

# Precision Piezo XY Stage | PPX-32

The PPX-32 is a low profile, long travel, integrated XY stage with a height of only 14 mm. Four pre-loaded ball slides guarantee smooth and stable motion for loads up to 10 N. It utilizes a multi-phase piezo motor resulting in high speed (> 2 mm/s) and high blocking force (> 1 N). The PPX-32 is available in open loop or with a linear encoder Closed-loop resolution of 1 nm is achievable. Versions capable of operation in vacuum ( $10^{-9}$  mbar) are available. The PPX-32 is compatible with the MMC-100 and MMC-110 controllers.

## KEY FEATURES

- Travel range of 18 x 18 mm
- 1 nm closed loop resolution
- Load capacity up to 1 kg
- Steel ball slides
- Low profile, 14 mm height
- Vacuum versions available

## TECHNICAL DATA

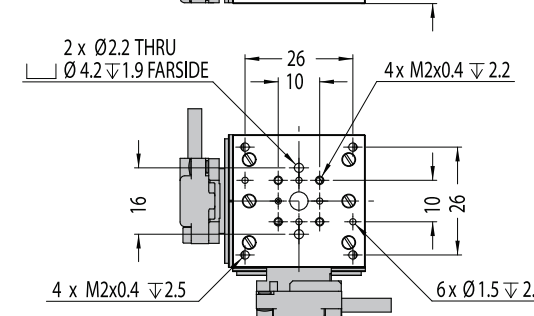
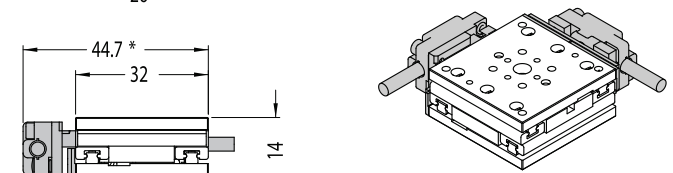
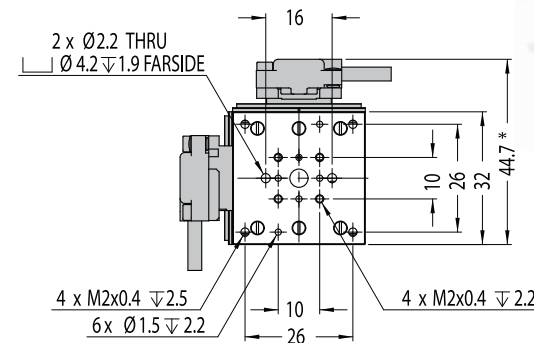
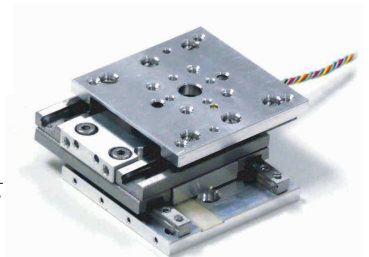
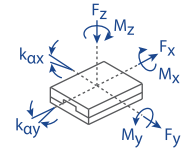
Travel range [mm]	18 x 18		
Straightness / Flatness [ $\mu\text{m}$ ]	$\pm 2.5$		
Pitch [ $\mu\text{rad}$ ]	$\pm 200$		
Yaw [ $\mu\text{rad}$ ]	$\pm 100$		
Weight [g]	40		
Motor option	Piezo Motor		
Speed, max [mm/s]	2 (MMC-100), 5 (MMC-110)		
Encoder option	None (open loop)	Analog (1 $V_{pp}$ )	Digital (RS-422)
Resolution, typical [nm]	1	10	1
Repeatability, bi-directional [nm]	n/a	$\pm 50$	$\pm 50$
Repeatability, uni-directional [nm]	n/a	50	50
Accuracy [ $\mu\text{m}$ ]	-	$\pm 1$	$\pm 1$
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

## ORDERING INFORMATION

PPX-32- 1 1 0

DRIVE	Piezo Motor, PM-002 .....	1
TRAVEL	18 x 18 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

Load, max	$F_x$ [N]	$F_y$ [N]	$F_z$ [N]	$M_x$ [N-m]	$M_y$ [N-m]	$M_z$ [N-m]	$k_{ax}$ [ $\mu\text{rad}/\text{N-m}$ ]	$k_{ay}$ [ $\mu\text{rad}/\text{N-m}$ ]
PM-002	1	1	10	0.6	0.6	0.6	-	-



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

Specifications are subject to change without notice.