

# Precision Piezo Stage | PPS-60

The PPS-60 is high-precision, long travel linear stage. The same stage is available with piezo motor, linear motor or stepper motor drive. Ball Bearings assure high stiffness and guiding accuracy for loads up to 150 N. The PPS-60 is available with an optional linear encoder for increased resolution and repeatability. PPS-60 stages can be mounted in XY without any adapter, and a Z-axis can be added with the use of a standard mounting bracket.

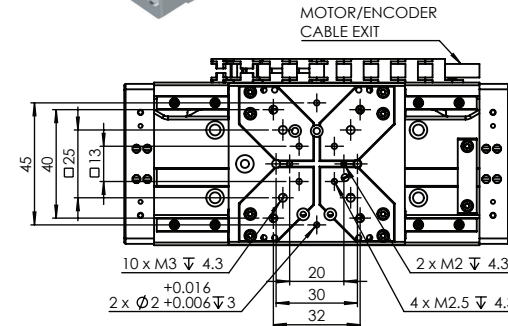
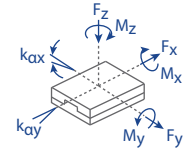
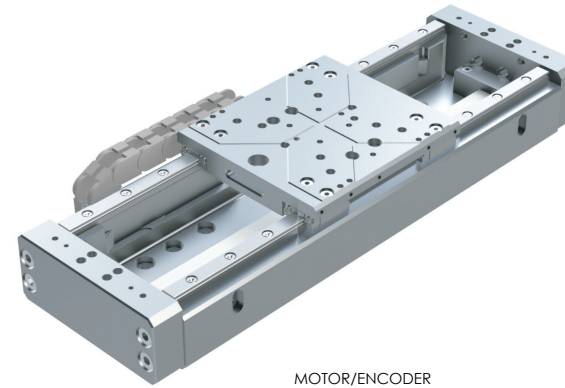
## KEY FEATURES

- Travel ranges up to 300 mm (longer travel available on request)
- 2 nm closed loop encoder resolution
- Load capacity up to 15 kg
- Integrated mechanical limit switches
- Vacuum versions available

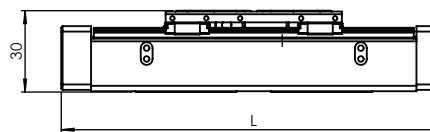
## TECHNICAL DATA

Travel range [mm]	25	50	100	200	300
Straightness / Flatness [ $\mu\text{m}$ ]	$\pm 2.5$	$\pm 4$	$\pm 6$	$\pm 8$	$\pm 10$
Pitch [ $\mu\text{rad}$ ]	$\pm 50$	$\pm 75$	$\pm 100$	$\pm 125$	$\pm 150$
Yaw [ $\mu\text{rad}$ ]	$\pm 50$	$\pm 75$	$\pm 100$	$\pm 125$	$\pm 150$
Weight [g], Open Loop	335	380	480	660	850
Weight [g], Closed Loop	345	390	490	670	860
<b>Motor option</b>	<b>Piezo Motor</b>				
Speed, max [mm/s]	2 (MMC-100), 5 (MMC-110)				
<b>Encoder option</b>	<b>Open Loop</b>	<b>Analog (1 V<sub>pp</sub>)</b>	<b>Digital (RS-422)</b>		
Resolution, typical [nm]	1	10	2		
Repeatability, bi-directional [nm]	n/a	$\pm 500$	$\pm 100$		
Repeatability, uni-directional [nm]	n/a	500	100		
<b>Materials</b>	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)				

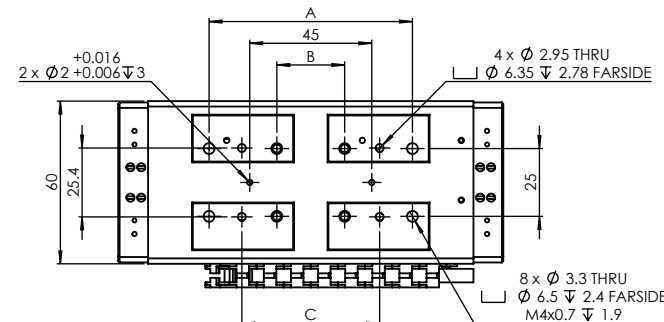
Load, max	F <sub>x</sub> [N]	F <sub>y</sub> [N]	F <sub>z</sub> [N]	M <sub>x</sub> [N-m]	M <sub>y</sub> [N-m]	M <sub>z</sub> [N-m]	k <sub>ax</sub> [ $\mu\text{rad/N-m}$ ]	k <sub>ay</sub> [ $\mu\text{rad/N-m}$ ]
PM-003	5	100	150	10	10	10	100	100



Travel	L	A	B	C
25	117	75	25	50.8
50	142	75	25	50.8
100	192	125	75	101.6
200	292	225	175	203.2
300	392	325	275	304.8



\* 50 mm travel version shown  
\* All dimensions are in millimeters



## ORDERING INFORMATION<sup>†</sup>

PPS-60- 1

DRIVE	Piezo Motor, PM-003	1
TRAVEL	25 mm	1
	50 mm	2
	100 mm	3
	200 mm	4
	300 mm	5
ENCODER	None	0
	Analog (1 V <sub>pp</sub> )	2
	Digital (RS-422)	3
LIMIT SWITCH	None	0
	Mechanical <sup>†</sup>	1
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10 <sup>-6</sup> mbar	6
	Ultra High Vacuum, 10 <sup>-9</sup> mbar	9

<sup>†</sup> not needed with encoder  
<sup>‡</sup> refer to product manual for additional information.

Specifications are subject to change without notice.