Precision Positioning Stage | PPS-60SM

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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)
- 50 nm closed loop encoder resolution
- Load capacity up to 15 kg
- Recirculating ball bearings
- Integrated mechanical limit switches
- Vacuum versions available

TECHNICAL DATA

Travel range [mm]	25	50	100	200	300
Straightness / Flatness [µm]	± 2.5	± 4	± 6	± 8	± 10
Pitch [µrad]	± 50	± 75	± 100	± 125	± 150
Yaw [µrad]	± 50	± 75	± 100	± 125	± 150
Weight [g], Open Loop	600	650	750	950	1200
Weight [g], Closed Loop	610	660	760	960	1210
Motor option	**2-Phase Stepper Motor**				
Speed, max [mm/s]	5 (10 with external stepper motor)				
Encoder option	**Open Loop**	**Analog (1 V_{pp})**		**Digital (RS-422)**	
Resolution, typical [µm]	0.1	0.1		0.05	
Repeatability, bi-directional [µm]	± 4	± 0.2		± 0.2	
Repeatability, uni-directional [µm]	0.2	0.2		0.2	
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)				

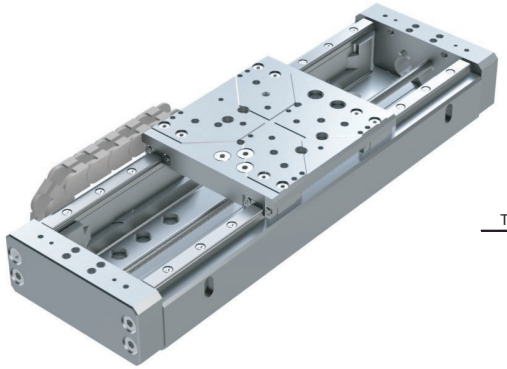
ORDERING INFORMATION‡

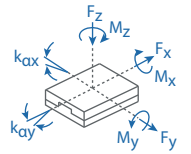
PPS-60- [ ][ ][ ]**1**[ ]

DRIVE	Internal Stepper Motor, SM-001	2
	External Stepper Motor, SM-004	4
TRAVEL	25 mm	1
	50 mm	2
	100 mm	3
	200 mm	4
	300 mm	5
ENCODER	None	0
	Analog (1 V_{pp})	2
	Digital (RS-422)	3
LIMIT SWITCH	Mechanical	1
ENVIRONMENT	Atmospheric	0
	High Vacuum, 10^{-6} mbar	6
	†Ultra High Vacuum, 10^{-9} mbar	9

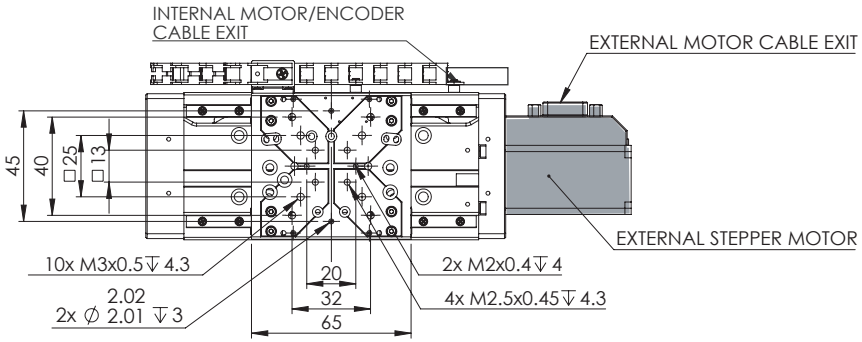
† only available with externally mounted UHV stepper Motor.
‡ refer to product manual for additional information.

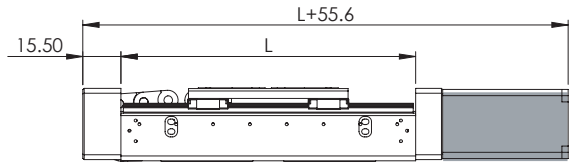
Load, max	F_x [N]	F_y [N]	F_z [N]	M_x [N·m]	M_y [N·m]	M_z [N·m]	$k_{\alpha x}$ [µrad/N·m]	$k_{\alpha y}$ [µrad/N·m]
SM-001 (Internal)	5	100	150	10	10	10	100	100
SM-004 (External)	10	100	150	10	10	10	100	100

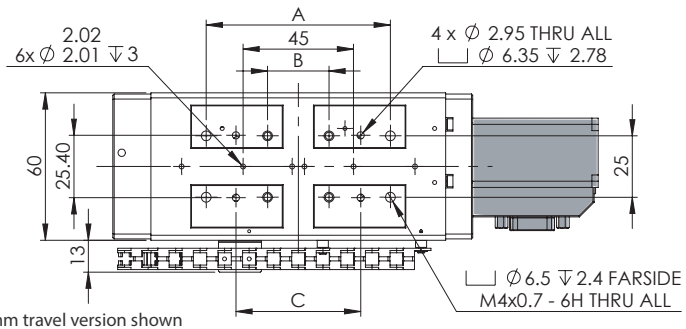




Travel	L	A	B	C
25	117	75	25	50.8
50	142	75	25	50.8
100	192	125	75	101.6
200	292	225	175	203.2
300	392	325	275	304.8







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

Specifications are subject to change without notice.

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PRECISION MOTION SOLUTIONS