

# Piezo Rotation Stage | PR-50

The PR-50 is a compact piezo rotation stage with unlimited travel and a 1 inch aperture. Two pre-loaded steel ball bearings ensure smooth motion and high stability. It utilizes our patented multi-phase piezo motor resulting in high speed (20 °/s) and high blocking torque. The PR-50 can be combined with the linear PPX-50, PPS-60, or VT-50 stages without an adapter bracket. Versions capable of operation in vacuum (10<sup>-9</sup> mbar) are available. The PR-50 is compatible with the MMC-100 and MMC-110 controllers.

## KEY FEATURES

- Continuous 360° motion
- 10 μ° closed loop encoder resolution
- Load capacity up to 3 kg
- 1" aperture
- Mutually pre-loaded ball bearings
- Low profile, 20 mm height
- Vacuum versions available
- Available with closed carriage

## TECHNICAL DATA

<b>Travel range [°]</b>	360, limitless		
<b>Flatness (bearings) [μm]</b>	± 10		
<b>Eccentricity (bearings) [μm]</b>	± 10		
<b>Wobble [μrad]</b>	± 300		
<b>Weight [g], Open Loop</b>	100		
<b>Weight [g], Closed Loop</b>	135		
<b>Motor option</b>	Piezo Motor		
<b>Speed, max [°/s]</b>	>5 (MMC-100), 20 (MMC-110)		
<b>Encoder option</b>	None (open loop)	Analog (1 V <sub>pp</sub> )	Digital (RS-422)
<b>Resolution, typical [μ°]</b>	1	50	10
<b>Repeatability, bi-directional [μ°]</b>	n/a	± 200	± 200
<b>Repeatability, uni-directional [μ°]</b>	n/a	200	200
<b>Materials</b>	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

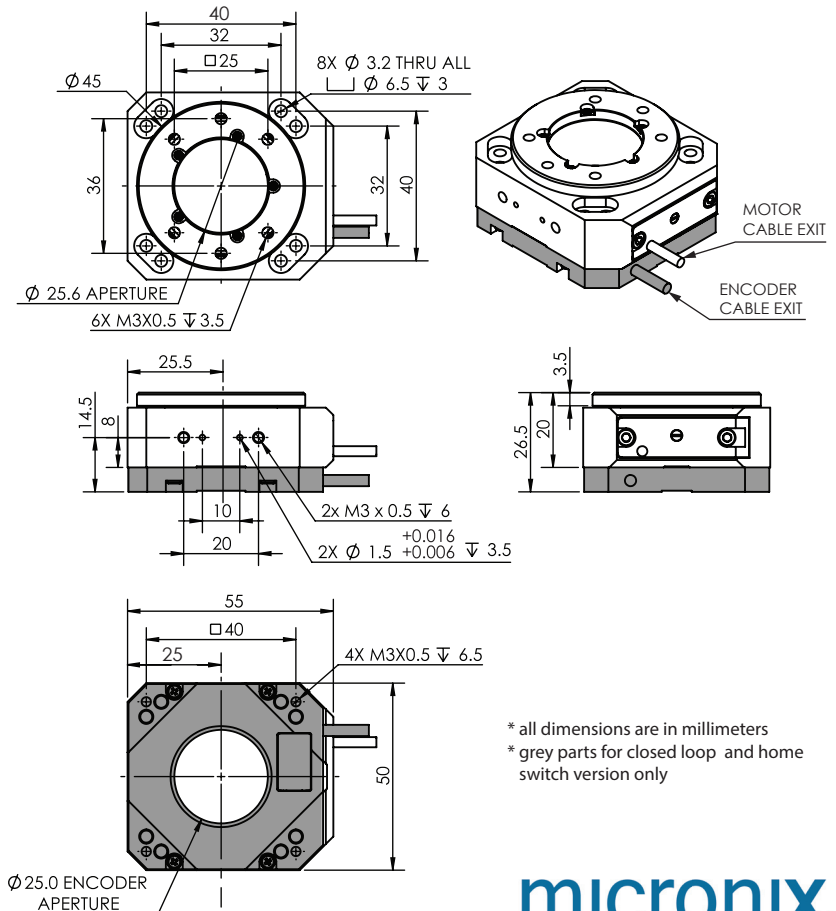
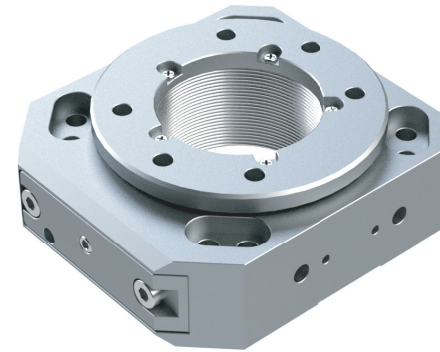
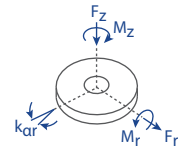
## ORDERING INFORMATION

PR-50- 1 1

<b>DRIVE</b>	Piezo Motor, PM-003R .....	1
<b>TRAVEL</b>	360° .....	1
<b>ENCODER</b>	None .....	0
	Analog (1 V <sub>pp</sub> ) .....	2
	Digital (RS-422) .....	3
<b>HOME SWITCH</b>	None .....	0
	Magnetic <sup>†</sup> .....	1
<b>ENVIRONMENT</b>	Atmospheric .....	0
	High Vacuum, 10 <sup>-9</sup> mbar .....	6
	Ultra High Vacuum, 10 <sup>-9</sup> mbar .....	9

<sup>†</sup> Only available in open loop

Load, max	F <sub>r</sub> [N]	F <sub>z</sub> [N]	M <sub>r</sub> [N-m]	M <sub>z</sub> [N-m]	k <sub>air</sub> [μrad/N-m]
PM-003R	20	30	5	0.05	150



\* all dimensions are in millimeters  
\* grey parts for closed loop and home switch version only

Specifications are subject to change without notice.