

Linear Bellows Drive



Linear Bellows Drive with micrometer scale

Bellows-sealed, precise lead-screw driven linear motion solutions for low load applications in ultra-high vacuum. Available in CF16 and CF35 flange sizes with stroke length options from 25mm to 150mm.

Manual or stepper motor actuation options.

LBD KEY ADVANTAGES

- » 316L high-quality bellows
- » 10,000 cycle guarantee
- » Simple to motorise retrospectively
- » High resolution performance: 10 micron manual, 1 micron motorised
- » 25N (5.6 lbf) axial thrust
- » Bakeable to 250°C with motor removed

The Linear Bellows Drives (LBDs) are a range of ultra-high vacuum compatible, bellows-sealed devices that provide smooth and reliable linear motion solutions for low load applications.

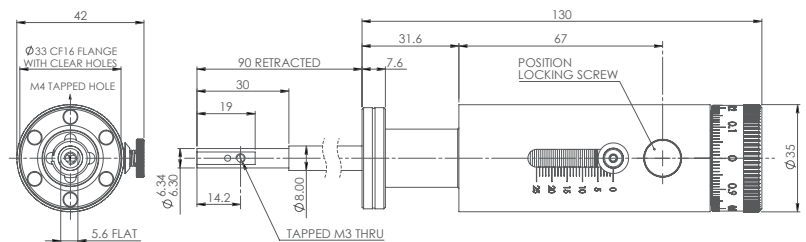
The CF16 flange versions of the LBD are typically available from stock, and are ideal for simple linear motion applications through to precise positioning such as beamline diagnostics.

CF35 flange versions are available at an additional cost.

The LBD is manufactured and assembled to high tolerances using quality materials throughout, including 316L bellows, which offer a guaranteed minimum lifetime of 10,000 cycles.

Example Dimensions (mm)

For comprehensive 2D drawings & 3D models please contact us.



LBD Technical Data

SPECIFICATION	VALUE
System mounting flange size	CF16 (1 1/3" O.D.) with clear holes
System mounting flange size - option	CF38 (2 3/4" O.D.) with clear holes
Available strokes	25, 50, 100 and 150mm
Bakeout temperature	250 °C with motor/ switches/pneumatic cylinder removed
Calibrated Drive resolution	0.01mm
Leadscrew pitch	1mm
Maximum cantilevered load	0.5 Nm
Maximum axial load	25 N
Lateral float of shaft in retracted position	0.3mm max
Stepper motor option with combined gearbox	Nanotec motor type AS4118L1804 wired to M12 connector
Gearbox ratio	4.1667:1
stepper motor - motor wiring	M12 socket (refer to manual)
stepper motor option - switches	Non-bakeable limit and home switches with lemo socket wired to diagram WD-002
Stepper motor maximum linear speed	6 mm/second
Linear resolution per 1/2 step	0.0006mm
Radial run out	0.2mm maximum in the mid stroke of the LBD

For more information:

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