Model HO_BLT27S Translator

2.75" (CF38) Flanges

The BLT27S has the cantilever brackets (see drawing) bolted to the side of the flange. The advantage here is that the cantilever brackets leave 75% of the circumference of the flange unobstructed. This allows the translator to mount in **very** close quarters without interfering with other, nearby flanges.

The bottom (or fixed) flange of the BLT27S is available with an optional 12-hole pattern for further flexibility. Since the actuator cannot be repositioned relative to the bolt holes, the 12-hole feature allows the user more choices in mounting orientation. Despite its modest price, the BLT27S will provide years of trouble-free service, especially if simple maintenance is performed.

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All Hositrad bellow sealed linear translators lead screws use ball bearings. The lead screws and ball bearings are lubricated with high temperature grease for low friction and long life. All parts are field replaceable, including the bellows. All translators are also available with long strokes, motor drivers (drawing below), linear encoders, tapped flanges and special heights
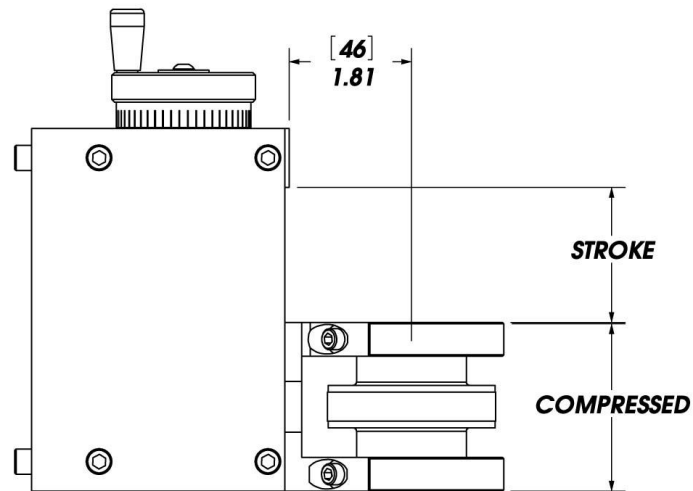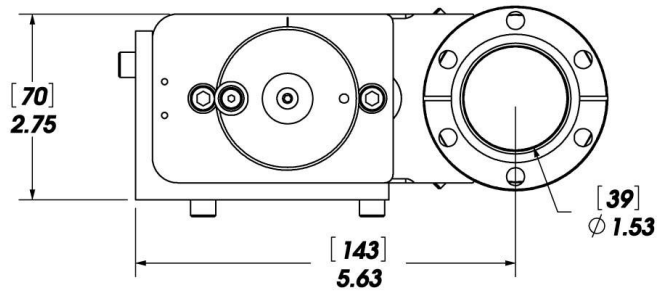
Maintenance:

The BLT27S needs only minimal maintenance. The linear bearings are self-lubricating and the guide rods and jacking screw need only be kept clean and free from dirt, dust and debris. The jacking screw and bearings do, however, need periodic lubrication.

As delivered, the screws are coated with lubricant. This coating will degrade over time, due to moisture in the atmosphere. After each bakeout, lightly relubricate the screws with the (provided) silicone-based molybdenum disulfide grease. Be especially careful not to use a hydrocarbon grease such as Felpro C100^{TM} unless you periodically clean the oxidized residue from all load-bearing surfaces. The normal bakeout temperature is 150°C but higher temperatures can be used, if needed. For bakeouts between 150°C and 210°C, increase the frequency and thoroughness of lubrication.
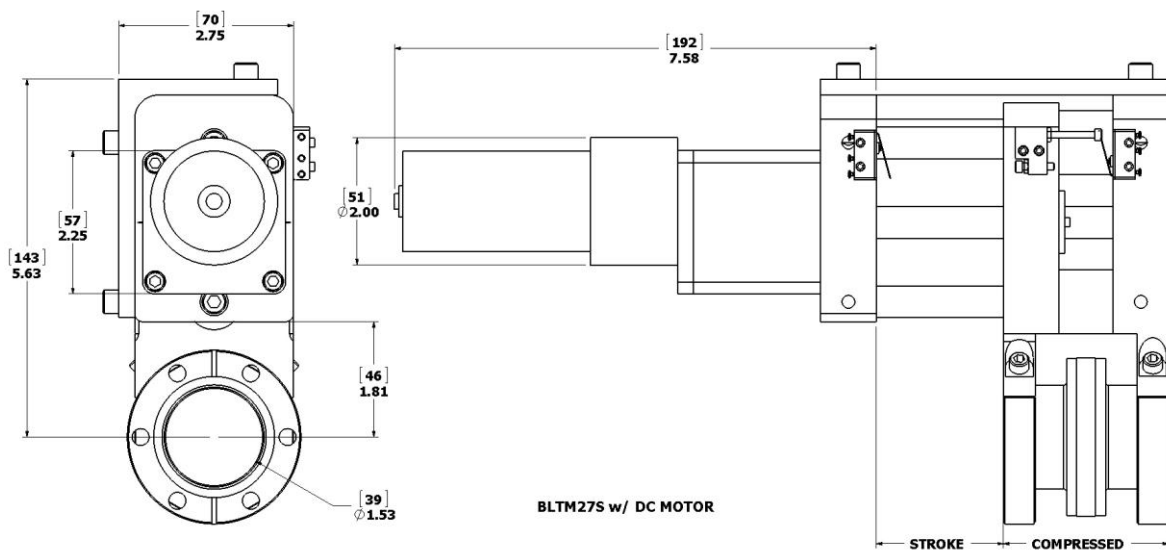
To thoroughly re-lubricate the bearings while the translator is under vacuum,

- First move the translator to its fully extended position.
  Place a spacer between the traveler and lower bracket. (Wood or metal work well.)
- Remove the <u>bearing retainer flange</u> (refer below) on the lower bracket.
- Turn the knob counterclockwise to extract the bearings from the lower bracket.
- Work the factory-supplied grease into the bearing. **Remember:** a little goes a long way!
- Replace the bearing, retainer and screws.
- Remove the spacer.

- Do science.

![Hositrad Vacuum Technology logo]

Drawing

[70] 2.75

[143] 5.63

[39] ⌀ 1.53

[46] 1.81

STROKE

COMPRESSED

Motor

Drivers

[70] 2.75

[192] 7.58

[57] 2.25

[143] 5.63

51 ⌀ 2.00

[46] 1.81

[39] ⌀ 1.53

BLTM27S w/ DC MOTOR

STROKE   COMPRESSED

VACUUM TECHNOLOGY
Hositrad

Model HO_BLT27S Translator Part No List

Model	Stroke	Clear I.D.	Compressed
BLT27S-02*	2" (50)	1.53" (38)	2.6" (66)
BLT27S-03*	3" (75)	1.53" (38)	2.75" (70)
BLT27S-04*	4" (100)	1.53" (38)	2.9 " (74)
BLT27S-06*	6" (150)	1.53" (38)	3.2" (81)
BLT27S-08*	8" (200)	1.53" (38)	3.5" (89)
BLT27S-10*	10" (250)	1.53" (38)	3.8 " (97)
BLT27S-12*	12" (300)	1.53" (38)	4.1" (104)
BLT27S-16*	16" (400)	1.53" (38)	4.7 " (119)
BLT27S-20*	20" (500)	1.53" (38)	5.3 " (135)
BLT27S-24*	24" (600)	1.53" (38)	5.9" (150)

Dimensions are in inches (mm)
*Includes rigid "backbone" and scale (see photo, above)
Options
12-Hole pattern in foot flange
Tapped flange (1/4-28 or M6)
-
DC Motor, limits
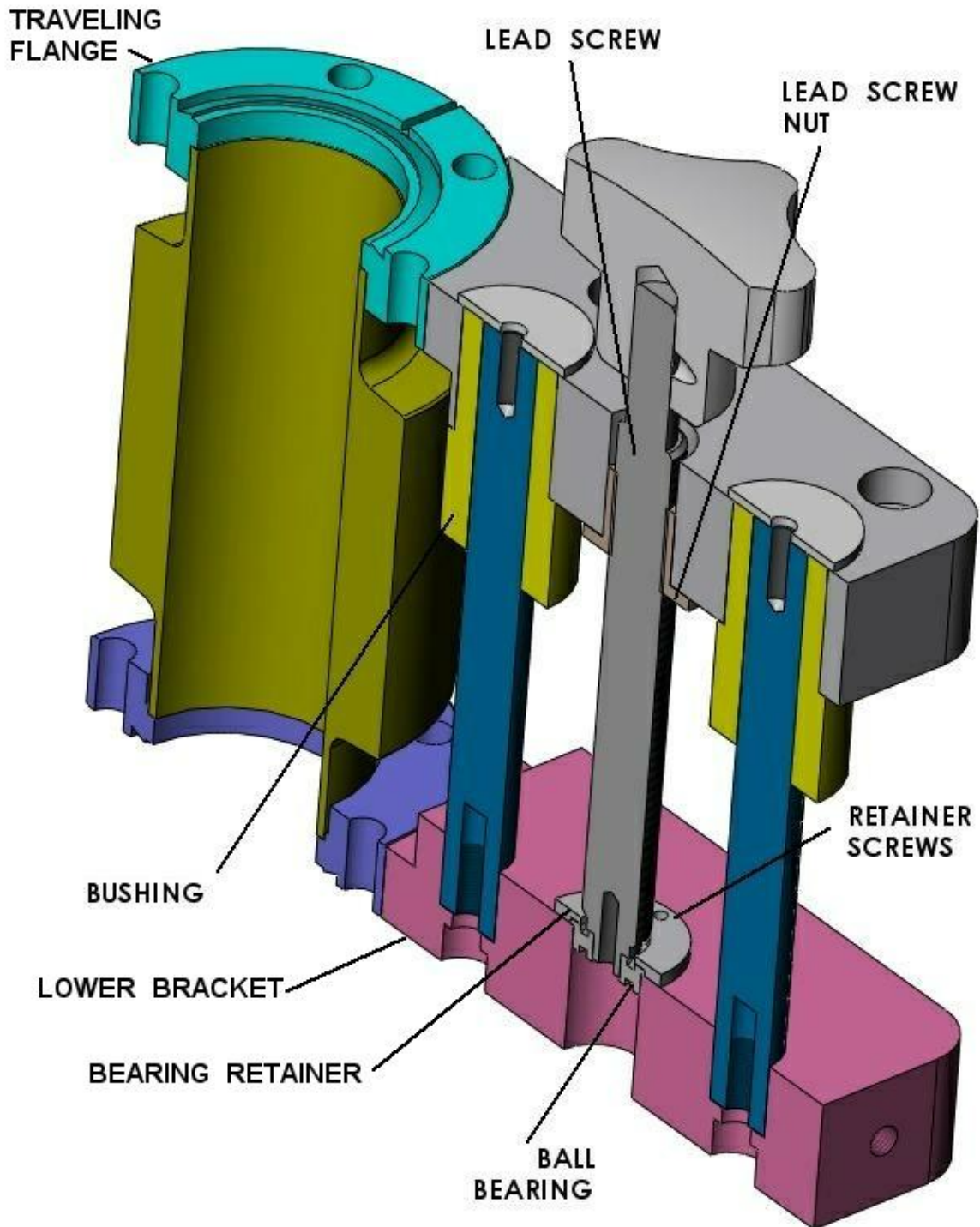DC controller and pendant
-
Stepper motor & limit switches
Stepper motor controller
Additional axes (may be combined - consult factory)

Model HO_BLT27S-12

Maintenance:

TRAVELING FLANGE

LEAD SCREW

LEAD SCREW NUT

BUSHING

LOWER BRACKET

BEARING RETAINER

RETAINER SCREWS

BALL BEARING

Stepper Motors & Controllers

Motion Control

Stepper motors offer a wide variety of control options. Stepper controllers are available with single or multiple axis motion devices. Unlike DC or AC motors which run continuously, stepper motors take a discrete number of steps to complete a revolution. These steps are sufficiently small that it often looks like continuous motion to the casual observer. Software commands issued to a stepper motor cause the motor to move a specified number of steps which is the basis of the motion control.

All MTS stepper controllers include micro-stepping which allows the user to set the motor resolution from as little as 200 steps per revolution, to 400, 800, 1000, 1600, 2000, 3200, 500, 6400, 10,000, 12,800, 20,000, 25,000, 25,600, 40,000, 50,000 and as many as 51,200 per revolution.

If desired, a rotary encoder can be included with the motor, one can be mounted externally on the rotating shaft or a linear encoder can be mounted directly on the traveling member. These are optional and are not included in our standard pricing shown on this web site. Given the number of possible permutations and different user requirements, posting that level of detail is not practical.

Using our software and controller, communication to the PC is via the Terminal function (native in all versions of Windows®) over RS232 / USB. Labview® also supports the Terminal function and sample VIs are available.

The MTS controller is current and voltage-matched to our supplied motors. (If motors from another source are to be used with our controller, contact us with motor specifications to ensure a good match.)

Available in 110 VAC or 220 VAC, 50-60 Hz

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