Guided Linear Motion

MPPL Series



Magnetically-coupled Push Pull devices providing linear guided motion solutions for low load applications in high vacuum and ultra-high vacuum provided on CF16 flange as standard with strokes from 50mm to 300mm. Manual, pneumatic and motorised actuation options with additional switches to prevent over-travel and aid system interlocks are available.

MPPL KEY ADVANTAGES

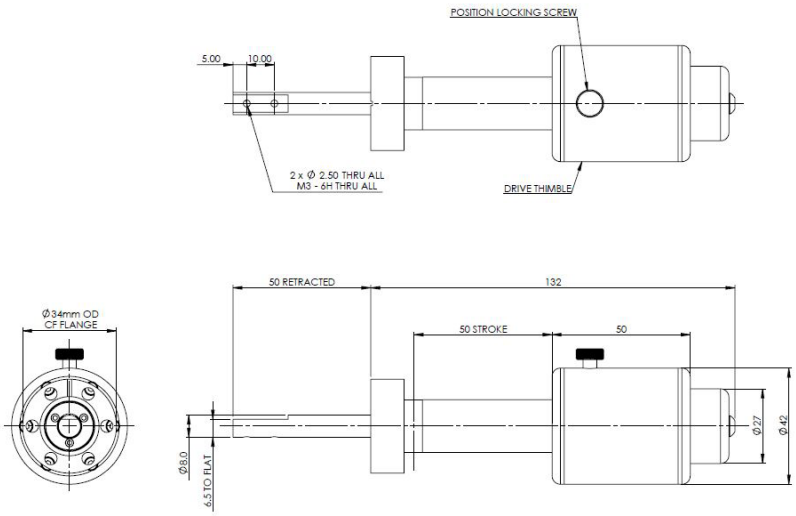
- **Internally-guided linear motion**
- **Guaranteed rotation-free motion**
- **No bellows - smooth operation**
- **No thrust due to vacuum**
- **Over 90 N (20 lbf) linear thrust**
- **Entire unit bakeable to 250°C**

The MPPL provides internally-guided linear motion of the vacuum shaft, guaranteeing rotation-free motion. Furthermore, the high axial thrust coupling produces no torque and so external rotation of the thimble does not apply a rotational force internally, ensuring smooth motion.

The range can be actuated manually, pneumatically or motorised with DC or stepper motors. Additionally, switches can be provided to prevent over-travel and to aid system interlocks.

Example Dimensions (mm)

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



MPPL Technical Data

SPECIFICATION	VALUE
System mounting flange size	FC16 (1 1/3”) with clear holes
System mounting flange size - option	FC38 (2 3/4”) with clear holes
Magnetic rotary breakaway torque	N/A
Magnetic linear breakawy thrust	90 N
Available stroke range	50mm to 300mm
Bakeout temperature	250 °C with motor/ switches/pneumatic cylinder removed
Shaft radial runout	N/A
Maximum cantilevered load	0.5 Nm
Maximum axial load	45 N
Pneumatic option - cylinder bore	20 mm
Pneumatic option - cylinder fitting	6mm tube push fit
Pneumatic option - cylinder switch	5-24V 2 wire reed switch
Pneumatic option - max linear speed	25mm per second
Stepper motor option	17 frame 4 wires 2.3A / phase
stepper motor - motor wiring	lemo socket to diagram 11-1-30
stepper motor option - switches	non bakeable limit and home switches with lemo socket wired to diagram WD-002
Stepper motor maximum linear speed	8 mm/second
Linear resolution per 1/2 step	0.0025 mm
Motor option - leadscrew pitch	1mm
Motor option - linear backlash	0.5mm

For more information:

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