

# Piezo Rotation Stage | PR-50

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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 (> 25 %/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 ( $10^{-9}$  mbar) are available. The PR-50 is compatible with the MMC-100 and MMC-110 controllers.

## KEY FEATURES

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

## TECHNICAL DATA

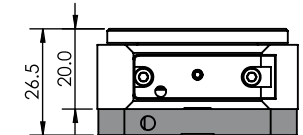
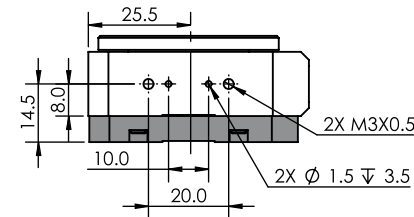
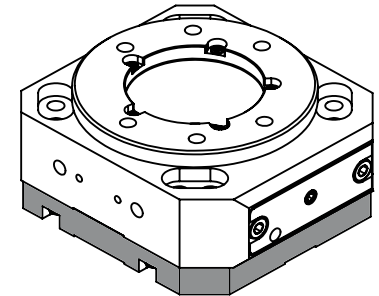
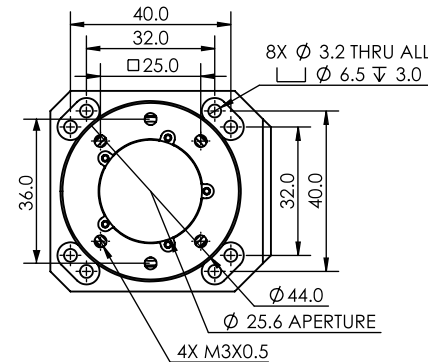
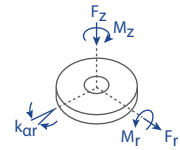
Travel range [°]	360°, limitless		
Flatness (bearings) [μm]	± 3		
Eccentricity (bearings) [μm]	± 3		
Wobble [μrad]	± 100		
Weight [g]	135		
Motor option	Piezo Motor		
Speed, max [°/s]	15 (MMC-103), 25 (MMC-110)		
Encoder option	None (open loop)	Analog (1 V <sub>pp</sub> )	Digital (RS-422)
Resolution, typical [μ°]	1	50	10
Repeatability, bi-directional [μ°]	n/a	± 200	± 200
Repeatability, uni-directional [μ°]	n/a	200	200
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

## ORDERING INFORMATION

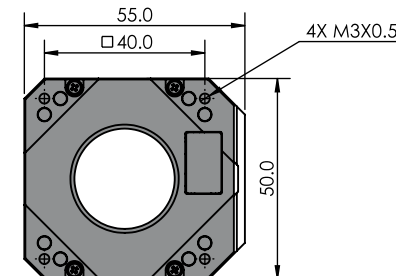
		PR-50-	1	1				
DRIVE	Piezo Motor, PM-003R	1						
	360°	1						
	Encoder	None	0					
	Analog (1 V <sub>pp</sub> )	2						
	Digital (RS-422)	3						
HOME SWITCH	None	0						
	Magnetic	1						
ENVIRONMENT	Atmospheric	0						
	High Vacuum, 10 <sup>-6</sup> mbar	6						
	Ultra High Vacuum, 10 <sup>-9</sup> mbar	9						

† 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>ar</sub> [μrad/N-m]
PM-003R	20	30	5	0.1	150



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



Specifications are subject to change without notice.