

Precision Positioning Stage | PPS-70PM

NEW

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Preliminary

The piezo stage PPS-70 allows nanopositioning of high loads. Anti-creep, crossed roller bearings assure high stiffness for loads up to 30N. Its low profile suits applications in which height is critical and precision is a must. The PPS-70 is fully integrated with high resolution encoder (up to 1nm resolution). The PPS-70 can be combined with our rotational stages PR-50, PR-70, Gonio stage PG-50, and our elevation stage ES-50PM for optimal motion solutions. The PPS-70 is compatible with our MMC-110 and NanoDrive controllers.

KEY FEATURES

- Standard travel range of up to 100 mm
- Optional internal digital encoder resolution to 1nm
- Load capacity up to 3kg (higher on request)
- Crossed roller bearing (anti-creep)
- Low profile, 15mm height

TECHNICAL DATA

Travel range [mm]	32	51	75	100
Straightness / Flatness [μm]	± 3	± 5	± 7	± 7
Pitch [μrad]				
Yaw [μrad]				
Weight [g], Open Loop	150	220	290	360
Weight [g], Closed Loop	160	230	300	370
Motor option	Piezo Motor			
Speed, max [mm/s]	2 (MMC-100), 10 (MMC-110 and NanoDrive)			
Encoder option	Open Loop	Digital (RS-422)	Absolute (BiSS C)	
Resolution, typical [nm]	1	1	25	
Repeatability, bi-directional [nm]	n/a	± 20	± 200	
Repeatability, uni-directional [nm]	n/a	20	200	
Materials	aluminum, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)			

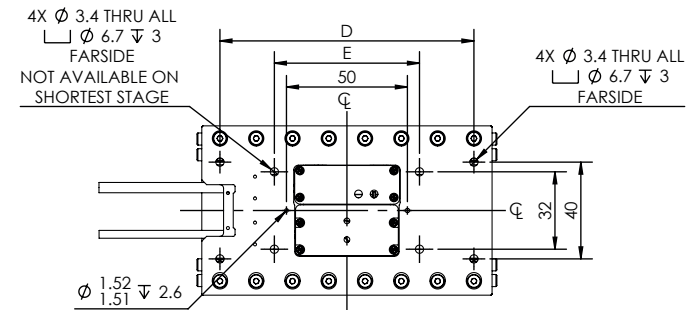
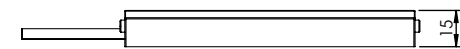
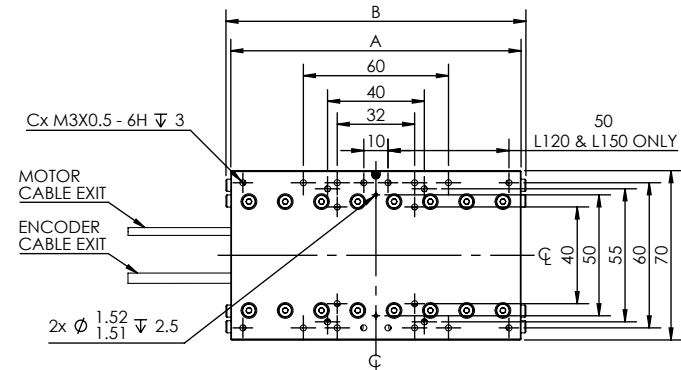
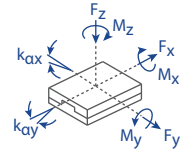
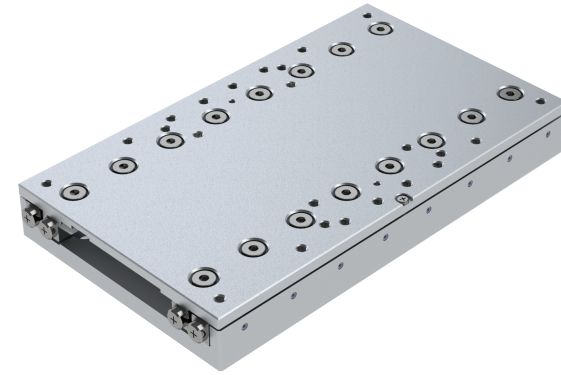
ORDERING INFORMATION

PPS-70-

DRIVE	Piezo Motor, PM-003	1
	Piezo Motor, High Force*	5
TRAVEL	32 mm	1
	51 mm	2
	75 mm	3
	100 mm	4
ENCODER	Open Loop	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

* MMC-110 only
 ** 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} [$\mu\text{rad}/\text{N·m}$]	k_{ay} [$\mu\text{rad}/\text{N·m}$]
PM-003	2	30	30	0.3	0.3	0.15	-	-
PM-High Force	5	30	30	0.3	0.3	0.15	-	-



TRAVEL	A	B	C	D	E
30	60	64	16	55	-
50	90	94	16	80	60
75	120	124	24	105	60
100	150	154	24	135	60

• all dimensions are in millimeters

Specifications are subject to change without notice.