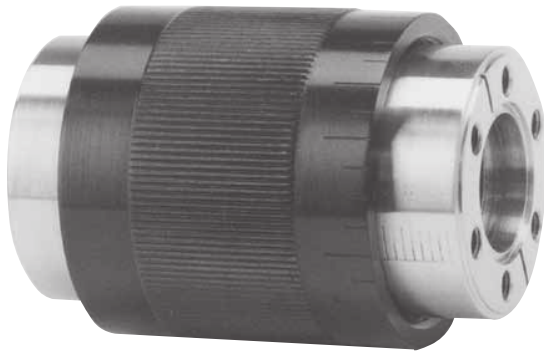


Sample Transfer & Manipulation - Linear Motion Thimbles



SPECIFICATIONS

Construction

Bellows: 0.54 or 1.43 inch ID stainless steel
Flanges: 1¹/₃ or 2³/₄ inch CF, tapped holes
Collar: Anodized aluminum

Motion: Up to 2 inches linear movement,
 360° graduations laser engraved on the collar

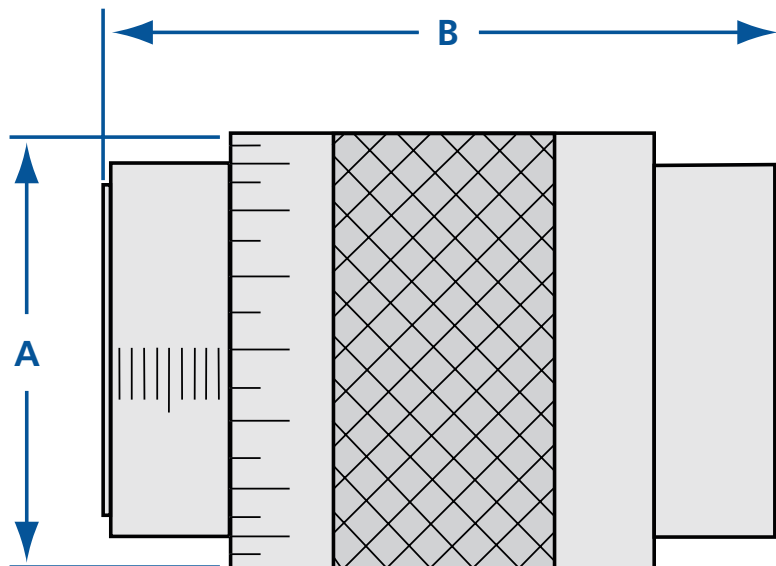
Temperature range: -20°C to 350°C

Vacuum range: ≥ 10⁻¹⁰ Torr - UHV

Linear Motion Thimbles

The compact design and reliable operation of these linear motion thimbles allows precision linear probe positioning to distances up to two inches. Features include a clear bore design with a stainless steel welded bellows. Anodized aluminum collar is threaded to perform linear movement.

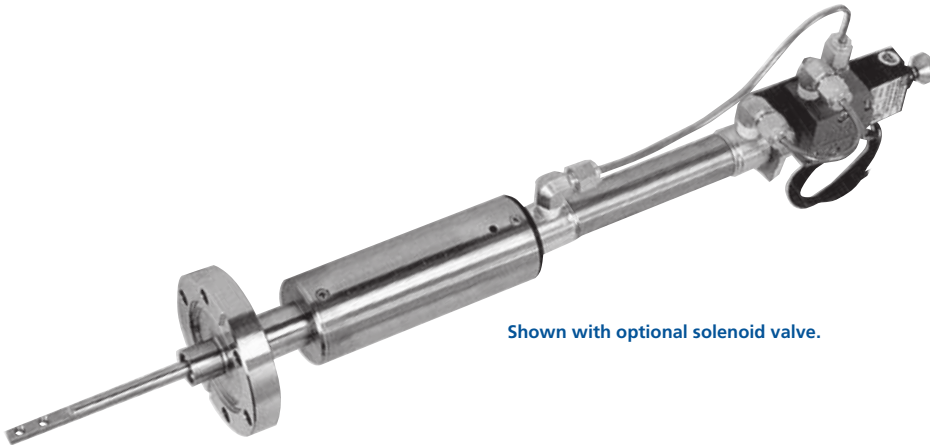
MODEL NUMBER	NOMINAL OD A	MINIMUM - MAXIMUM B	ID
LMT-133	1 ³ / ₄	1.800 - 2.800	0.54
LMT-275	3 ¹ / ₄	3.060 - 5.060	1.43



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Sample Transfer & Manipulation - Pneumatically Actuated Linear Motion Feedthrough



Shown with optional solenoid valve.

SPECIFICATIONS

Construction

Bellocs: Welded stainless steel, sealed
 Mounting flange: 1 1/3 CF, clearance holes
 Linear probe: 1/4 inch OD
 Cylinder: 3/4 inch ID
 Bushing: Macor

Motion

Linear: 2 to 4 inch travel, pneumatically actuated
 Operating air pressure: 50 to 150 psi

Operating orientation: Any

Temperature

Maximum bakeout: 200°C
 Operating: 20°C (ambient)

Vacuum range: $\geq 10^{-10}$ Torr - UHV

Options: 2 3/4 inch OD flange, solenoid

Guarantee: Five years

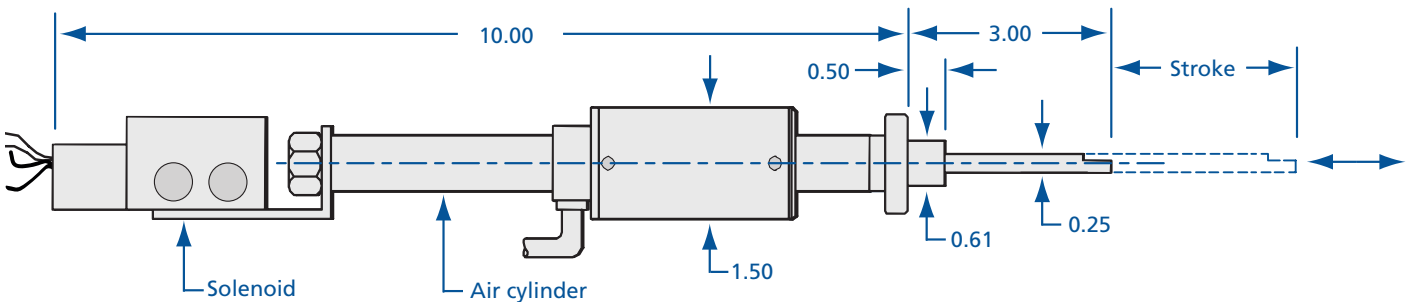
Value, 24VDC or per customer requirements

Pneumatically Actuated Linear Motion Feedthrough

Commonly used as positioning devices for shutters and beam stoppers.

MODEL NUMBER	FLANGE TYPE	SHAFT OD	TRAVEL
ALM-133-2	1.33 CF	0.25	2
ALM-133-4	1.33 CF	0.25	4

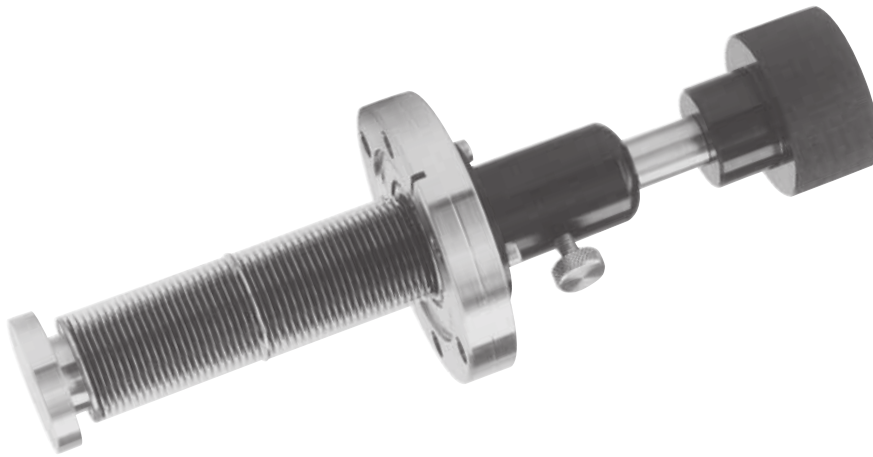
AVC-24 Solenoid



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Sample Transfer & Manipulation - Heavy-Duty Push-Pull Linear Motion Feedthroughs



SPECIFICATIONS

Construction

Bellows: Welded stainless steel, sealed
 Mounting Flange: 2³/₄ CF, clearance holes

Motion: 2, 3 and 4 inch linear travel with

Operating orientation: Any

Temperature range: -20°C to 250°C

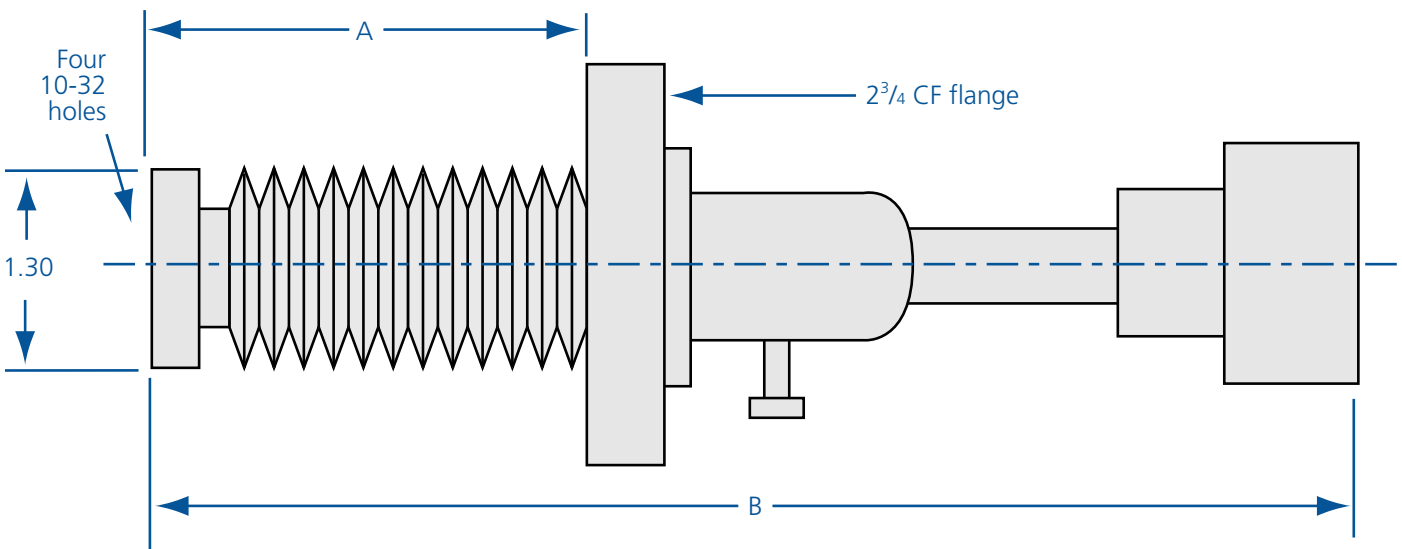
Vacuum range: ≥ 10⁻¹⁰ Torr - UHV

Maximum lateral load: 20 pounds

Heavy-Duty Push-Pull Linear Motion Feedthroughs

Manually operated linear motion positioning device designed for UHV applications.

MODEL NUMBER	FLANGE TYPE	TRAVEL	MINIMUM - MAXIMUM A	B
HLM-275-2	2.75 CF	2	1.1 - 3.1	6.75
HLM-275-3	2.75 CF	3	1.4 - 4.4	8.07
HLM-275-4	2.75 CF	4	1.7 - 5.7	9.38



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Sample Transfer & Manipulation - Linear Vacuum Feedthrough



SPECIFICATIONS

Construction

Bellows: Welded stainless steel, sealed
 Mounting flange: 1¹/₃ or 2³/₄ CF, clearance holes
 Linear shaft: 1/4 inch OD
 Drive: All ball bearing

Motion: 2 or 4 inch linear travel, 20 turns/inch rotary actuation, position indicator

Operating orientation: Any

Temperature

Maximum bakeout: 200°C
 Operating: 20°C (ambient)

Vacuum range: ≥ 10⁻¹⁰Torr - UHV

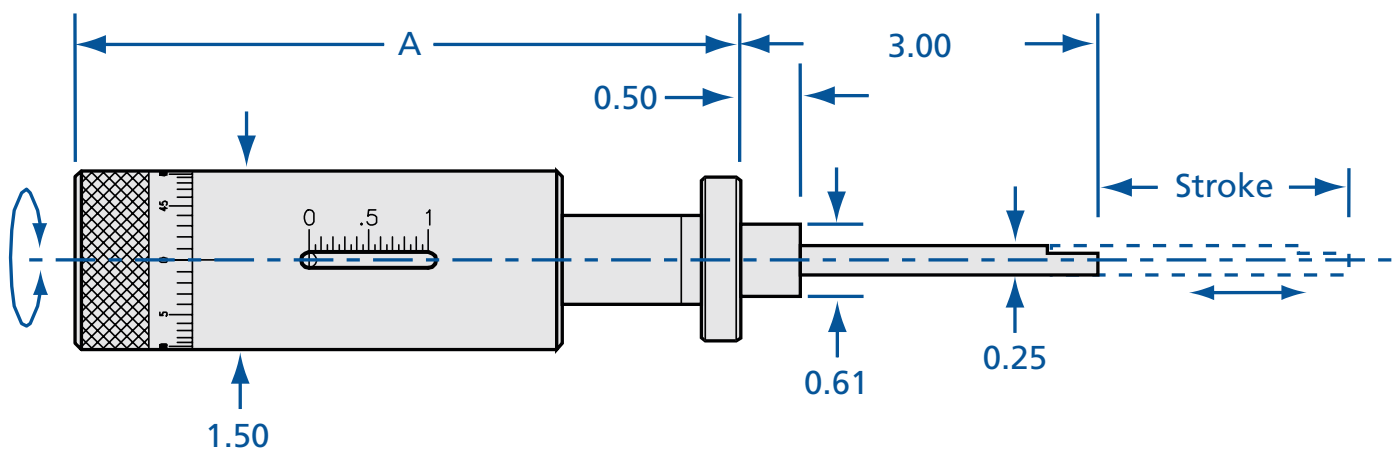
Options: Longer strokes

Guarantee: Five years

Linear Vacuum Feedthrough

Manually operated linear motion positioning device with rotary actuation.

MODEL NUMBER	FLANGE TYPE	LINEAR TRAVEL	SHAFT OD
RLM-133-2	1.33 CF	2	0.25
RLM-133-4	1.33 CF	4	0.25
RLM-275-2	2.75 CF	2	0.25
RLM-275-4	2.75 CF	4	0.25



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Sample Transfer & Manipulation - Magnetic Linear/Rotary Feedthrough



MLR Linear Rotary Feedthroughs are manufactured and protected under the following patent: 5,514,925

SPECIFICATIONS

Construction

Mounting flange: 2³/₄ CF, clearance holes
 Probe: 1/2 inch OD stainless steel tubular probe
 Drive: Removable neodymium iron boron magnet
 Bearings: 8 stainless steel

Motion

Linear: 24 and 36 inch, adjustable stops
 Rotary: 360° continuous rotation, with 0° to 360° indication

Operating orientation: Horizontal

Maximum temperature:

200°C with drive removed

Vacuum range: ≥ 10⁻¹⁰ Torr (UHV)

Linear force: 4 pounds

Torque: 150 ounce-inches

Options: Light-touch magnet (-LT)

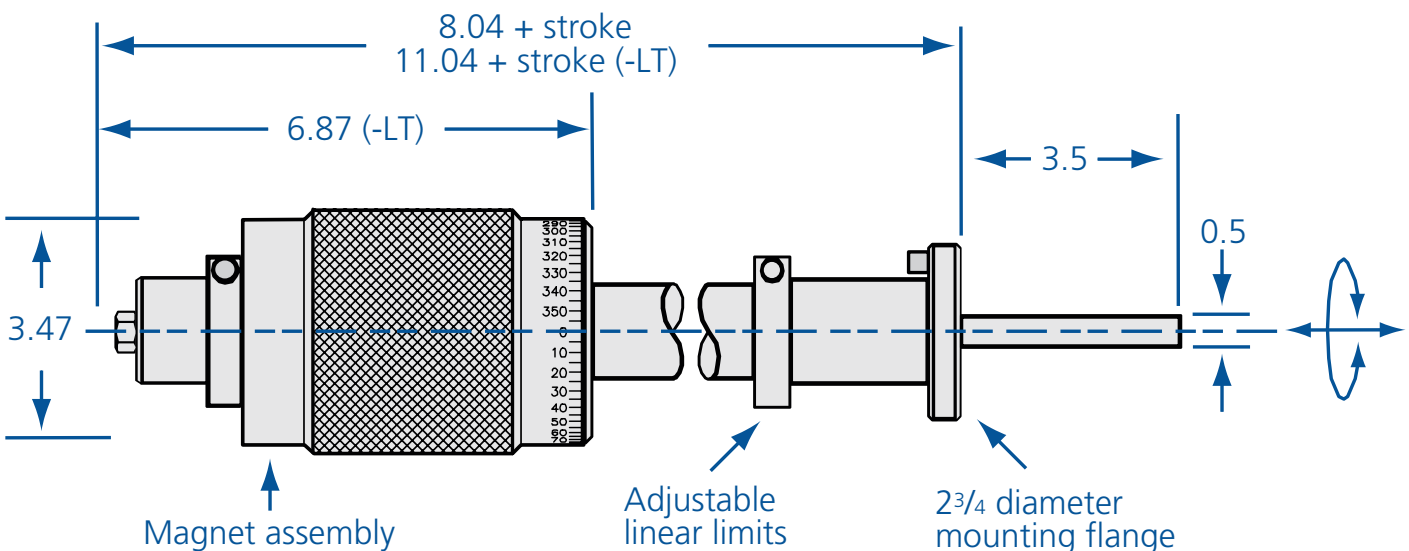
Guarantee: Five years

Magnetic Linear/Rotary Feedthrough

LIGHT-TOUCH MAGNET ASSEMBLY OPTION (-LT)

- Utilizes dynamically loaded full-bearing support to increase tactile feedback
- Heavy-duty linear magnet driver increases linear force to 15 pounds

MODEL NUMBER	DESCRIPTION
MLR-275-050-24	24 inch stroke
MLR-275-050-36	36 inch stroke
-LT	Light-touch magnet assembly option (Add -LT to the model number)



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Sample Transfer & Manipulation - Coaxial Magnetic Linear/Rotary Feedthrough



SPECIFICATIONS

Construction

Mounting flange: 2³/₄ CF, clearance holes
 Linear shaft: 3/₄ inch
 Rotary probe: 1/₄ inch
 Drive: Removable neodymium iron boron magnet
 Bearings: Precision internal guide

Motion

Linear: Up to 48 inch
 Rotary: 360° continuous

Operating orientation: Horizontal

Temperature

Maximum bakeout: 200°C, drive removed
 Operating: 20°C (ambient)

Vacuum range: ≥ 10⁻¹⁰ Torr (UHV)

Linear force: 15 pounds

Torque: 150 ounce-inches

Options: Soft-touch magnet (-ST)

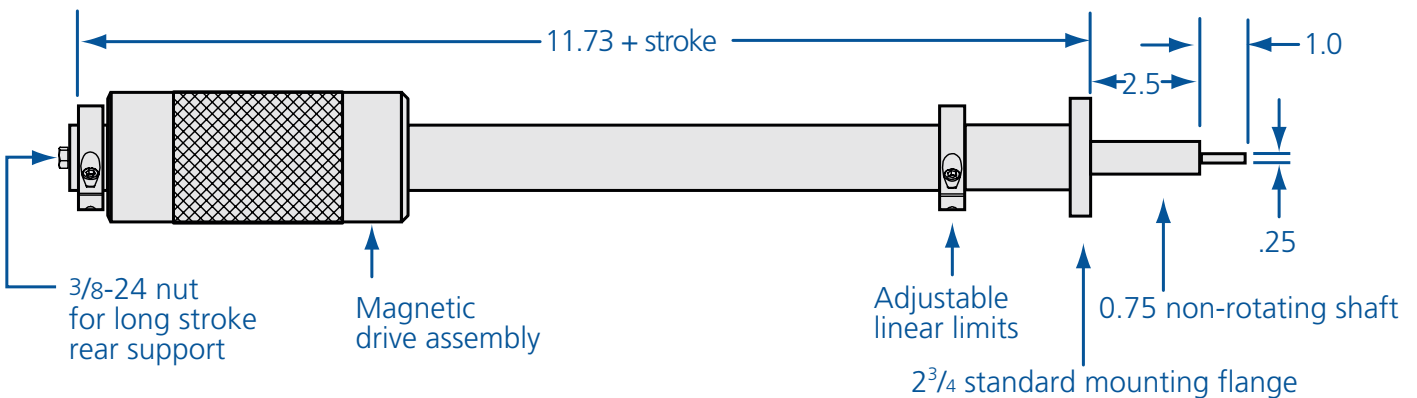
Guarantee: Five years

Coaxial Magnetic Linear/Rotary Feedthrough

SOFT-TOUCH MAGNET ASSEMBLY OPTION (-ST)

Soft touch magnet assembly utilizes dynamically loaded full-bearing support to increase tactile feedback.

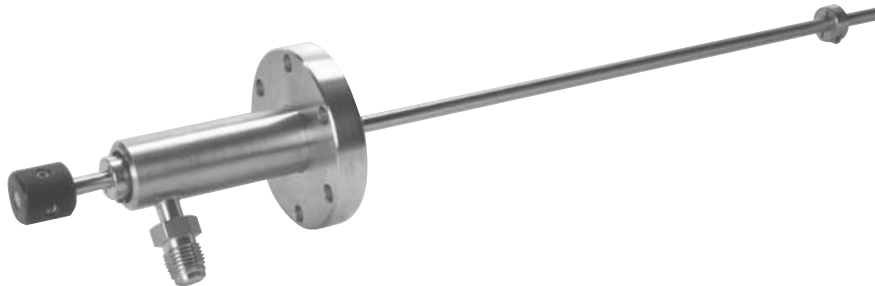
MODEL NUMBER	DESCRIPTION
MLRC-275-36	36 inch stroke
MLRC-275-42	42 inch stroke
MLRC-275-48	48 inch stroke
-ST	Soft-touch magnet assembly option (Add -ST to model number)



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Sample Transfer & Manipulation - Differentially Pumped Linear/Rotary Motion Feedthrough



SPECIFICATIONS

Construction

Feedthrough: stainless steel
Mounting flange: 2³/₄ CF, clearance holes

Probe: 1/4 inch OD
Seal: Differentially pumped Viton O-ring
Body insert: Teflon

Motion

Linear: 24 inch, clamp type stop collar
Rotary: 360° continuous rotation

Operating orientation: Any

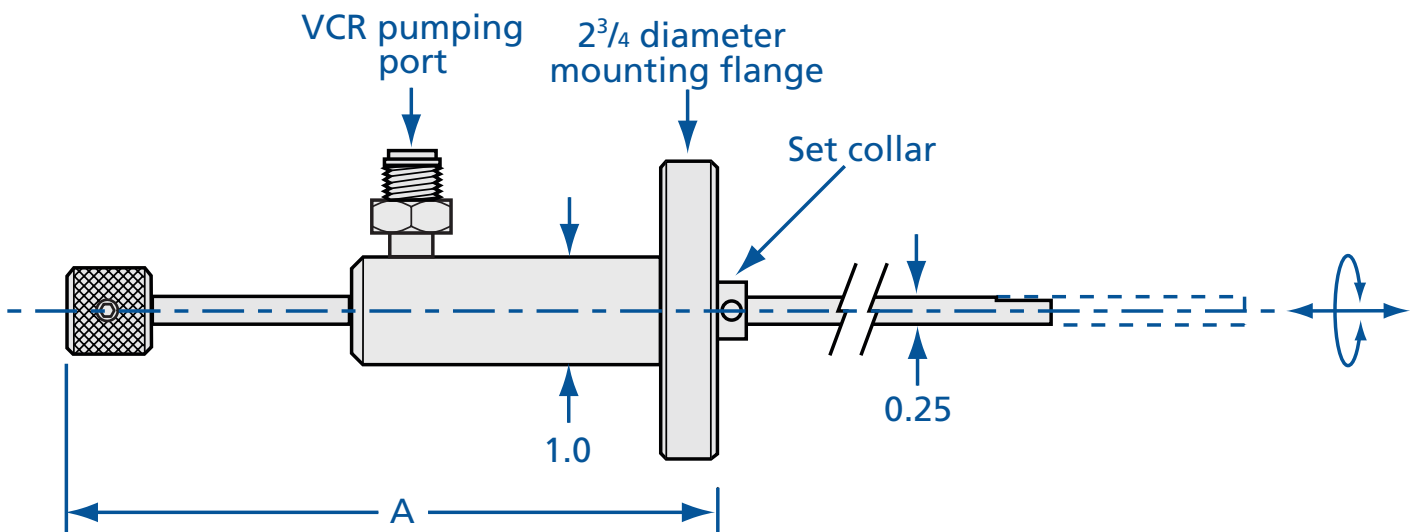
Temperature range: -20°C to 150°C

Vacuum range: ≥ 10⁻⁵Torr - Medium vacuum

Guarantee: Five years

Differentially Pumped Linear/Rotary Motion Feedthrough

MODEL NUMBER	SEAL	DESCRIPTION	MAXIMUM A
OLR-275-10	Viton	Manually operated, for medium vacuum applications	15.20



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Sample Transfer & Manipulation - Precision Linear/Rotary Motion Feedthrough



SPECIFICATIONS

Construction

Mounting flange: 2³/₄ CF, clearance holes
 Linear probe: 1/8 inch OD
 Rotary tube: 3/8 inch OD, 9 inch length
 Bearings: Precision internal guide

Motion

Linear: 1/2 inch, micrometer adjusted
 Rotary: 360° continuous, 0.1° resolution
 in 1.0° graduations with position lock

Operating orientation: Any

Temperature

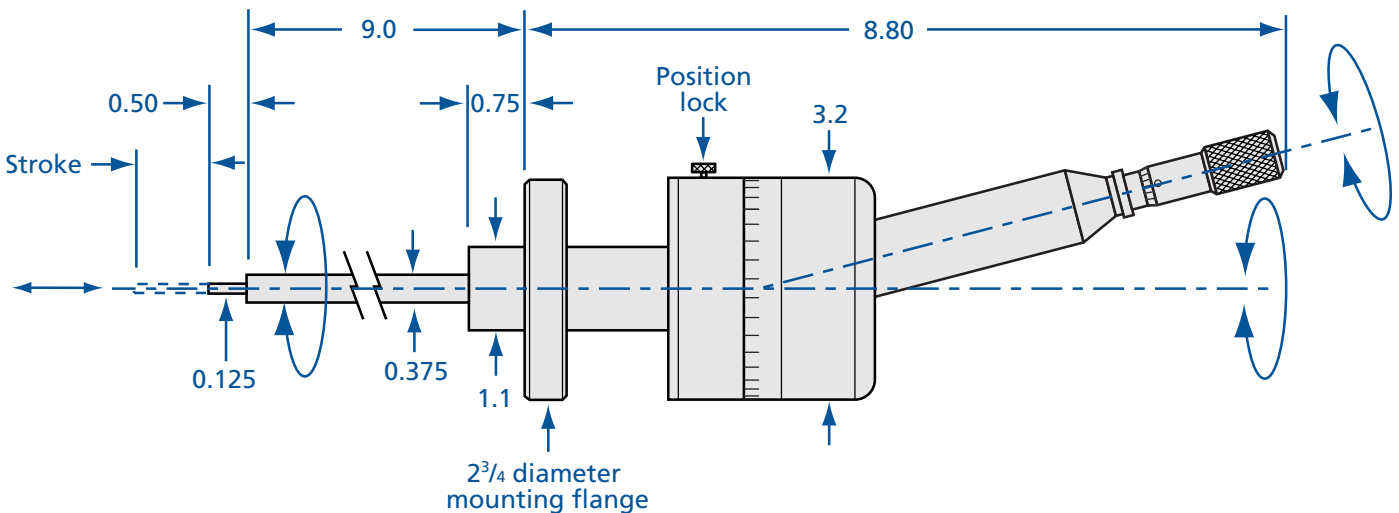
Maximum bakeout: 200°C
 Operating: 20°C (ambient)

Vacuum range: ≥ 10⁻⁸Torr - UHV

Guarantee: Five years

Precision Linear/Rotary Motion Feedthrough

MODEL NUMBER	DESCRIPTION	STROKE
PLR-275-050	Stand-alone device or used when coupled with a gearbox to control polar and azimuthal rotation of a sample	1/2



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