

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

Sold & Serviced By:

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| | |
|----------------------------|-----------------------------|
| (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) |
|---|-------------------------------|----------------------------|------------------------|---------------------------------|---------------------------------|--------------------|-----------------------------|---|
| GS062020 0.625 inch dia. 0.200 inch lead | Preloaded Ball (N3/N4) | 0.625 (15,87) | 0.200 (5,08) | 0.513 (13,03) | 0.125 (3,17) | 1 | 3,080 (1397) | 987 (447) |
| GS16M05M 16 mm dia. 5 mm lead | Preloaded Ball (N3/N4) | 0.629 (16,00) | 0.196 (5,00) | 0.513 (13,03) | 0.125 (3,17) | 1 | 3,080 (1397) | 987 (447) |
| GS16M16M 16 mm dia. 16 mm lead | Preloaded Ball (N3/N4) | 0.629 (16,00) | 0.629 (16,00) | 0.529 (13,44) | 0.125 (3,17) | 1 | 1,800 (816) | 910 (412) |

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 Ground Ball Screw |
| Screw Extensions | 303 Woodruff Keyways on Extensions from Support Housings |
| Screw Maximum Length ⁽²⁾ | 45.27 inches (1150 mm) |
| Screw Weight | 0.87 lbs/ft (13,0 g/cm) |
| Support Housings | Steel with Black Oxide Finish, 45° Chamfer x .02 inch (0,50) all Straight Edges |
| Support Housing Features | Base or Face Mount with Integral Seals |
| Nut Flanges | Steel with Black Oxide Finish |
| Nut Flange Features | English or Metric Load Mounting Interface |

Footnotes:

- (1) Load based upon 1 million inches (25 Km) of travel life. See page 83 for further travel life ratings.
 (2) Maximum stock length (not the maximum thread length with bearing housings). See page 82 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) |
|--|-------------------------------|-----------------------|--------------------------------------|----------------------------|--|---|
| GS062020 0.625 inch dia. 0.200 inch lead & GS16M05M 16 mm dia. 5 mm lead & GS16M16M 16 mm dia. 16 mm lead | <i>Preloaded Ball (N3/N4)</i> | 90 | < 0.0005 (0,012) | 0 | +/- 0.0001 (0,0025) | + 0.0001 to - 0.0001 (0,0025) (0,0025) |

Assembly Specifications

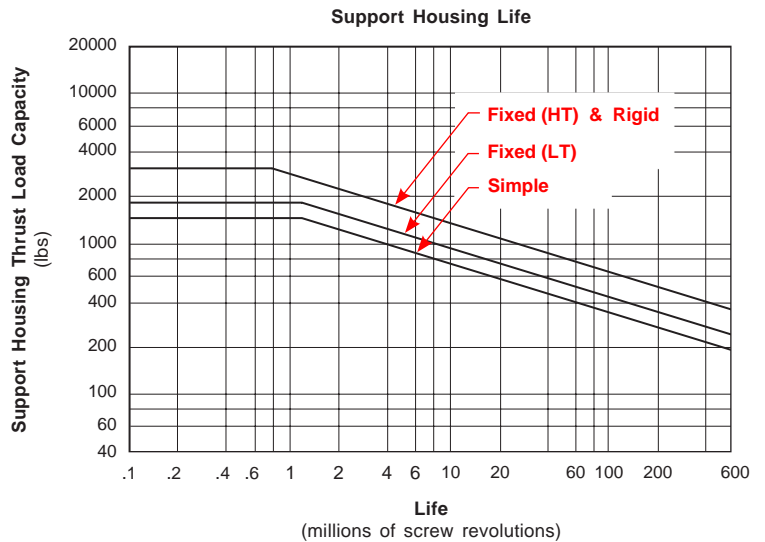
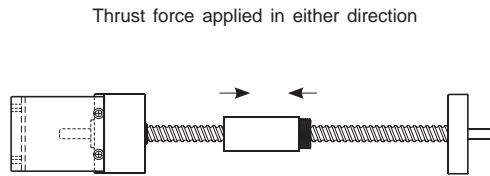
| Model Number | Nut Type | Breakaway Torque oz-in (N-m) | | | | |
|---|-------------------------------|------------------------------------|------------------|------------------|----------------|----------------|
| | | Simple-Simple | Fixed(LT)-Simple | Fixed(HT)-Simple | Rigid-Simple | Rigid-Rigid |
| GS062020 0.625 inch dia. 0.200 inch lead | <i>Preloaded Ball (N3/N4)</i> | < 15 (0,11) | < 20 (0,14) | < 30 (0,21) | < 30 (0,21) | < 40 (0,28) |
| GS16M05M 16 mm dia. 5 mm lead | <i>Preloaded Ball (N3/N4)</i> | < 15 (0,11) | < 20 (0,14) | < 30 (0,21) | < 30 (0,21) | < 40 (0,28) |
| GS16M16M 16 mm dia. 16 mm lead | <i>Preloaded Ball (N3/N4)</i> | < 25 (0,18) | < 35 (0,24) | < 45 (0,32) | < 45 (0,32) | < 55 (0,39) |

Internal Order Code

| Model Number | Internal Order Code & Support Configuration | Maximum Thread Length "L" inches (mm) | Model Number | Internal Order Code & Support Configuration | Maximum Thread Length "L" inches (mm) | Model Number | Internal Order Code & Support Configuration | Maximum Thread Length "L" inches (mm) |
|--|---|---|---|---|---|--|---|---|
| GS062020 0.625 inch dia. 0.200 inch lead & GS16M05M 16 mm dia. 5 mm lead & GS16M16M 16 mm dia. 16 mm lead | -1-S1 | 18.250 (463,6) | GS062020 0.625 inch dia. 0.200 inch lead | -2-S1 | 41.500 (1054,1) | GS16M05M 16 mm dia. 5 mm lead & GS16M16M 16 mm dia. 16 mm lead | -2-S1 | 37.500 (952,5) |
| | -1-S2 | 18.250 (463,6) | | -2-S2 | 41.500 (1054,1) | | -2-S2 | 37.500 (952,5) |
| | -1-S3 | 18.250 (463,6) | | -2-S3 | 41.500 (1054,1) | | -2-S3 | 37.500 (952,5) |
| | -1-S4 | 18.250 (463,6) | | -2-S4 | 41.500 (1054,1) | | -2-S4 | 37.500 (952,5) |
| | -1-S5 | 16.500 (419,1) | | -2-S5 | 39.750 (1009,6) | | -2-S5 | 35.800 (909,3) |

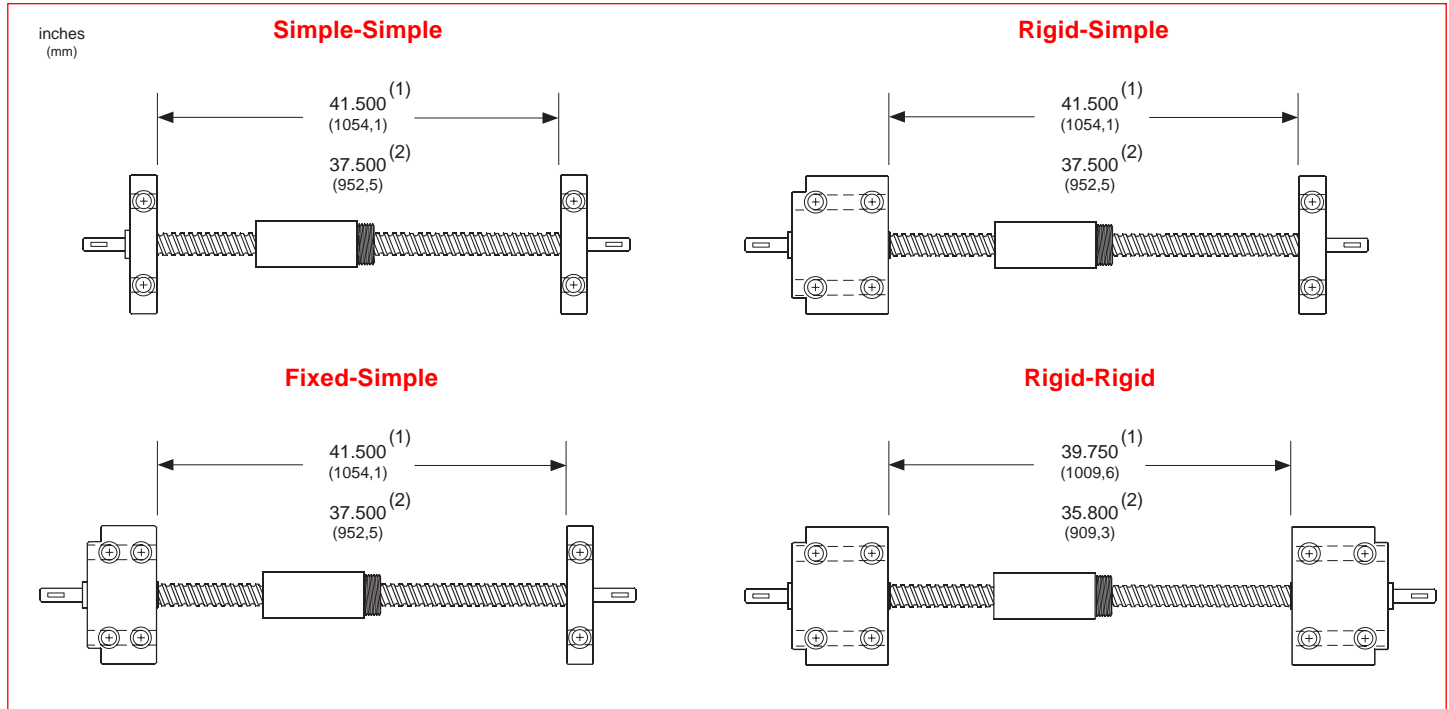
Support Housing Specifications

| Support Housing Life millions of screw revolutions | Support Housing Thrust Load Capacity - (Axial) | | | |
|---|--|----------------|-----------------|-----------------|
| | Simple | Fixed (LT) | Fixed (HT) | Rigid |
| Static | 1,370 (621) | 1,725 (782) | 3,105 (1408) | 3,105 (1408) |
| 1 | 1,370 (621) | 1,725 (782) | 2,875 (1304) | 2,875 (1304) |
| 2 | 1,215 (551) | 1,530 (694) | 2,195 (996) | 2,195 (996) |
| 10 | 710 (322) | 895 (406) | 1,295 (587) | 1,295 (587) |
| 50 | 410 (186) | 525 (238) | 790 (358) | 790 (358) |
| 100 | 330 (150) | 415 (188) | 630 (286) | 630 (286) |
| 500 | 195 (88) | 240 (109) | 365 (166) | 365 (166) |

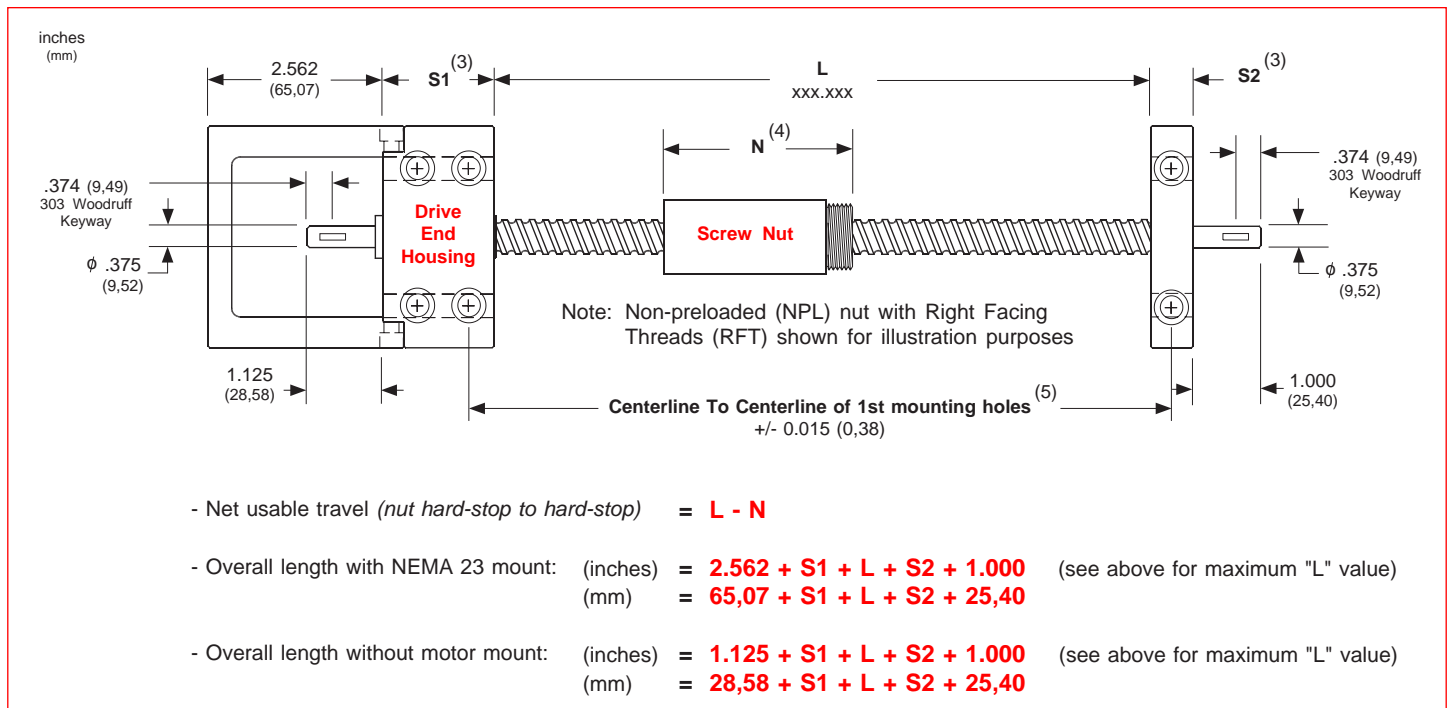


Note: Multiply screw revolutions by the screw lead in order to convert to inches (or mm) traveled by the nut.

Available Configurations



Overall Length Diagram

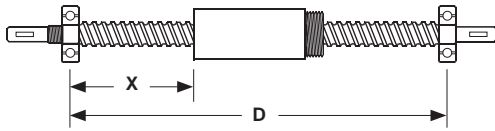


Footnotes:

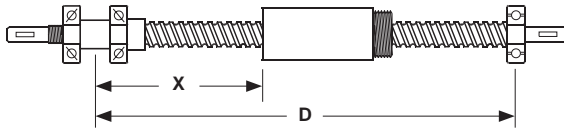
- (1) Maximum available standard screw thread length (GS062020 series) for the bearing support housing configuration shown.
- (2) Maximum available standard screw thread length (GS16M05M & GS16M16M series) for the bearing support housing configuration shown.
- (3) Fixed-simple support configuration shown for reference. See page 85 for length values for simple, fixed, and rigid housings.
- (4) See page 84 for available nut styles. Refer to A1 & A2 values for the nut length.
- (5) Tolerance shown is for base mounted support housings. Tolerance also applies to face mounted support housings.

Performance Charts

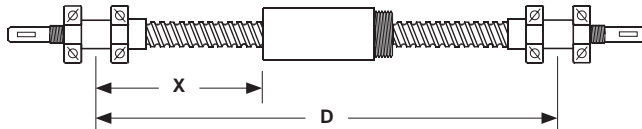
Simple-Simple



Rigid-Simple

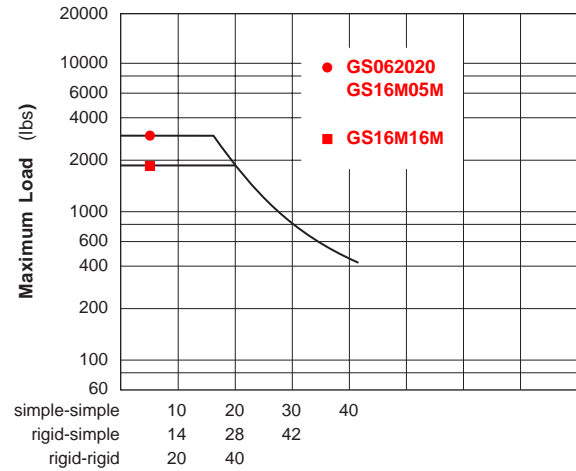


Rigid-Rigid



Maximum Compression Load ⁽¹⁾

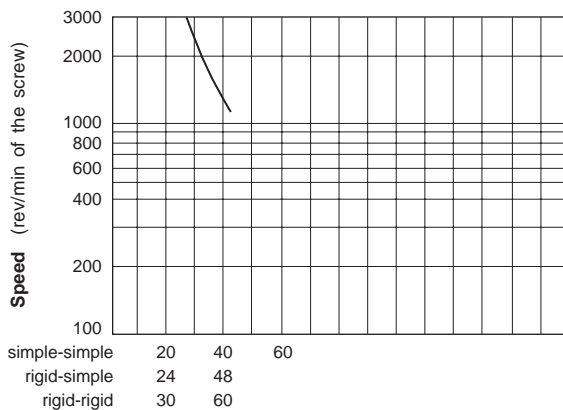
| X | simple-simple | | rigid-simple | | rigid-rigid | | |
|----|---------------|------|--------------|-------|-------------|-------|-------|
| | inches | (mm) | lbs | (kgf) | lbs | (kgf) | lbs |
| 20 | (508) | 1800 | (816) | 1800 | (816) | 1800 | (816) |
| 30 | (1016) | 800 | (363) | 1600 | (726) | 1800 | (816) |
| 40 | (1524) | 450 | (204) | 900 | (408) | 1800 | (816) |



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

Maximum Speed ⁽¹⁾

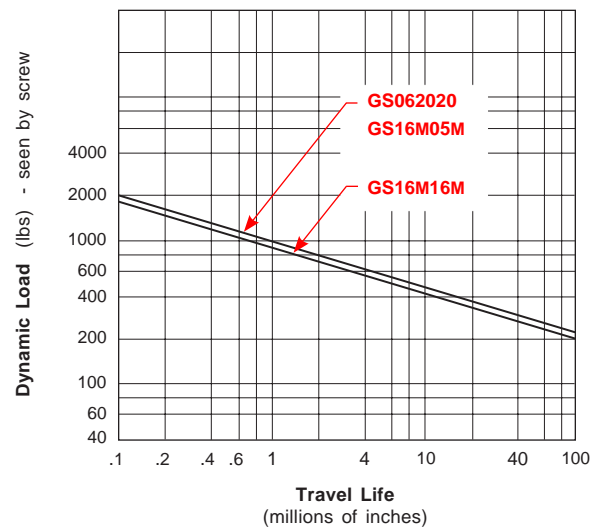
| D | simple-simple | | rigid-simple | | rigid-rigid | |
|----|---------------|------|--------------|------|-------------|------|
| | inches | (mm) | rpm | rpm | rpm | rpm |
| 27 | (686) | 3000 | 3000 | 3000 | 3000 | 3000 |
| 30 | (762) | 2405 | 3000 | 3000 | 3000 | 3000 |
| 35 | (889) | 1765 | 2600 | 3000 | 3000 | 3000 |
| 40 | (1016) | 1350 | 1985 | 3000 | 3000 | 3000 |



Maximum "D" distance between bearing supports (inches)

Screw Travel Life

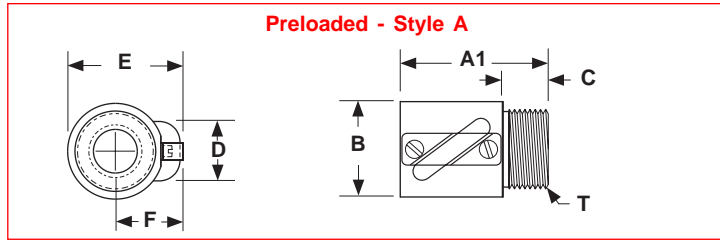
| Life | 062020/16M05M | | 16M16M | | |
|------|--------------------|------|--------|-------|-------|
| | millions of inches | (km) | lbs | (kgf) | lbs |
| 1 | (25) | 987 | (447) | 910 | (412) |
| 2 | (50) | 785 | (356) | 720 | (326) |
| 50 | (1270) | 270 | (122) | 243 | (110) |
| 100 | (2540) | 216 | (97) | 199 | (90) |



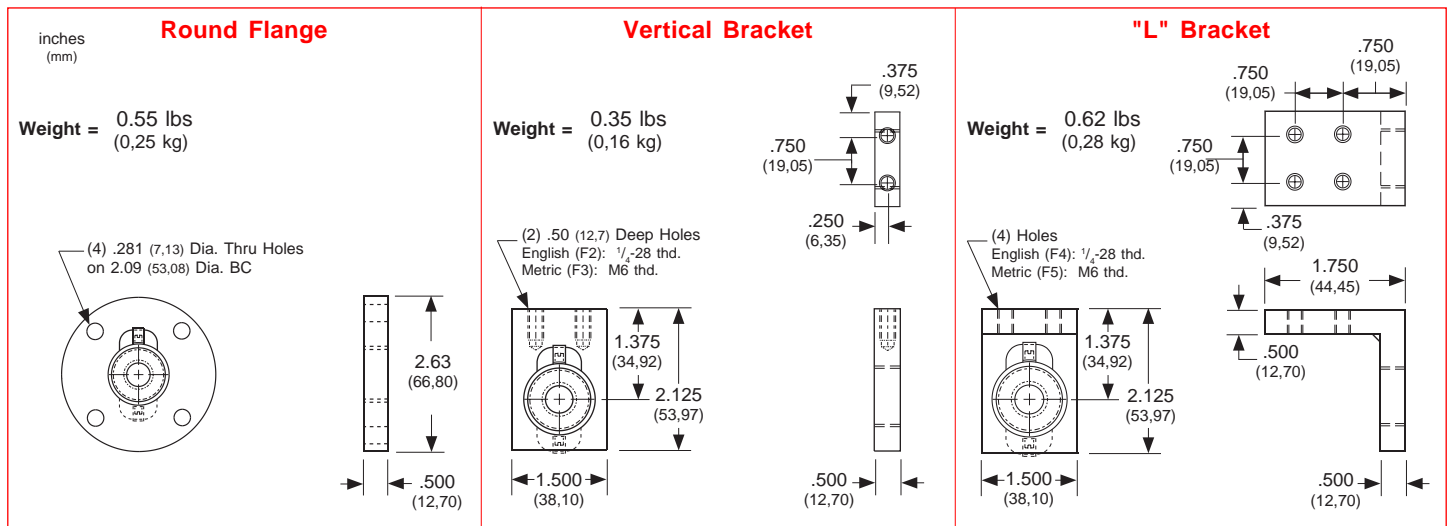
Footnotes:

(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.

Nut Dimensions



Nut Flange Dimensions

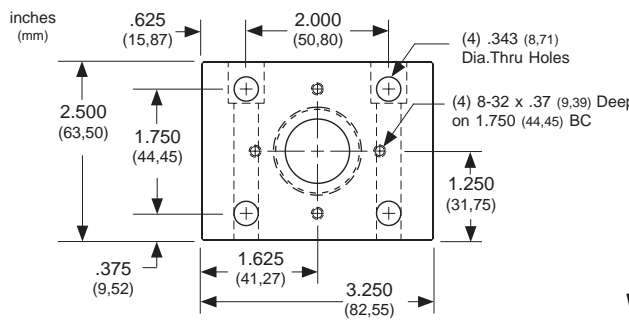


| Model Number | Nut Style | Nut Dimensions inches (mm) | | | | | | | Nut Weight lbs (kg) |
|--------------|-----------|----------------------------------|------------------|------------------|------------------|------------------|------------------|--|---------------------------|
| | | A1 ⁽¹⁾ | B | C | D | E | F | T - "V" Threads ⁽²⁾ | |
| GS062020 | A | 2.090 (53,09) | 1.221 (31,00) | 0.500 (12,70) | 0.847 (21,51) | 1.398 (35,51) | 0.788 (20,02) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 0.24 (0,11) |
| GS16M05M | A | 2.090 (53,09) | 1.221 (31,00) | 0.500 (12,70) | 0.847 (21,51) | 1.398 (35,51) | 0.788 (20,02) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 0.24 (0,11) |
| GS16M16M | A | 1.890 (48,00) | 1.221 (31,00) | 0.500 (12,70) | 0.847 (21,51) | 1.398 (35,51) | 0.788 (20,02) | 15/16 - 16 UN-2A (23,81 - 16 UN-2A) | 0.30 (0,14) |

Footnotes:

- (1) The preload is achieved internal to the nut. Thus, the GS series preloaded nut is matched to the screw thread.
- (2) All flange threads are internal (Type 2B) to match the external nut threads.

Support Housing Dimensions



inches (mm)

.625 (15,87)

2.000 (50,80)

(4) .343 (8,71) Dia.Thru Holes

(4) 8-32 x .37 (9,39) Deep on 1.750 (44,45) BC

2.500 (63,50)

1.750 (44,45)

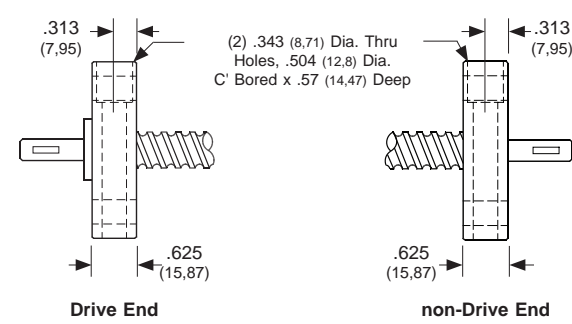
1.250 (31,75)

.375 (9,52)

1.625 (41,27)

3.250 (82,55)

Simple



.313 (7,95)

(2) .343 (8,71) Dia. Thru Holes, .504 (12,8) Dia. C' Bored x .57 (14,47) Deep

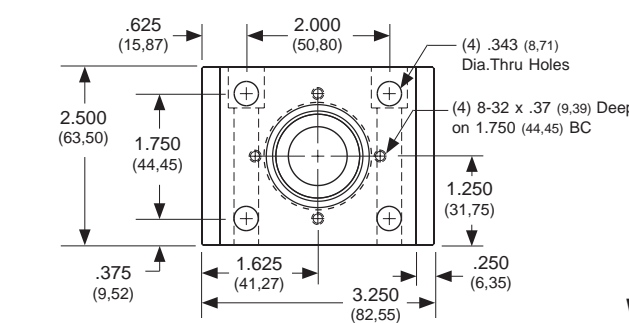
.313 (7,95)

.625 (15,87)

.625 (15,87)

Drive End **non-Drive End**

Weight = 1.1 lbs (0,50 kg)



.625 (15,87)

2.000 (50,80)

(4) .343 (8,71) Dia.Thru Holes

(4) 8-32 x .37 (9,39) Deep on 1.750 (44,45) BC

2.500 (63,50)

1.750 (44,45)

1.250 (31,75)

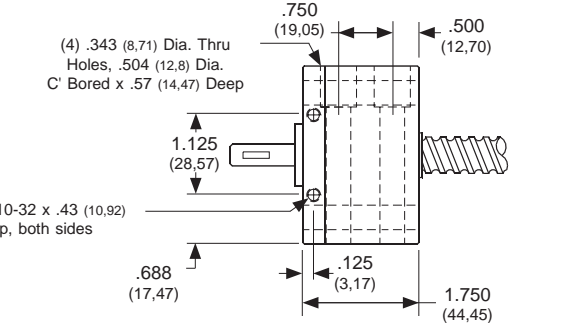
.375 (9,52)

1.625 (41,27)

3.250 (82,55)

.250 (6,35)

Fixed



.750 (19,05)

.500 (12,70)

(4) .343 (8,71) Dia. Thru Holes, .504 (12,8) Dia. C' Bored x .57 (14,47) Deep

1.125 (28,57)

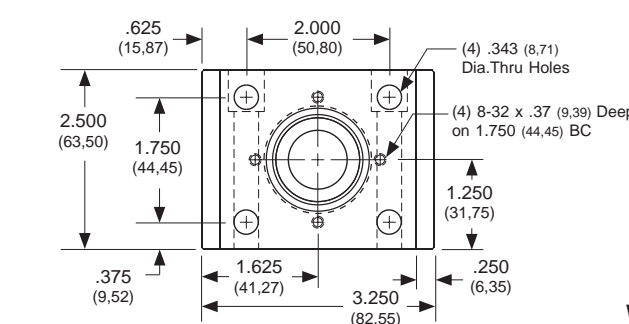
(2) 10-32 x .43 (10,92) Deep, both sides

.688 (17,47)

.125 (3,17)

1.750 (44,45)

Weight = 2.7 lbs (1,22 kg)



.625 (15,87)

2.000 (50,80)

(4) .343 (8,71) Dia.Thru Holes

(4) 8-32 x .37 (9,39) Deep on 1.750 (44,45) BC

2.500 (63,50)

1.750 (44,45)

1.250 (31,75)

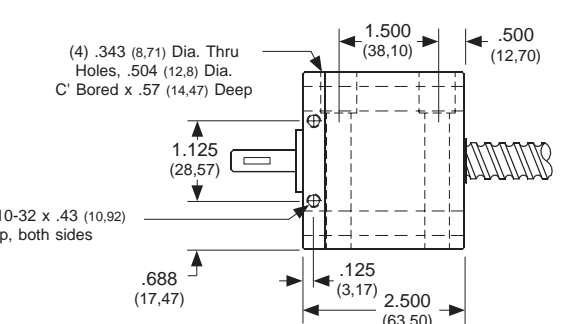
.375 (9,52)

1.625 (41,27)

3.250 (82,55)

.250 (6,35)

Rigid



1.500 (38,10)

.500 (12,70)

(4) .343 (8,71) Dia. Thru Holes, .504 (12,8) Dia. C' Bored x .57 (14,47) Deep

1.125 (28,57)

(2) 10-32 x .43 (10,92) Deep, both sides

.688 (17,47)

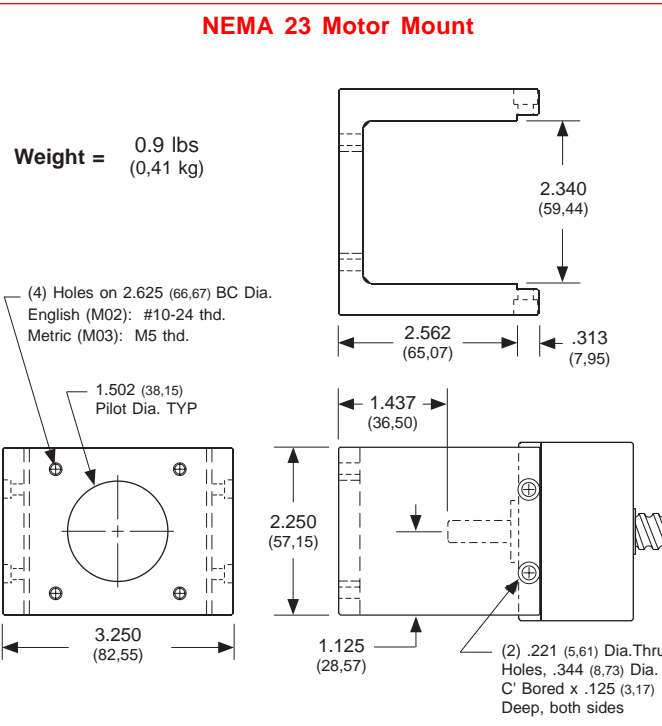
.125 (3,17)

2.500 (63,50)

Weight = 3.9 lbs (1,77 kg)

NEMA 23 Motor Mount

Weight = 0.9 lbs (0,41 kg)



(4) Holes on 2.625 (66,67) BC Dia. English (M02): #10-24 thd. Metric (M03): M5 thd.

1.502 (38,15) Pilot Dia. TYP

2.340 (59,44)

2.562 (65,07)

.313 (7,95)

1.437 (36,50)

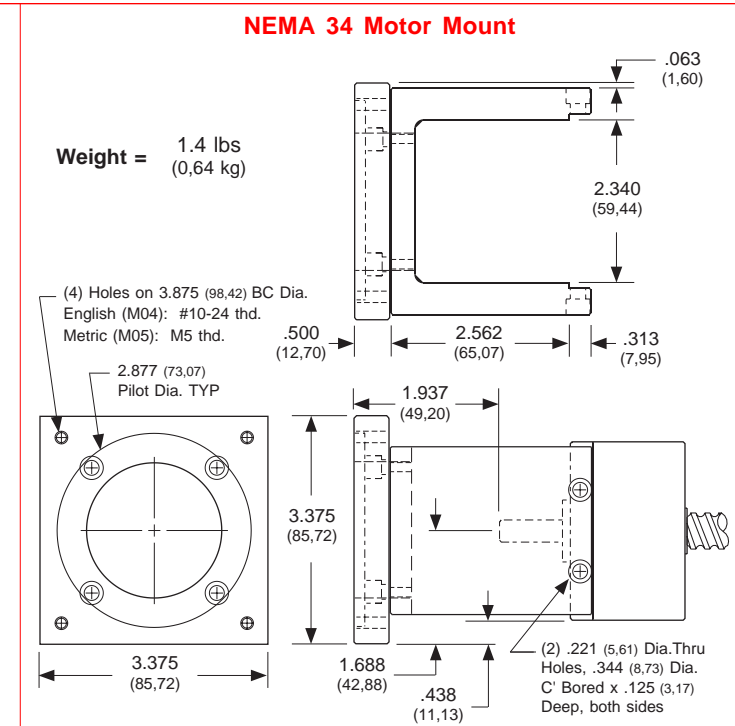
2.250 (57,15)

1.125 (28,57)

(2) .221 (5,61) Dia.Thru Holes, .344 (8,73) Dia. C' Bored x .125 (3,17) Deep, both sides

NEMA 34 Motor Mount

Weight = 1.4 lbs (0,64 kg)



.063 (1,60)

2.340 (59,44)

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

2.877 (73,07) Pilot Dia. TYP

.500 (12,70)

2.562 (65,07)

.313 (7,95)

1.937 (49,20)

3.375 (85,72)

1.688 (42,88)

.438 (11,13)

(2) .221 (5,61) Dia.Thru Holes, .344 (8,73) Dia. C' Bored x .125 (3,17) Deep, both sides

Specifications subject to change without notice