

Precision Positioning Stage| PPS-50PM

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The precision piezo stage PPS-50 allows nanopositioning of high loads. Anti-creep, crossed roller bearings assure high stiffness for loads up to 20N. The PPS-50 is fully integrated with our patented multi-phase piezo motor and optional high resolution encoder (up to 1nm resolution) or absolute encoder. PPS-50 can also be combined with our rotary and gonio stages for ultimate motion flexibility.

The PPS-50 is compatible with MMC-100, MMC-110 and NanoDrive controllers.

KEY FEATURES

- Optional internal digital encoder resolution to 1nm
- Optional internal absolute optical encoder resolution to 25 nm
- Load capacity up to 2kg
- Crossed roller bearing (anti-creep)
- Low profile, 15mm height
- Vacuum, and non-magnetic versions available

TECHNICAL DATA

Travel range [mm]	26	50	75	100
Straightness / Flatness [μm]	±2	±3	±4	±5
Pitch [μrad]				
Yaw [μrad]				
Weight [g], Open Loop	110	185	245	305
Weight [g], Closed Loop	115	190	250	310
Motor option	Piezo Motor			
Speed, max [mm/s]	2 (MMC-100), 10 (NanoDrive and MMC-110)			
Encoder option	None (Open Loop)	Digital (RS-422)	Absolute (BiSS C)	
Resolution, typical [nm]	1	1	25	
Repeatability, bi-directional [nm]	n/a	± 20	± 100	
Repeatability, uni-directional [nm]	n/a	± 20	± 100	
Materials	aluminum, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)			

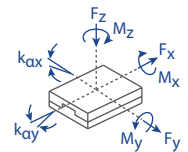
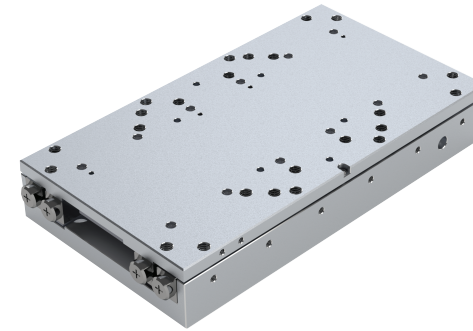
ORDERING INFORMATION

PPS-50-

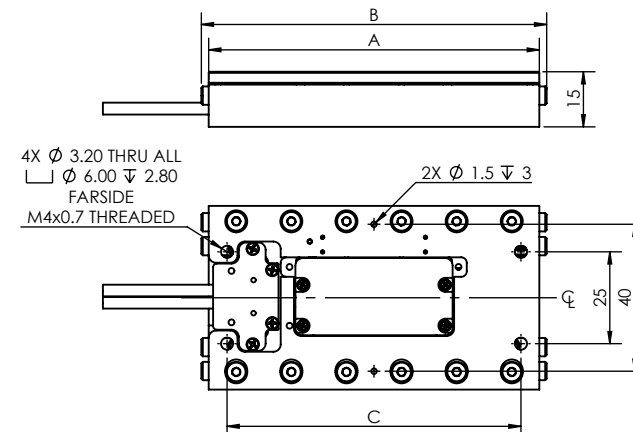
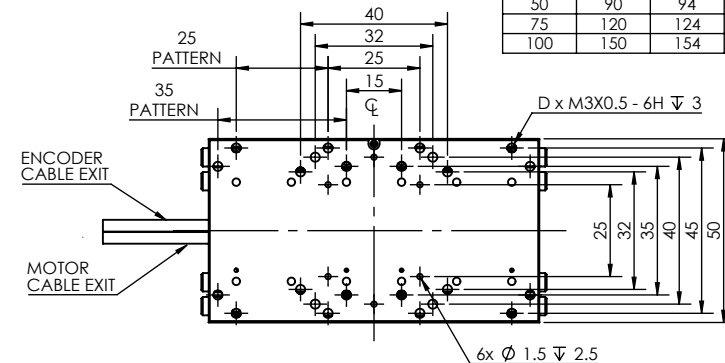
DRIVE	Piezo Motor, PM-002	1
	Piezo Motor, High Force*	5
TRAVEL	26 mm**	1
	50 mm	2
	75 mm	3
	100 mm	4
ENCODER	None	0
	Digital (RS-422)	3
	Absolute (BiSS C)***	5
LIMIT SWITCH	None	0
	Magnetic****	1
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10 ⁻⁶ mbar.....	6
	Ultra High Vacuum, 10 ⁻⁹ mbar	9
	Non-Magnetic.....	M

- * MMC-110 only
 ** Not available in High Force
 *** Not UHV compatible
 **** Limits on High Vacuum with Encoder available with Motor Option 1 only

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	0.2	0.2	0.125	-	-
PM-High Force	5	20	20	0.2	0.2	0.125	-	-



TRAVEL	A	B	C	D
26	50	50	45	16
50	90	94	80	24
75	120	124	60	24
100	150	154	80	48



- all dimensions are in millimeters
 • 50 mm travel shown

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 PRECISION MOTION SOLUTIONS

Specifications are subject to change without notice.