Unguided Linear Motion

MPP Series



Unguided linear motion solutions for low load applications in high/ultra-high vacuum. The vacuum shaft is free to rotate, avoiding possible conflict with an internal chamber mechanism. Available in CF16 and CF35 flanges and six stroke lengths from 50mm to 300mm. Manual, pneumatic and motorised actuation options with additional switches to prevent over-travel.

MPP KEY ADVANTAGES

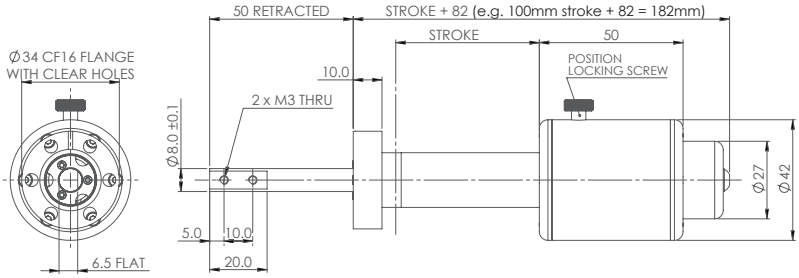
- » **Unguided linear motion of the vacuum shaft**
- » **Vacuum shaft free to rotate**
- » **High power-to-size ratio**
- » **No bellows - smooth operation**
- » **No thrust due to vacuum**
- » **Over 90 N (20 lbf) linear thrust**
- » **Entire unit bakeable to 250°C**

MPPs provide linear motion of an unguided vacuum shaft (free to rotate). This is used to manipulate slides or pivot arms where a guided system may conflict with the mechanism. Please note that although the vacuum shaft is free to rotate, the MPP does not provide rotation.

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.



MPP 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	30mm to 300mm
Bakeout temperature	250 °C with motor/ switches/pneumatic cylinder removed
Shaft radial runout	1mm
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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