Precision Piezo Stage | PPS-28

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

The PPS-28 is a high-precision, long travel linear piezo stage. Miniature crossed roller bearings assure high stiffness and guiding accuracy for loads up to 50 N (horizontal orientation). It utilizes our patented multi-phase piezo motor resulting in high speed (> 10 mm/s) and high blocking force (> 2 N). The PPS-28 is available in open loop or with an external encoder. Closed-loop encoder resolution of 2 nm is achievable. Versions capable of operation in vacuum (10^{-9} mbar) are available. The PPS-28 is compatible with the MMC-100 and MMC-110 controllers.

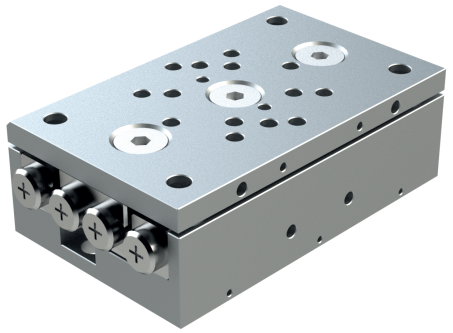
KEY FEATURES

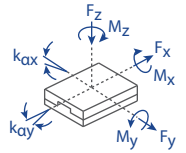
- Travel range of up to 102 mm
- 2 nm closed loop encoder resolution
- Load capacity up to 5 kg
- Crossed roller bearing
- Low profile, 15 mm height
- Vacuum and non-magnetic versions available

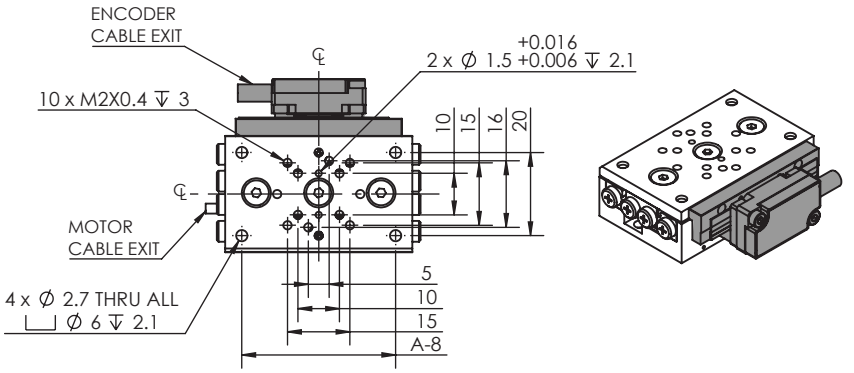
TECHNICAL DATA

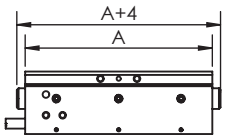
Travel range [mm]	26	51	76	102
Straightness / Flatness [µm]	± 1.5	± 2.5	± 3	± 3.5
Pitch [µrad]	± 50	± 70	± 80	± 100
Yaw [µrad]	± 60	± 75	± 90	± 100
Weight [g], Open Loop	70	140	170	240
Weight [g], Closed Loop	75	150	200	250
Motor option	Piezo Motor			
Speed, max [mm/s]	2 (MMC-100), 10 (MMC-110)			
Encoder option	None (open loop)	Analog (1 V_{pp})	Digital (RS-422)	
Resolution, typical [nm]	1	10	2	
Repeatability, bi-directional [nm]	n/a	± 50	± 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)			

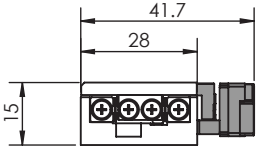
Load, max	F_x [N]	F_y [N]	F_z [N]	M_x [N-m]	M_y [N-m]	M_z [N-m]	k_{ax} [µrad/N-m]	k_{ay} [µrad/N-m]
PM-002	2	20	20	1	1	1	-	-

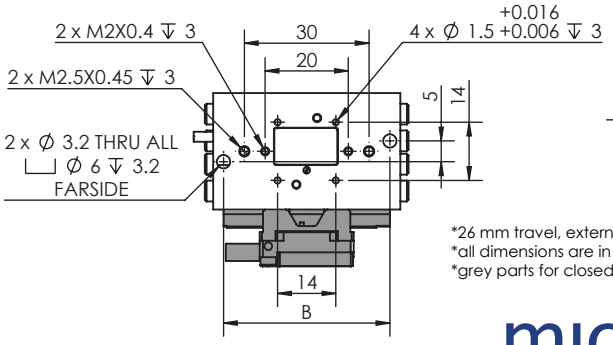












TRAVEL	A	B
26	45	40
51	90	50
76	120	80
102	150	80

*26 mm travel, external encoder version shown
*all dimensions are in millimeters
*grey parts for closed loop version only

ORDERING INFORMATION

PPS-28- [1] [ ] [ ] [ ] [ ]

DRIVE	Piezo Motor, PM-002	1
TRAVEL	26 mm	1
	51 mm	3
	76 mm	4
	102 mm	5
ENCODER	None	0
	Analog (1 V_{pp})	2
	Digital (RS-422)	3
LIMIT SWITCH	None	0
	Magnetic†	1
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10^{-6} mbar	6
	Ultra High Vacuum, 10^{-9} mbar	9
	Non-Magnetic	M

†not needed with encoder

Specifications are subject to change without notice.

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PRECISION MOTION SOLUTIONS