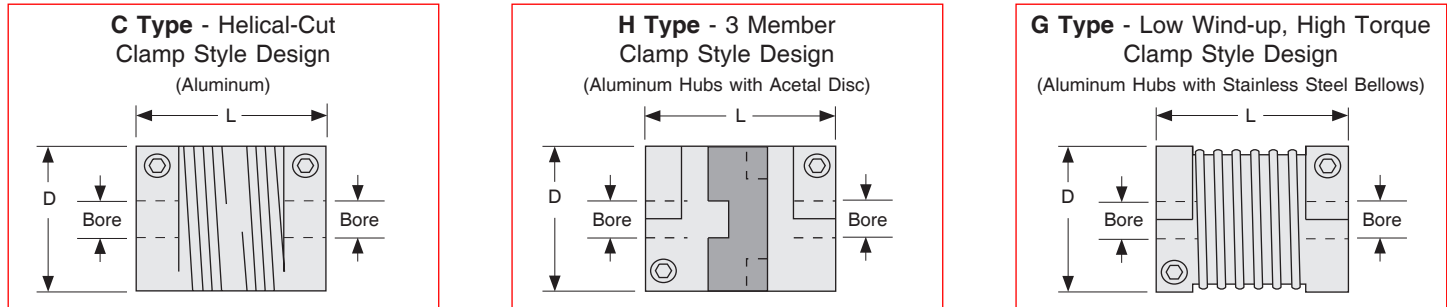


Motor Couplings

LINTECH provides three different types of couplings that can be used to interface a motor to a ball screw assembly. These couplings compensate for some misalignment between the motor shaft & lead screw, or drive shaft extension. This provides for trouble-free operation as long as certain precautions are taken. The connected motor or gearhead output torque should never exceed the coupling maximum torque capacity. Larger capacity couplings may be required for high accelerations, large back driving loads, high torque output motors, servo motors, or gear boxes.



| Model # | D inches (mm) | L inches (mm) | Screw | Bore Diameters | | | | Weight ounces (grams) | Inertia oz-in ² (g-cm ²) | Wind-up arc-sec/oz-in (deg/N-m) | Max Torque oz-in (N-m) |
|-----------------------------------|--|-------------------------------------|------------|----------------|---|--|---|-----------------------------|---|---------------------------------------|------------------------------|
| | | | | Motor | Minimum (in) (mm) | Maximum (in) (mm) | | | | | |
| C100-xxx-aaa | 1.00 (25,4) | 1.50 (38,1) | xxx | aaa | .250 6 | .375 10 | 1.5 (43) | .19 (35) | 23.0 (0,9) | 400 (2,8) | |
| C125-xxx-aaa | 1.25 (31,8) | 2.00 (50,8) | xxx | aaa | .250 6 | .500 14 | 3.5 (99) | .68 (124) | 15.0 (0,59) | 700 (4,9) | |
| C150-xxx-aaa | 1.50 (38,1) | 2.37 (60,2) | xxx | aaa | .375 10 | .625 16 | 5.5 (156) | 1.54 (282) | 13.0 (0,51) | 950 (4,9) | |
| H100-xxx-aaa | 1.00 (25,4) | 1.28 (32,5) | xxx | aaa | .250 6 | .375 10 | 1.2 (34) | .15 (27) | 7.2 (0,28) | 450 (2,8) | |
| H131-xxx-aaa | 1.31 (33,3) | 1.89 (48,0) | xxx | aaa | .250 6 | .625 16 | 2.9 (82) | .62 (114) | 2.5 (0,098) | 1,000 (7,1) | |
| H163-xxx-aaa | 1.63 (41,4) | 2.00 (50,8) | xxx | aaa | .375 10 | .750 20 | 5.4 (153) | 1.79 (328) | 1.2 (0,047) | 2,000 (14,1) | |
| H197-xxx-aaa | 1.97 (50,0) | 2.35 (59,7) | xxx | aaa | .375 10 | .750 20 | 7.6 (215) | 3.69 (674) | 1.1 (0,043) | 3,600 (25,4) | |
| H225-xxx-aaa | 2.25 (57,2) | 3.07 (78,0) | xxx | aaa | .500 12 | 1.000 24 | 13.1 (371) | 8.29 (1516) | 0.6 (0,024) | 5,300 (37,4) | |
| G100-xxx-aaa | 0.99 (25,2) | 1.26 (32,0) | xxx | aaa | .250 6 | .500 12 | 1.3 (36) | .16 (29) | 1.0 (0,39) | 500 (3,5) | |
| G126-xxx-aaa | 1.26 (32,1) | 1.62 (41,0) | xxx | aaa | .250 6 | .625 16 | 2.7 (74) | .54 (99) | 0.3 (0,012) | 1,100 (7,7) | |
| G158-xxx-aaa | 1.58 (40,2) | 1.85 (47,0) | xxx | aaa | .375 10 | .750 20 | 4.3 (120) | 1.34 (245) | 0.2 (0,008) | 2,400 (17,0) | |
| G177-xxx-aaa | 1.77 (45,0) | 2.48 (63,0) | xxx | aaa | .375 10 | .750 20 | 7.1 (200) | 2.78 (508) | 0.2 (0,008) | 4,250 (30,0) | |
| G220-xxx-aaa | 2.20 (56,0) | 2.68 (68,0) | xxx | aaa | .500 12 | 1.000 24 | 10.6 (300) | 6.41 (1172) | 0.04 (0,002) | 7,100 (50,0) | |
| Possible values for aaa | 250 = .250 inch 375 = .375 inch 500 = .500 inch 625 = .625 inch | 750 = .750 inch 999 = 1.000 inch | | | 005 = 5 mm 006 = 6 mm 008 = 8 mm 010 = 10 mm | 012 = 12 mm 014 = 14 mm 016 = 16 mm 018 = 18 mm | 019 = 19 mm 020 = 20 mm 024 = 24 mm | | | | |

Specifications subject to change without notice

Motor Couplings

| Coupling | Cost | Torque Capacity | Wind-up | Suggested Motor | Comments |
|---------------|-----------------|-----------------|-----------|------------------|---|
| C Type | least expensive | light | the most | stepper | ideal for most step motor applications |
| H Type | medium priced | medium | medium | stepper or servo | use for high accels & for starting & stopping large inertia loads |
| G Type | most expensive | high | the least | servo | use for very high torque requirements & very high servo accelerations |

| Specification | | Ball Screw Diameters | | | | | | | | |
|--|-------------|----------------------|---------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|
| | | 0.500 inch | | 0.625 inch & 16 mm | | 0.750 inch & 20 mm | | 1.000 inch | | 1.500 inch |
| | | NEMA 23 Mount | NEMA 34 Mount | NEMA 23 Mount | NEMA 34 Mount | NEMA 23 Mount | NEMA 34 Mount | NEMA 34 Mount | NEMA 42 Mount | NEMA 42 Mount |
| Shaft extension diameter at motor mount end | inches (mm) | .312 (7,92) | | .375 (9,52) | | .500 (12,70) | | .625 (15,87) | | .750 (19,05) |
| Maximum coupling diameter | inches (mm) | 2.00 (50,8) | 2.00 (50,8) | 2.00 (50,8) | 2.00 (50,8) | 2.00 (50,8) | 2.00 (50,8) | 3.20 (50,8) | 2.80 (71,1) | 3.80 (96,5) |
| Maximum coupling length | inches (mm) | 2.10 (53,3) | 2.10 (53,3) | 2.10 (53,3) | 2.10 (53,3) | 2.10 (53,3) | 2.10 (53,3) | 2.60 (66,0) | 3.60 (91,4) | 3.40 (86,4) |

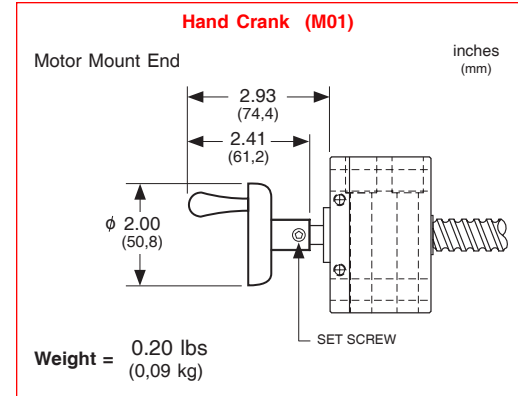
Note: Custom motor mounts available upon request.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| C020 C100-312-250 | C090 C150-500-016 | C171 H131-500-010 | C281 H197-750-375 | C435 G126-375-250 | C492 G158-625-375 |
| C021 C100-312-375 | C091 C150-625-375 | C172 H131-500-012 | C282 H197-750-500 | C436 G126-375-375 | C493 G158-625-500 |
| C022 C100-312-006 | C092 C150-625-500 | C173 H131-500-014 | C283 H197-750-625 | C437 G126-375-500 | C494 G158-625-625 |
| C023 C100-312-008 | C093 C150-625-625 | C174 H131-500-016 | C284 H197-750-750 | C438 G126-375-625 | C495 G158-625-750 |
| C024 C100-312-010 | C094 C150-625-010 | C175 H131-625-375 | C285 H197-750-010 | C439 G126-375-006 | C496 G158-625-010 |
| C025 C100-375-250 | C095 C150-625-012 | C176 H131-625-500 | C286 H197-750-012 | C440 G126-375-008 | C497 G158-625-012 |
| C026 C100-375-375 | C096 C150-625-014 | C177 H131-625-006 | C287 H197-750-014 | C441 G126-375-010 | C498 G158-625-014 |
| C027 C100-375-006 | C097 C150-625-016 | C178 H131-625-008 | C288 H197-750-016 | C442 G126-375-012 | C499 G158-625-016 |
| C028 C100-375-008 | C125 H100-312-250 | C179 H131-625-010 | C289 H197-750-018 | C443 G126-375-014 | C500 G158-625-018 |
| C029 C100-375-010 | C126 H100-312-375 | C180 H131-625-012 | C290 H197-750-019 | C444 G126-375-016 | C501 G158-625-019 |
| C040 C125-312-250 | C127 H100-312-006 | C181 H131-625-014 | C291 H197-750-020 | C445 G126-500-250 | C502 G158-625-020 |
| C041 C125-312-375 | C128 H100-312-008 | C182 H131-625-016 | C337 H225-750-500 | C446 G126-500-375 | C503 G158-750-375 |
| C042 C125-312-500 | C129 H100-312-010 | C201 H163-500-375 | C338 H225-750-625 | C447 G126-500-500 | C504 G158-750-500 |
| C043 C125-312-006 | C130 H100-375-250 | C202 H163-500-500 | C339 H225-750-750 | C448 G126-500-625 | C505 G158-750-625 |
| C044 C125-312-008 | C131 H100-375-375 | C203 H163-500-625 | C340 H225-750-999 | C449 G126-500-006 | C506 G158-750-750 |
| C045 C125-312-010 | C132 H100-375-006 | C204 H163-500-750 | C341 H225-750-012 | C450 G126-500-008 | C507 G158-750-010 |
| C046 C125-312-012 | C133 H100-375-008 | C205 H163-500-010 | C342 H225-750-014 | C451 G126-500-010 | C508 G158-750-012 |
| C047 C125-312-014 | C134 H100-375-010 | C206 H163-500-012 | C343 H225-750-016 | C452 G126-500-012 | C509 G158-750-014 |
| C048 C125-375-250 | C145 H131-312-250 | C207 H163-500-014 | C344 H225-750-018 | C453 G126-500-014 | C510 G158-750-016 |
| C049 C125-375-375 | C146 H131-312-375 | C208 H163-500-016 | C345 H225-750-019 | C454 G126-500-016 | C511 G158-750-018 |
| C050 C125-375-500 | C147 H131-312-500 | C209 H163-500-018 | C346 H225-750-020 | C455 G126-625-375 | C512 G158-750-019 |
| C051 C125-375-006 | C148 H131-312-625 | C210 H163-500-019 | C347 H225-750-024 | C456 G126-625-500 | C513 G158-750-020 |
| C052 C125-375-008 | C149 H131-312-006 | C211 H163-500-020 | C400 G100-312-250 | C457 G126-625-625 | C561 G177-750-375 |
| C053 C125-375-010 | C150 H131-312-008 | C212 H163-625-375 | C401 G100-312-375 | C458 G126-625-008 | C562 G177-750-500 |
| C054 C125-375-012 | C151 H131-312-010 | C213 H163-625-500 | C402 G100-312-500 | C459 G126-625-010 | C563 G177-750-625 |
| C055 C125-375-014 | C152 H131-312-012 | C214 H163-625-625 | C403 G100-312-006 | C460 G126-625-012 | C564 G177-750-750 |
| C056 C125-500-250 | C153 H131-312-014 | C215 H163-625-750 | C404 G100-312-008 | C461 G126-625-014 | C565 G177-750-010 |
| C057 C125-500-375 | C154 H131-312-016 | C216 H163-625-010 | C405 G100-312-010 | C462 G126-625-016 | C566 G177-750-012 |
| C058 C125-500-500 | C155 H131-375-250 | C217 H163-625-012 | C406 G100-312-012 | C481 G158-500-375 | C567 G177-750-014 |
| C059 C125-500-006 | C156 H131-375-375 | C218 H163-625-014 | C407 G100-375-250 | C482 G158-500-500 | C568 G177-750-016 |
| C060 C125-500-008 | C157 H131-375-500 | C219 H163-625-016 | C408 G100-375-375 | C483 G158-500-625 | C569 G177-750-018 |
| C061 C125-500-010 | C158 H131-375-625 | C220 H163-625-018 | C409 G100-375-500 | C484 G158-500-750 | C570 G177-750-019 |
| C062 C125-500-012 | C159 H131-375-006 | C221 H163-625-019 | C410 G100-375-006 | C485 G158-500-010 | C571 G177-750-020 |
| C063 C125-500-014 | C160 H131-375-008 | C222 H163-625-020 | C411 G100-375-008 | C486 G158-500-012 | C617 G220-750-500 |
| C064 C125-625-375 | C161 H131-375-010 | C223 H163-750-375 | C412 G100-375-010 | C487 G158-500-014 | C618 G220-750-625 |
| C065 C125-625-500 | C162 H131-375-012 | C224 H163-750-500 | C413 G100-375-012 | C488 G158-500-016 | C619 G220-750-750 |
| C066 C125-625-010 | C163 H131-375-014 | C225 H163-750-625 | C425 G126-312-250 | C489 G158-500-018 | C620 G220-750-999 |
| C067 C125-625-012 | C164 H131-375-016 | C226 H163-750-750 | C426 G126-312-375 | C490 G158-500-019 | C621 G220-750-012 |
| C068 C125-625-014 | C165 H131-500-250 | C227 H163-750-010 | C427 G126-312-500 | C491 G158-500-020 | C622 G220-750-014 |
| C084 C150-500-375 | C166 H131-500-375 | C228 H163-750-012 | C428 G126-312-625 | C623 G220-750-016 | C624 G220-750-018 |
| C085 C150-500-500 | C167 H131-500-500 | C229 H163-750-014 | C429 G126-312-006 | C625 G220-750-019 | C626 G220-750-020 |
| C086 C150-500-625 | C168 H131-500-625 | C230 H163-750-016 | C430 G126-312-008 | C627 G220-750-024 | |
| C087 C150-500-010 | C169 H131-500-006 | C231 H163-750-018 | C431 G126-312-010 | | |
| C088 C150-500-012 | C170 H131-500-008 | C232 H163-750-019 | C432 G126-312-012 | | |
| C089 C150-500-014 | | C233 H163-750-020 | C433 G126-312-014 | | |
| | | | C434 G126-312-016 | | |

Specifications subject to change without notice

Hand Crank

For manually operated applications, *LINTECH* provides a hand crank option for 0.500 inch, 0.625 inch, 0.750 inch, 16 mm, and 20 mm diameter screws. If ordered, the hand crank would be installed at the drive end (normally where the motor mount would be).



Other Motor Mounts

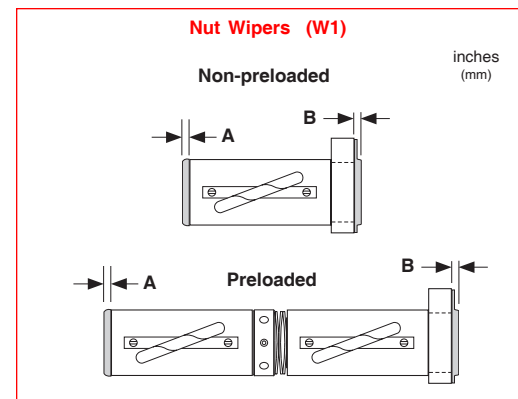
For motor driven applications, *LINTECH* provides NEMA 23, 34 and 42 motor mounts that easily adapt to either a fixed or rigid bearing housing. For non-NEMA motors, *LINTECH* provides custom motor mounts upon request.

Wiper kits

Wiper kits are only available on the ball nut versions of the RS series assemblies. These brush type wiper kits aid in keeping foreign particles from penetrating the ball nut, and help spread lubricant over the screw as the nut travels back & forth. The wiper kit adds the below lengths to a particular ball nut, thus the overall thread length will increase for a set travel length requirement. Also, one of the nut flange types (F1, F2, F3, F4, or F5) is required to hold the wiper kit in place on the ball nut.

| Model Number | A in (mm) | B in (mm) |
|--------------|-----------------|-----------------|
| RS050 | .139 (3,53) | .148 (3,76) |
| RS062 | .139 (3,53) | .148 (3,76) |
| RS075 | .158 (4,01) | .148 (3,76) |

| Model Number | A in (mm) | B in (mm) |
|---|-----------------|-----------------|
| RS100 | .158 (4,01) | .148 (3,76) |
| RS150025 | .158 (4,01) | .148 (3,76) |
| RS150050 RS150100 RS150200 | 0.0 (0,0) | 0.0 (0,0) |



Bellows

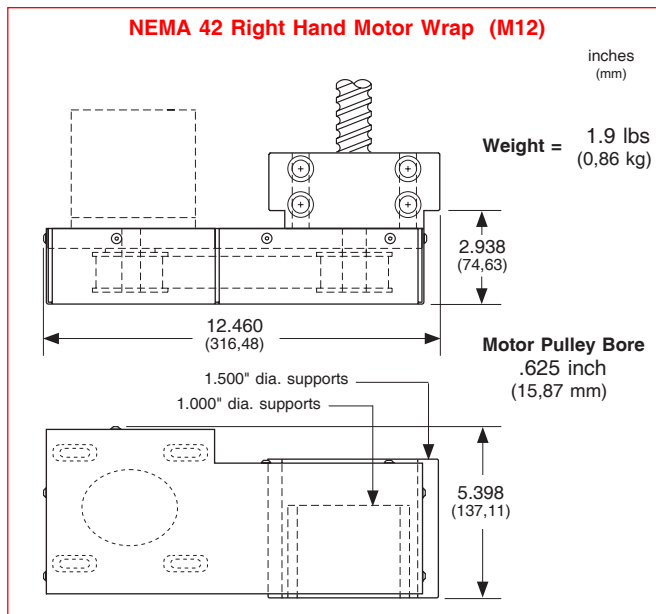
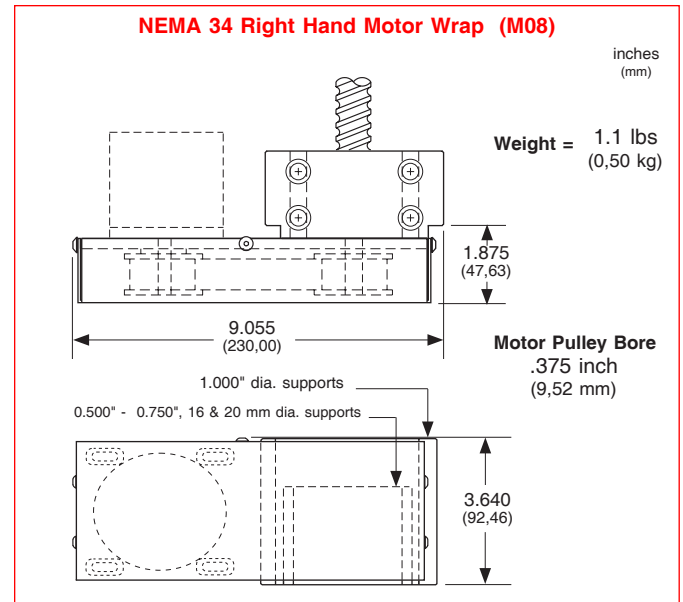
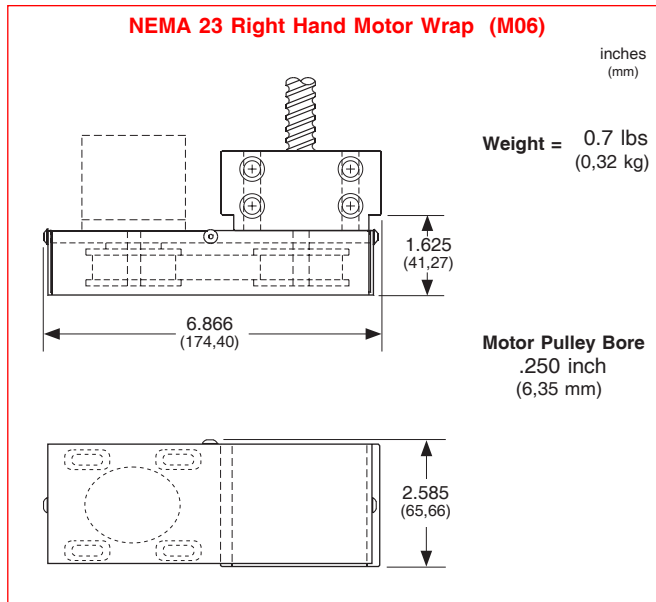
Bellows (covers) are available to protect the ball screw & nut from particulates present in the environment. The bellows are designed as a custom fit over the entire length of the screw. Contact the factory for assistance when bellows are required for an application.

Chrome Plated Screw, Nut, Support Housings, and Flange

For applications in high moisture, high humidity, clean room, or highly corrosive environments, chrome plating of the ball screw, ball nut, supports, and flanges will offer superior resistance to corrosion than stainless steel, resulting in longer life. The process uniformly deposits dense, hard, high Chromium alloy on the screw and nut, and has a case hardness value of Rc 67-72. This process also conforms to MIL spec.: (MIL-C-23422). The chrome plating bonds to the parent material and will not crack, chip or peel under load of the balls on the screw. This chrome plating process differs from a normal chrome plate which just lays on the surface of the plated part.

Motor Wrap Packages

For space limited motor driven applications, a belt and pulley system can couple the ball screw to the motor shaft. This wraps the motor parallel to the ball screw assembly in order to decrease the overall ball screw assembly length. Pulley weights and diameters are given in order to assist in calculating motor torque requirements. This option is available only with the fixed and rigid bearing housings and are shown below in the right hand wrap configurations.



Note: Right hand motor wraps shown. The left hand wrap packages orient the motor to the opposite side of the bearing housing. Motor pulley & belt shipped "loose". No motor mount nuts & bolts are provided. Custom motor wrap packages are available upon request. Other motor pulley bores MUST be specified for non-NEMA motors.

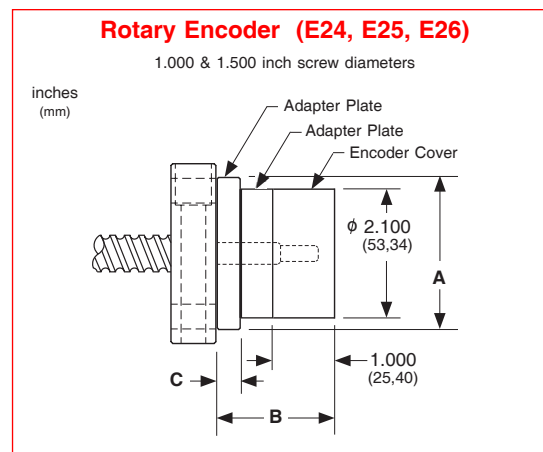
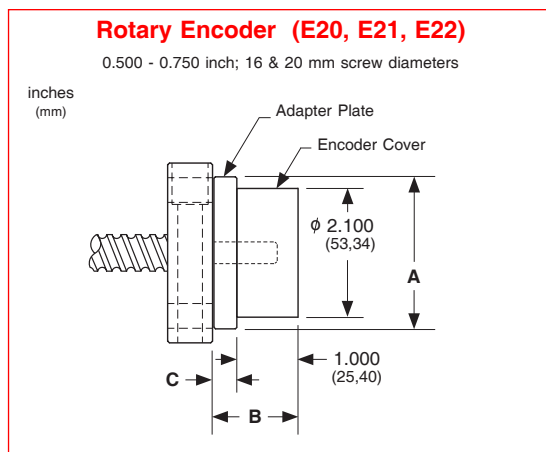
| Motor Wrap Frame Size | Motor Pulley Dia. inches (mm) | Motor Pulley Weight ounces (kgf) | Screw Pulley Dia. inches (mm) | Screw Pulley Weight ounces (kgf) | Belt Weight ounces (kgf) |
|-----------------------|-------------------------------------|--|-------------------------------------|--|--------------------------------|
| NEMA 23 | 1.65 (41,9) | 7.5 (0,21) | 1.65 (41,9) | 7.5 (0,21) | 1.0 (0,028) |
| NEMA 34 | 1.65 (41,9) | 8.0 (0,23) | 1.65 (41,9) | 8.0 (0,23) | 1.2 (0,034) |
| NEMA 42 | 2.12 (53,9) | 19.2 (0,54) | 2.12 (53,9) | 19.2 (0,54) | 3.0 (0,085) |

Specifications subject to change without notice

Rotary Incremental Encoders

Fully enclosed, shaftless, incremental, optical rotary encoders can be mounted to the screw extension located on the support housing opposite the motor mount end. These encoders are mounted to an adapter plate that is mounted to the face of the housing. An incremental encoder is ideal for providing positional feedback to either a motion controller, or a digital position display.

| Specification | ROTARY ENCODERS | | |
|-----------------------------------|---|--------------------|--------------------|
| | E20/E24 | E21/E25 | E22/E26 |
| Line Count | 500 lines/rev | 1000 lines/rev | 1270 lines/rev |
| Pre Quadrature Resolution | 0.002 revs/pulse | 0.001 revs/pulse | 0.00079 revs/pulse |
| Post Quadrature Resolution | 0.0005 revs/pulse | 0.00025 revs/pulse | 0.00019 revs/pulse |
| Maximum Speed | 60 revs/sec | | |
| Maximum Accel | 4 G's | | |
| Excitation Power | + 5 VDC @ 125 ma | | |
| Operating Temperature | 32° F to 230° F (0° C to 100° C) | | |
| Humidity | 20% to 98% non condensing | | |
| Shock | 50 G's for 11 msec duration | | |
| Weight | 4.5 ounces | | |
| Cable Length | 10 ft (3 m), unterminated 26 gauge leads | | |
| Zero Reference Output | Once per revolution | | |
| Outputs | TTL square wave; Two channel (A+ & B+); Differential (A- & B-); Line Driver | | |



| Wire Color | Description |
|-------------|--|
| White | Channel A ⁺ (or A) |
| Blue | Channel A ⁻ (or \bar{A}) |
| Green | Channel B ⁺ (or B) |
| Orange | Channel B ⁻ (or \bar{B}) |
| White/Black | Channel Z ⁺ (or Z) |
| Red/Black | Channel Z ⁻ (or \bar{Z}) |
| Black | Common |
| Red | + 5 vdc (+/- 5%) |

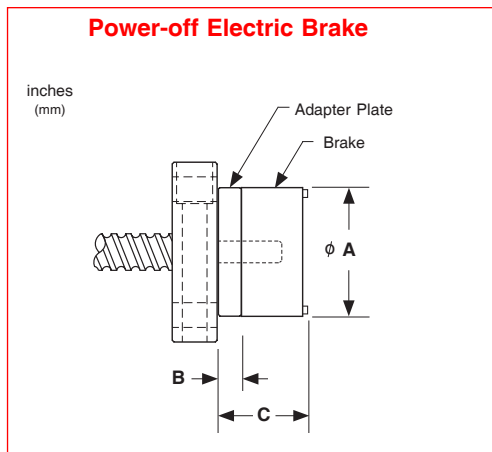
| Screw Diameters | Encoder Version | A in (mm) | B in (mm) | C in (mm) | Weight lbs (kgf) |
|---|-------------------|-------------------|------------------|------------------|------------------------|
| 0.500 to 0.750 inch 16 & 20 mm | E20, E21 & E22 | 2.500 (63,50) | 1.375 (34,92) | 0.375 (9,52) | 1.0 (0,45) |
| 1.000 inch | E24, E25 & E26 | 3.500 (88,90) | 2.200 (55,88) | 0.500 (12,70) | 1.4 (0,63) |
| 1.500 inch | E24, E25 & E26 | 4.250 (107,95) | 2.425 (61,59) | 0.625 (15,87) | 1.6 (0,73) |

Power-off Electric Brakes

For vertical applications, or for those applications requiring the load to be locked securely in place, an electric brake may be mounted to the ball screw assembly. The RS, PS, GS series can have the brake mounted to the screw extension located on the support housing opposite the motor mount end. This power-off friction brake ensures the ball screw is firmly held in place when no electric power is applied. This prevents the ball screw from rotating. When power is applied to the brake, the brake is opened or "released", thus, allowing rotation of the screw. For proper emergency holding of the ball screw, this electric brake needs to be interfaced to a position controller or relay network. *LINTECH* also provides 24 & 90 VDC power supplies which can be used to power the brakes.

| Screw Diameters | Brake Version | Holding Force | Excitation Voltage | Current |
|-----------------------------------|---------------|-----------------|--------------------|---------|
| | | in-lbs (N-m) | volts | amps |
| 0.500 to 0.750 inch 16 & 20 mm | B20 | 18 (2,03) | 24 VDC | 0.733 |
| | B21 | 18 (2,03) | 90 VDC | 0.178 |
| 1.000 inch | B22 | 84 (9,49) | 24 VDC | 0.973 |
| | B23 | 84 (9,49) | 90 VDC | 0.239 |
| 1.500 inch | B24 | 180 (20,3) | 24 VDC | 1.136 |
| | B25 | 180 (20,3) | 90 VDC | 0.287 |

Note: This power-off electric brake MUST NOT be engaged when the ball screw is in motion. Moving the screw with the brake applied could damage the brake and the ball screw assembly. Also, continuous use of this brake to stop the load that is in motion could damage the brake and the ball screw assembly. Dynamic braking of a ball screw assembly should be done by the motor and not the brake.



| Screw Diameters | Brake Version | A in (mm) | B in (mm) | C in (mm) | Weight lbs (kgf) |
|-----------------------------------|---------------|-------------------|------------------|------------------|------------------------|
| 0.500 to 0.750 inch 16 & 20 mm | B20 & B21 | 2.460 (62,48) | 0.375 (9,52) | 2.125 (53,97) | 1.7 (0,77) |
| 1.000 inch | B22 & B23 | 3.520 (89,41) | 0.500 (12,70) | 2.350 (59,69) | 4.1 (1,86) |
| 1.500 inch | B24 & B25 | 4.270 (108,46) | 0.625 (15,87) | 2.650 (67,31) | 5.5 (2,49) |

Power Supplies

| Model Number | DC Output | | | AC Input | | |
|--------------|-----------|------|-------------|-----------|-----------|-------|
| | volts | amps | style | volts | amps | Hz |
| 41970 | 5 | 3.0 | regulated | 120 / 240 | 0.8 / 0.4 | 47-63 |
| 37488 | 24 | 1.2 | regulated | 120 / 240 | 0.8 / 0.4 | 47-63 |
| 37489 | 90 | 0.8 | unregulated | 120 | 1.0 | 50/60 |
| 37490 | 90 | 0.8 | unregulated | 240 | 0.5 | 50/60 |