

# 6 Degree of Freedom Platform | X-BOT-50

**NEW**

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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  $\pm 14$ mm by  $\pm 14$ mm and  $\pm 2.5$ mm XYZ,  $\pm 9^\circ$  by  $\pm 10^\circ$  tilt from center
- Load capacity up to 200g
- 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

Tx, Ty Travel range [mm]	$\pm 14$	
Tz Travel range [mm]	$\pm 2.5$	
Rx Travel range [deg]	$\pm 9$	
Ry Travel range [deg]	$\pm 10$	
Rz Travel range [deg]	$\pm 360$ (Optional PR-20)	
Weight [g]	250	
Motor option	Piezo Motor	
Speed, max	5mm/s, 10 deg/s (MMC-110)	
Encoder option	Digital Incremental	Absolute
Resolution Tx, Ty, Tz [nm]	20	12.5
Resolution Rx, Ry, Rz [ $\mu$ deg]	100	100
Repeatability Tx, Ty, Tz [nm]	$\pm 200$	$\pm 100$
Repeatability Rx, Ry, Rz [ $\mu$ deg]	200	200
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)	

## ORDERING INFORMATION

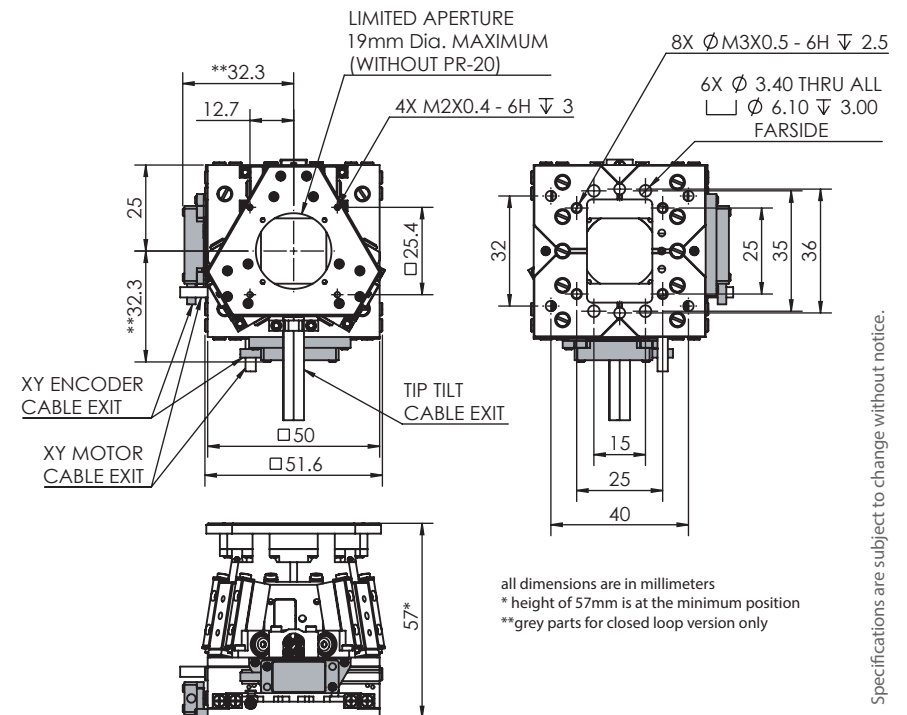
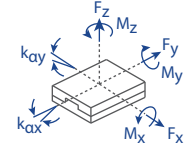
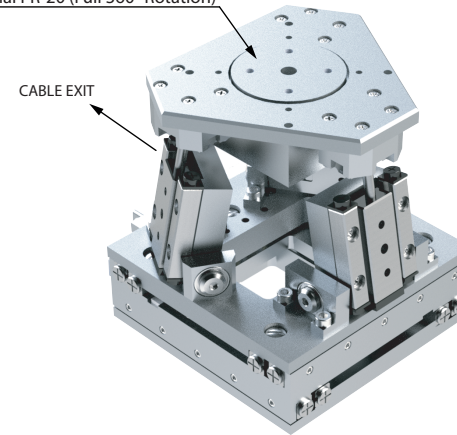
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<b>DRIVE</b>	Piezo Motor, PM-002.....	1
<b>TRAVEL</b>	See Technical Data.....	1
<b>ENCODER</b>	Digital (RS-422).....	3
	***Absolute (BISS C) .....	5
<b>LIMIT SWITCH</b>	None .....	0
<b>ENVIRONMENT</b>	Atmospheric .....	0
	High Vacuum, $10^{-6}$ mbar .....	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]	$k_{ax}$ [ $\mu$ rad/N-m]	$k_{ay}$ [ $\mu$ rad/N-m]
PM-002	2	2	2	-	-	-	-	-

Optional PR-20 (Full 360° Rotation)



Specifications are subject to change without notice.