

# Precision Piezo Stage | PPS-50 NEW

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The precision piezo stage PPS-50 allows nanopositioning of high loads. Crossed roller bearings assure high stiffness for loads up to 30N. It is fully integrated with our patented multi-phase piezo motor, and optional high resolution encoder (up to 1 nm resolution). The PPS-50 can also be combined with our rotary and goniostages for ultimate motion flexibility. The PPS-50 is compatible with our MMC-100 and MMC-110 controllers.

## KEY FEATURES

- Standard travel range of up to 100 mm
- Closed loop encoder resolution to 1 nm
- Optional absolute optical encoder
- Load capacity up to 3kg
- 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 [ $\mu\text{m}$ ]	$\pm 2$	$\pm 3$	$\pm 4$	$\pm 5$
Pitch [ $\mu\text{rad}$ ]				
Yaw [ $\mu\text{rad}$ ]				
Weight [g], Open Loop	170	300	400	500
Weight [g], Closed Loop	180	310	410	510
<b>Motor option</b>	<b>Piezo Motor</b>			
Speed, max [mm/s]	2(MMC-100), 5 (MMC-110)			
<b>Encoder option</b>	<b>None (open loop)</b>	<b>Digital (RS-422)</b>	<b>Absolute (BiSS C)</b>	
Resolution, typical [nm]	1	1	10	
Repeatability, bi-directional [nm]	n/a	$\pm 20$	$\pm 50$	
Repeatability, uni-directional [nm]	n/a	20	$\pm 50$	
<b>Materials</b>	aluminum, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)			

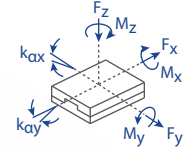
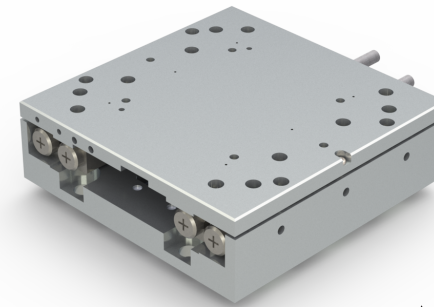
## ORDERING INFORMATION

		PPS-50- 1			
<b>DRIVE</b>	Piezo Motor, PM-002 .....	1			
<b>TRAVEL</b>	26 mm .....	1			
	50 mm .....	2			
	75 mm .....	3			
	100 mm .....	4			
<b>ENCODER</b>	None .....	0			
	Digital (RS-422) .....	3			
	*Absolute (BiSS C).....	5			
<b>LIMIT SWITCH</b>	None .....	0			
	Magnetic (Open Loop Only).....	1			
<b>ENVIRONMENT</b>	Atmospheric .....	0			
	High Vacuum ( $10^{-6}$ mbar).....	6			
	†High Vacuum ( $10^{-9}$ mbar).....	9			

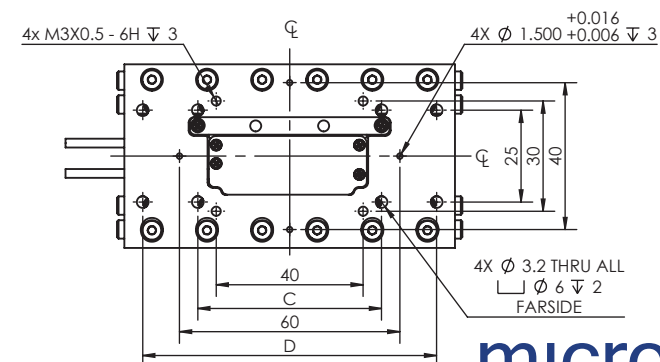
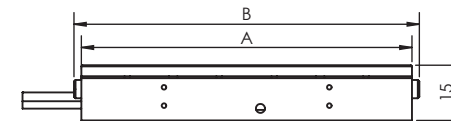
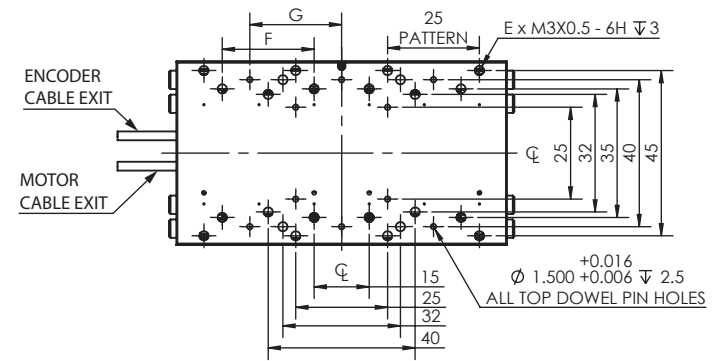
† Only available with encoder options 0 or 3

\* With MMC-110 only

Load, max	$F_x$ [N]	$F_y$ [N]	$F_z$ [N]	$M_x$ [N-m]	$M_y$ [N-m]	$M_z$ [N-m]	$k_{ax}$ [ $\mu\text{rad/N-m}$ ]	$k_{ay}$ [ $\mu\text{rad/N-m}$ ]
PM-002	3	10	30	1	1	1	-	-



TRAVEL	A	B	C	D	E	F	G
26	50	-	-	45	16	-	-
51	90	94	50	80	24	25	25
75	120	124	80	110	28	25	50
100	150	154	80	145	48	35	50



Specifications are subject to change without notice.