

6 Degree of Freedom Platform | X-BOT-50

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X-BOT-50 is a miniature "hexapod" with 60mm height for positioning and adjustment of precision components in 6 degrees of freedom with sub-micrometer resolution. Full 360° z-rotation can be integrated under the carrier platform. HV and UHV as well as non-magnetic versions are available. Custom travel ranges upon request.

KEY FEATURES

- Travel range of $\pm 14\text{mm}$ by $\pm 14\text{mm}$ and $\pm 2.5\text{mm}$ XYZ, $\pm 9^\circ$ by $\pm 10^\circ$ tilt from center
- Load capacity up to 300g
- 19mm maximum diameter aperture when XY is at 0 position, 5mm minimum diameter aperture at XY max travel (without rotation stage)
- Crossed roller bearings
- 60 mm height at center position, 57mm height at minimum position
- Vacuum and non-magnetic versions available

TECHNICAL DATA

<i>Tx, Ty Travel range [mm]</i>	± 14	
<i>Tz Travel range [mm]</i>	± 2.5	
<i>Rx Travel range [deg]</i>	± 9	
<i>Ry Travel range [deg]</i>	± 10	
<i>Rz Travel range [deg]</i>	± 360 (Optional PR-20)	
<i>Weight [g]</i>	250	
Motor option	Piezo Motor	
<i>Speed, max</i>	5mm/s, 10 deg/s (MMC-110)	
Encoder option	Digital Incremental (RS-422)	Absolute (BISS C)
<i>Resolution Tx, Ty, Tz [nm]</i>	20	25
<i>Resolution Rx, Ry, Rz [μdeg]</i>	100	200
<i>Repeatability Tx, Ty, Tz [nm]</i>	± 200	± 200
<i>Repeatability Rx, Ry, Rz [μdeg]</i>	200	200
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)	

ORDERING INFORMATION

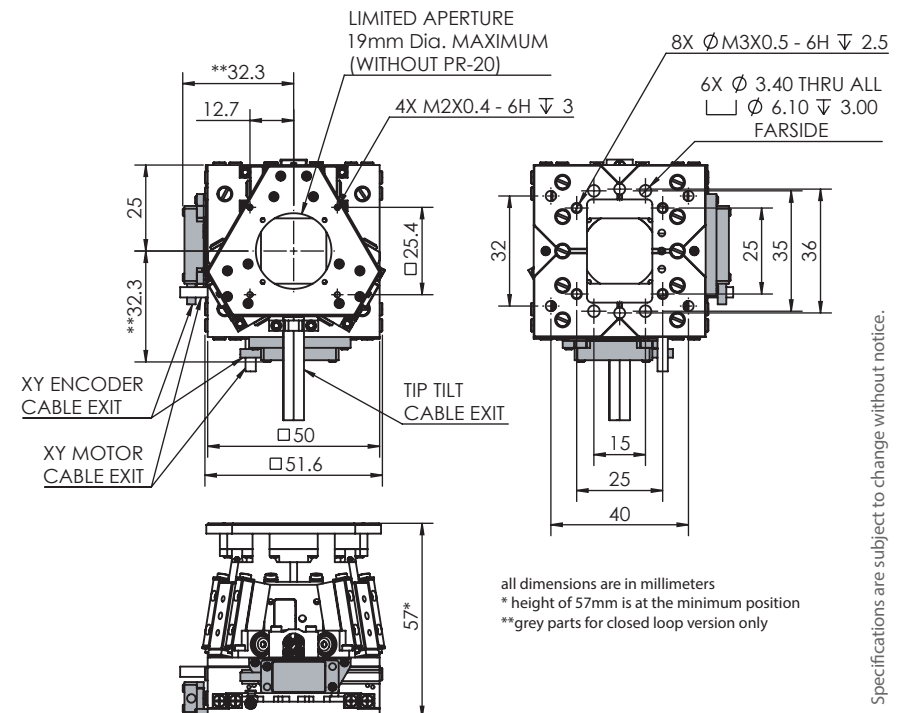
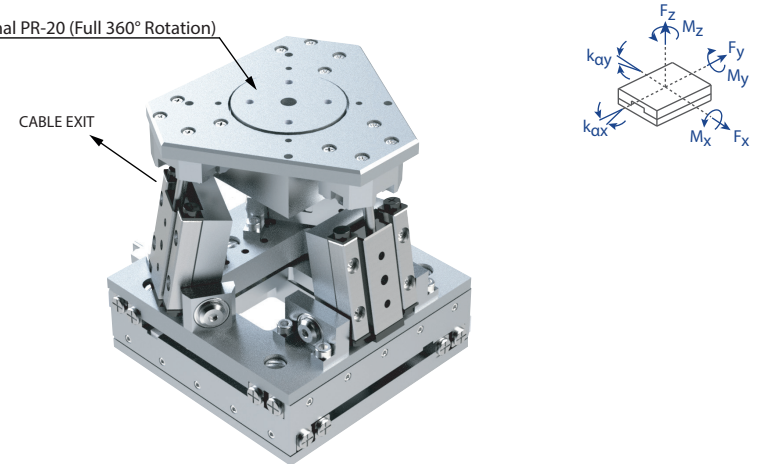
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DRIVE	Piezo Motor, PM-002.....	1
TRAVEL	See Technical Data.....	1
ENCODER	Digital (RS-422).....	3
	***Absolute (BISS C)	5
LIMIT SWITCH	None	0
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10^{-6} mbar	6
	Ultra High Vacuum, 10^{-9} mbar	9
	Non-Magnetic	M

*** Absolute encoder option is available upon request

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} [$\mu\text{rad/N-m}$]	k_{ay} [$\mu\text{rad/N-m}$]
PM-002	2	2	3	-	-	-	-	-

Optional PR-20 (Full 360° Rotation)



all dimensions are in millimeters
* height of 57mm is at the minimum position
**grey parts for closed loop version only

Specifications are subject to change without notice.