

# Precision Piezo XY Stage | PPX-50 NEW

www.micronixusa.com | info@micronixusa.com | phone: +1 (949) 480 0538 | fax: +1 (949) 480 0538

The PPX-50 is a low profile, long travel, integrated XY stage with an open aperture and a height of only 17.5 mm. Cross roller bearings guarantee smooth and stable motion for loads up to 30 N. It utilizes a multi-phase piezo motor resulting in high speed (> 5 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 1 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.

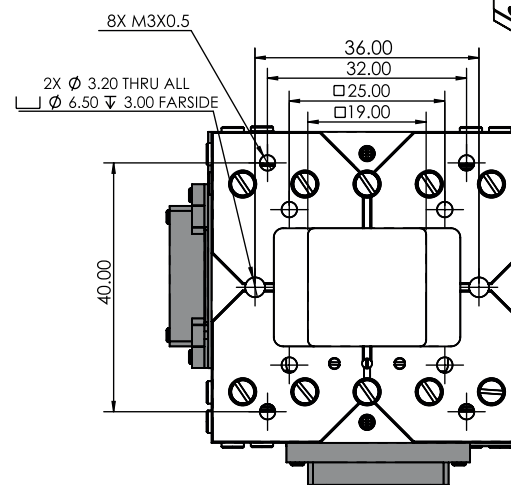
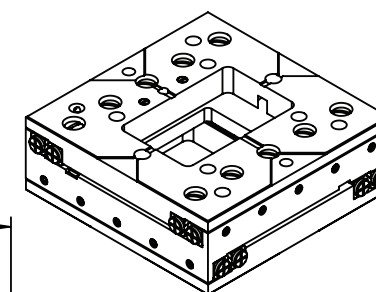
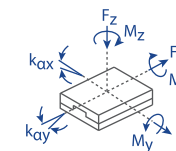
## KEY FEATURES

- Travel range of 28 x 28 mm
- Max open aperture 19 x 19 mm, min 9.5 x 9.5 mm
- Closed loop resolution of 1 nm
- Load capacity up to 3 kg
- Steel cross roller bearings
- Low profile, 17.5 mm height
- Vacuum and non-magnetic versions available

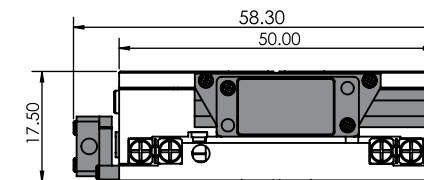
## TECHNICAL DATA

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]	120		
Motor option	Piezo Motor		
Speed, max [mm/s]	2 (MMC-100), 5 (MMC-110)		
Encoder option	None (open loop)	Analog (1 $V_{pp}$ )	Digital (RS-422)
Resolution, typical [nm]	1	10	1
Repeatability, bi-directional [nm]	n/a	$\pm 50$	$\pm 20$
Repeatability, uni-directional [nm]	n/a	50	20
Accuracy [ $\mu\text{m}$ ]	-	$\pm 1$	$\pm 1$
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. 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]	$k_{ax}$ [ $\mu\text{rad}/\text{N}\cdot\text{m}$ ]	$k_{ay}$ [ $\mu\text{rad}/\text{N}\cdot\text{m}$ ]
PM-002	2	2	30	0.6	0.6	0.6	-	-



\* all dimensions are in millimeters  
\* grey parts are for closed loop versions only



## ORDERING INFORMATION

PPX-50- 1 1 0

DRIVE	Piezo Motor, PM-002.....	1
TRAVEL	28 mm .....	1
ENCODER	None .....	0
	Analog (1 $V_{pp}$ ) .....	2
	Digital (RS-422) .....	3
LIMIT SWITCH	None .....	0
ENVIRONMENT	Atmospheric .....	0
	High Vacuum, $10^{-6}$ mbar .....	6
	Ultra High Vacuum, $10^{-9}$ mbar .....	9

Specifications are subject to change without notice.