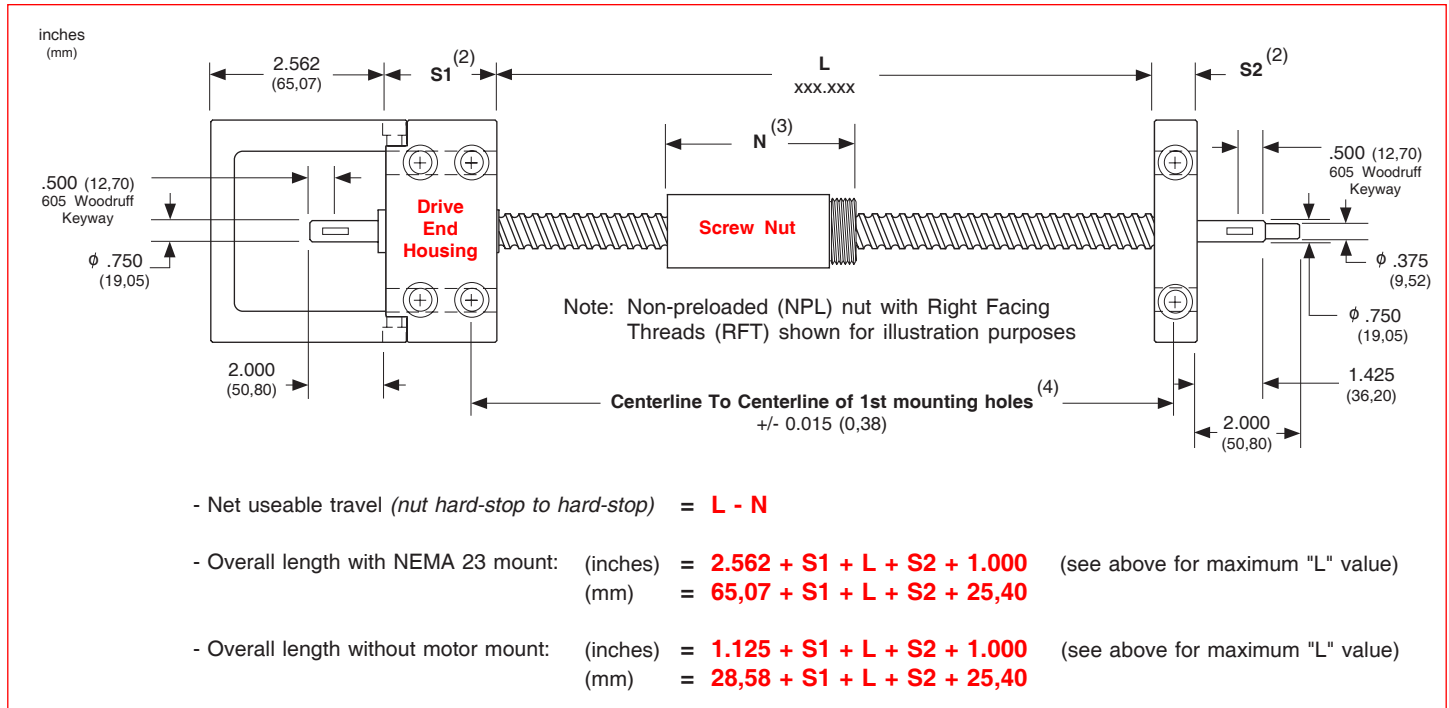


Note: Multiply screw revolutions by the screw lead in order to convert to inches (or mm) traveled by the nut.

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

Simple-Simple

Rigid-Simple

Rigid-Rigid

Maximum Compression Load ⁽¹⁾

	20	40	60	80	100	120	140
simple-simple	20	40	60	80	100	120	140
rigid-simple	28	57	85	113	141		
rigid-rigid	40	80	120	160			

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

Maximum Speed ⁽¹⁾

D	simple-simple	rigid-simple	rigid-rigid
inches (mm)	rpm	rpm	rpm
40 (1016)	3000	3000	3000
60 (1524)	1395	2050	3000
100 (2540)	500	735	1120
140 (3556)	255	375	570

	20	40	60	80	100	120	140
simple-simple	20	40	60	80	100	120	140
rigid-simple	24	48	73	97	121	145	
rigid-rigid	30	60	90	119	149		

Maximum "D" distance between bearing supports (inches)

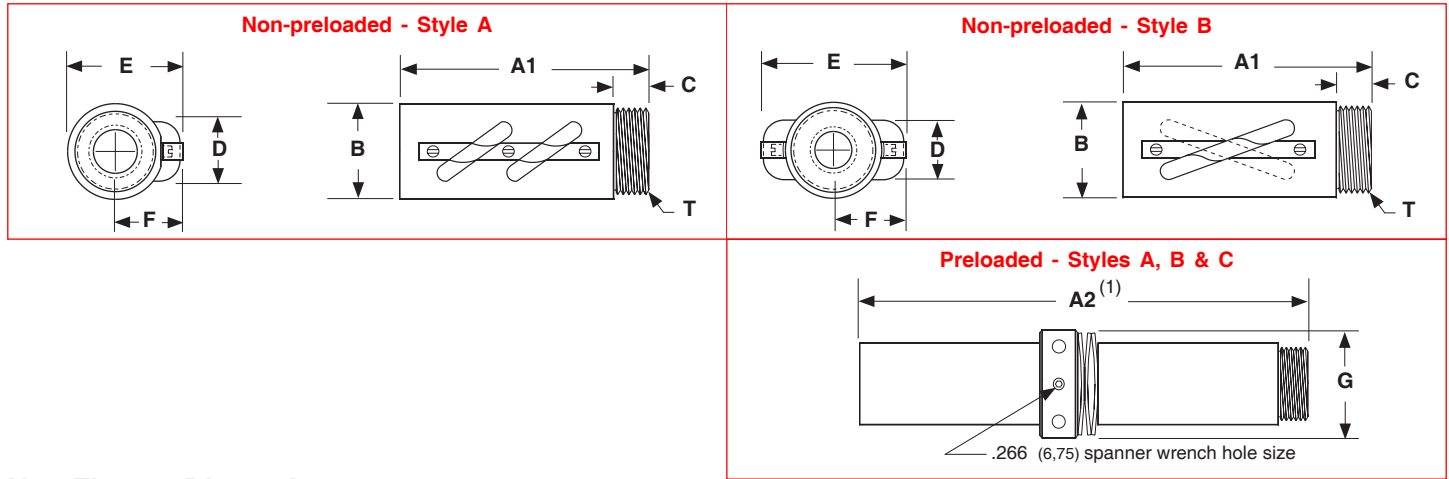
Screw Travel Life ⁽²⁾

Life	150025	150050	150100	150200
millions of inches (km)	lbs (kgf)	lbs (kgf)	lbs (kgf)	lbs (kgf)
1 (25)	4050 (1837)	12900 (5851)	8250 (3742)	7600 (3447)
2 (50)	3280 (1488)	10450 (4740)	6680 (3030)	6100 (2766)
50 (1270)	1220 (553)	3890 (1764)	2390 (1084)	2140 (970)
100 (2540)	970 (440)	3100 (1406)	2020 (916)	1850 (839)

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

Material: Steel
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

Material: Steel
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

Material: Steel
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 ⁽¹⁾	B	C	D	E	F	T - "V" Threads ⁽²⁾	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

Simple

(4) .531 (13,49) Dia.Thru Holes
 (4) 1/2-28 UNF x .75 (19,05) Deep on 3.500 (88,9) BC
 605 Woodruff Keyways on Both Extensions

Weight (each)
Aluminum: 1.6 lbs (0,73 kg)
Steel: 4.6 lbs (2,09 kg)

Drive End **non-Drive End**

Fixed

(4) .531 (13,49) Dia.Thru Holes
 (4) 1/2-28 UNF x .75 (19,05) Deep on 3.500 (88,9) BC
 605 Woodruff Keyways on Both Extensions

Weight (each)
Aluminum: 3.6 lbs (1,63 kg)
Steel: 10.0 lbs (4,54 kg)

Rigid

(4) .531 (13,49) Dia.Thru Holes
 (4) 1/2-28 UNF x .75 (19,05) Deep on 3.500 (88,9) BC
 605 Woodruff Keyways on Both Extensions

Weight (each)
Aluminum: 7.0 lbs (3,18 kg)
Steel: 20.1 lbs (9,12 kg)

NEMA 34 Motor Mount

Material: Aluminum
Weight: 4.0 lbs (1,82 kg)

(4) Holes on 3.875 (98,42) BC Dia.
 English (M04): #10-24 thd.
 Metric (M05): M5 thd.

2.876 (73,05) Pilot Dia. TYP

(2) .221 (5,61) Dia.Thru Holes, .344 (8,74) Dia. C' Bored x .200 (5,08) Deep, both sides

NEMA 42 Motor Mount

Material: Aluminum
Weight: 4.0 lbs (1,82 kg)

(4) Holes on 4.950 (125,73) BC Dia.
 English (M04): 1/2-20 thd.
 Metric (M05): M6 thd.

2.189 (55,60) Pilot Dia. TYP

(2) .221 (5,61) Dia.Thru Holes, .344 (8,74) Dia. C' Bored x .200 (5,08) Deep, both sides

Specifications subject to change without notice