

Precision Gonio Stage | PG-50PM

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The PG-50 gonio stage compact design excels in space limited applications. High stiffness and smooth motion is achieved through pre-loaded crossed-roller bearings. These stages may be mounted in an orthogonal, space-saving arrangement to achieve pitch and roll adjustment. Versions capable of operation in vacuum (10^{-9} mbar) are available. The PG-50 is compatible with the MMC-100 and MMC-110 controllers. Additional center radii available. Refer to page 2 for stacking configurations and common center of rotation.

KEY FEATURES

- Smooth, continuous $\pm 5^\circ$ motion
- $10 \mu^\circ$ closed loop encoder resolution
- Load capacity up to 1 kg
- Steel crossed roller bearings
- Low profile, 16 mm height
- Vacuum versions available
- Other center radii available (70 mm and 103 mm)

TECHNICAL DATA

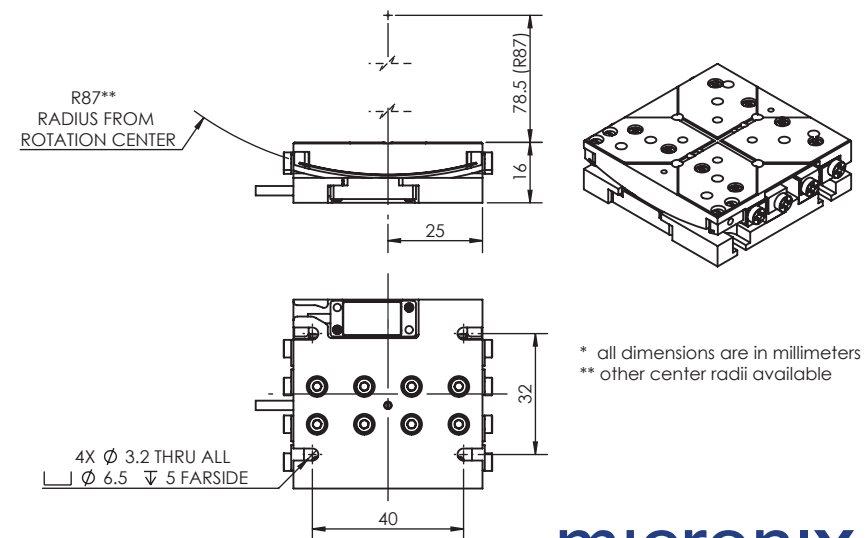
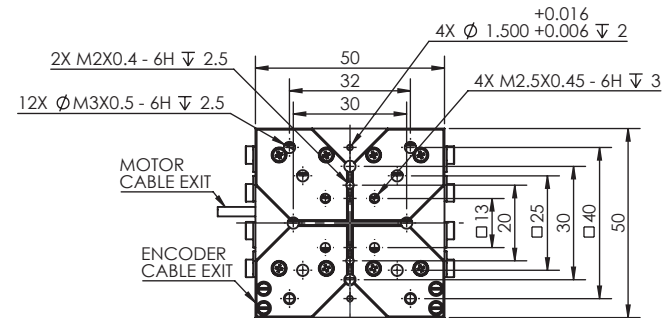
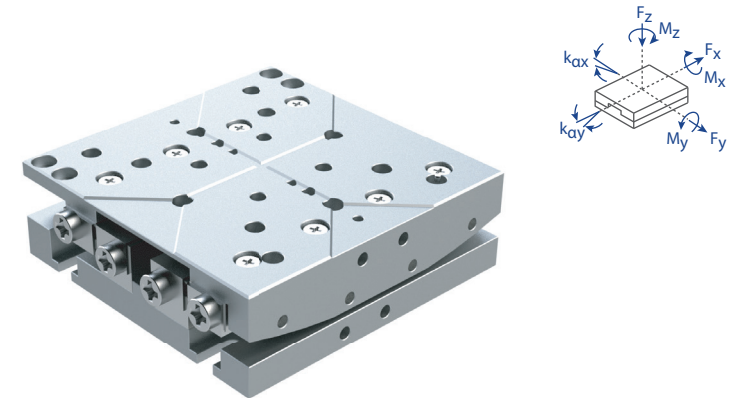
Center radii [mm]	70	87	103
Travel range about center of rotation [°]	± 5		
Rotational Center Accuracy [mm]	< 0.1		
Wobble (Bearings) [μ rad]	± 120		
Weight [g], Open Loop	130		
Weight [g], Closed Loop	135		
Motor option	Piezo Motor		
Speed, max [°/s]	1 (MMC-100), 3 (MMC-110)		
Encoder option	None (open loop)	Analog (1 Vpp)	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

PG-50- 1

DRIVE	Piezo Motor, PM-004R	1
CENTER RADIUS	R87mm	1
	R70mm	2
	R103mm	3
ENCODER	None	0
	Analog (1 Vpp)	2
	Digital (RS-422)	3
LIMIT SWITCH	None	0
	*Magnetic	1
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10^{-6} mbar	6
	Ultra High Vacuum, 10^{-9} mbar	9
	* not needed with encoder	

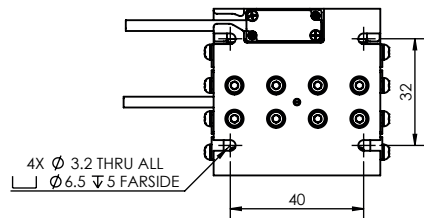
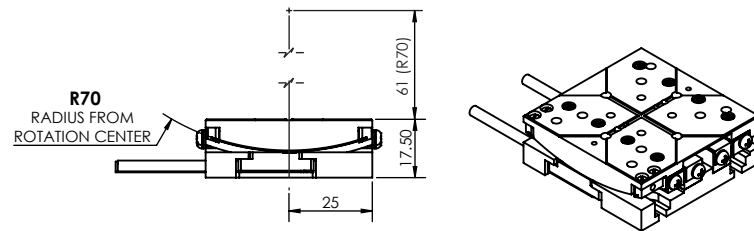
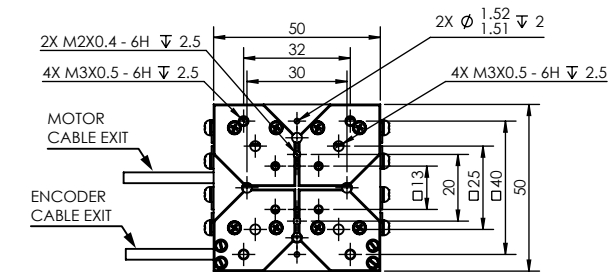
Load, max	F_x [N]	F_y [N]	F_z [N]	M_x [N-m]	M_y [N-m]	M_z [N-m]	k_{ax} [μ rad/N-m]	k_{ay} [μ rad/N-m]
PM-004R	1	5	10	0.6	0.1	4	80	80



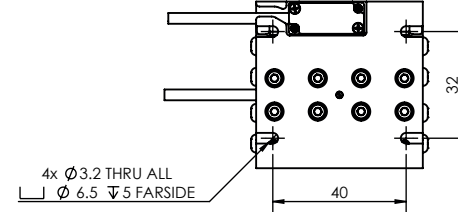
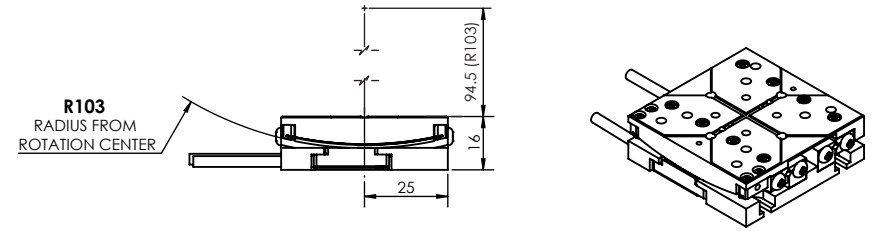
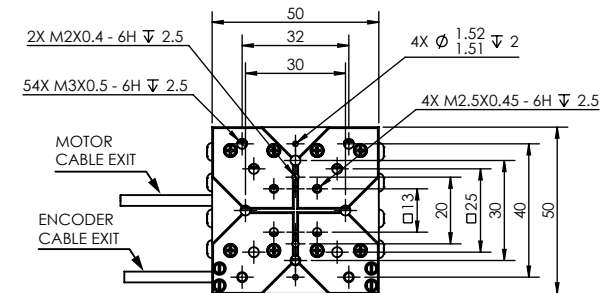
* all dimensions are in millimeters
** other center radii available

Specifications are subject to change without notice.

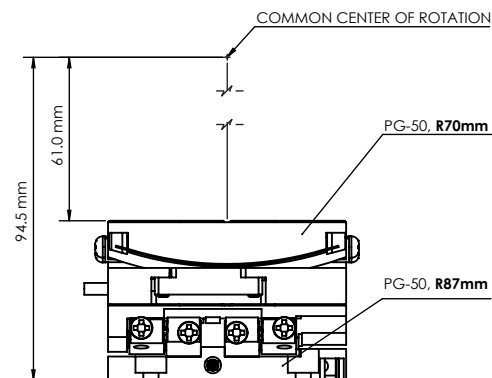
PG-50 R70 DIMENSIONS



PG-50 R103 DIMENSIONS



PG-50 R87 & R70 STACK FOR COMMON CENTER OF ROTATION



PG-50 R87 & R103 STACK FOR COMMON CENTER OF ROTATION

