

# Piezo XY Stage | PPX-50

The PPX-50 is a low profile, long travel, integrated XY stage with an open aperture and a height of only 17.5 mm. Crossed roller bearings guarantee smooth and stable motion for loads up to 30 N. It utilizes a multi-phase piezo motor resulting in high speed (> 10 mm/s) and high blocking force (> 2 N). The PPX-50 is available in open loop or with a linear encoder with a closed-loop resolution of 2 nm. Versions capable of operation in vacuum ( $10^{-9}$  mbar) are available. The PPX-50 is compatible with the MMC-100 and MMC-110 controllers.

## KEY FEATURES

- Travel range of 28 x 28 mm
- Max open aperture 19 x 19 mm, min 9.5 x 9.5 mm
- Closed loop encoder resolution of 2 nm
- Load capacity up to 3 kg
- Crossed roller bearings
- Low profile, 17.5mm height
- Vacuum and non-magnetic versions available

## TECHNICAL DATA

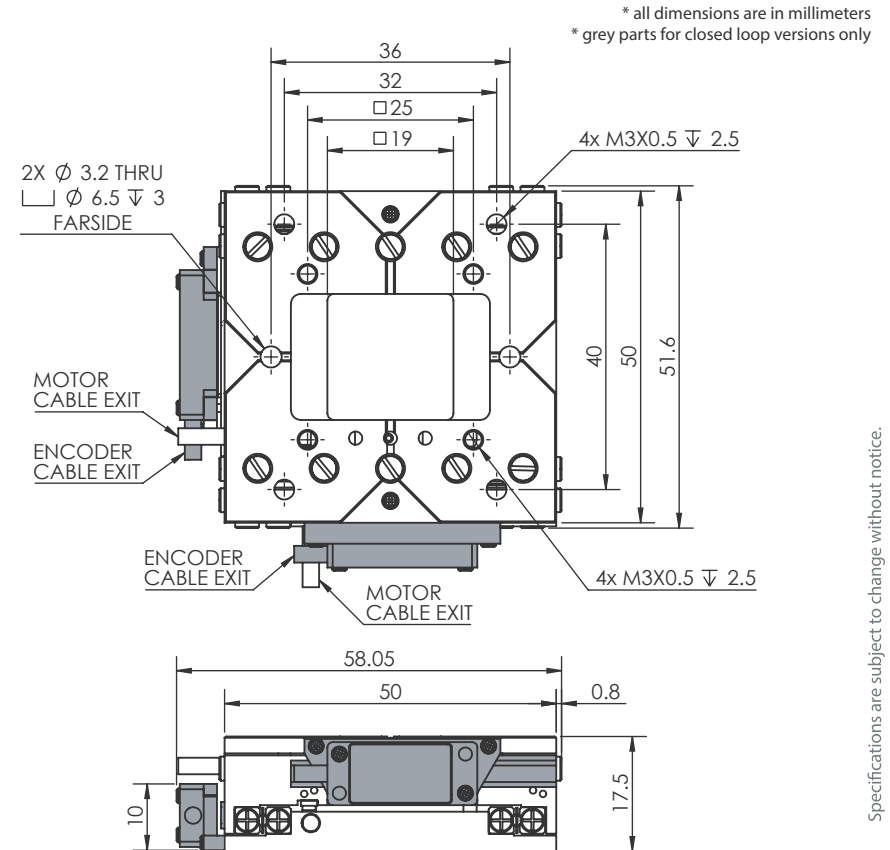
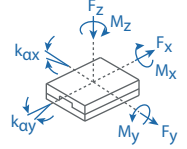
Travel range [mm]	28 x 28		
Straightness / Flatness [ $\mu\text{m}$ ]	$\pm 3.5$		
Pitch [ $\mu\text{rad}$ ]	$\pm 200$		
Yaw [ $\mu\text{rad}$ ]	$\pm 100$		
Weight [g], Open Loop	110		
Weight [g], Closed Loop	115		
Motor option	Piezo Motor		
Speed, max [mm/s]	2 (MMC-100), 10 (MMC-110)		
Encoder option	None (open loop)	Analog (1 V <sub>pp</sub> )	Digital (RS-422)
Resolution, typical [nm]	1	10	2
Repeatability, bi-directional [nm]	n/a	$\pm 50$	$\pm 50$
Repeatability, uni-directional [nm]	n/a	50	50
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

## ORDERING INFORMATION

PPX-50- 1 1 0

<b>DRIVE</b>	Piezo Motor, PM-002.....	1
<b>TRAVEL</b>	28x28 mm .....	1
<b>ENCODER</b>	None .....	0
	Analog (1 V <sub>pp</sub> ) .....	2
	Digital (RS-422) .....	3
<b>LIMIT SWITCH</b>	None .....	0
<b>ENVIRONMENT</b>	Atmospheric .....	0
	High Vacuum, 10 <sup>-6</sup> mbar .....	6
	Ultra High Vacuum, 10 <sup>-9</sup> mbar .....	9
	Non-Magnetic .....	M

Load, max	F <sub>x</sub> [N]	F <sub>y</sub> [N]	F <sub>z</sub> [N]	M <sub>x</sub> [N-m]	M <sub>y</sub> [N-m]	M <sub>z</sub> [N-m]	k <sub>ax</sub> [ $\mu\text{rad/N-m}$ ]	k <sub>ay</sub> [ $\mu\text{rad/N-m}$ ]
PM-002	2	2	30	0.6	0.6	0.6	-	-



Specifications are subject to change without notice.