Elevation Stage | ES-50

The ES-50 elevation stage is designed for applications with limited space conditions. The ES-50 stage is driven by a 2-phase stepper motor and is equipped with two mechanical limit switches. Two pre-loaded ball slides assure smooth motion and high stiffness. The ES-50 allows for a highly rigid XZ or XYZ setup without the need for adapter brackets when combined with the VT-50 series of linear stages. Versions capable of operation in vacuum (10^{-6} mbar) are available. The ES-50 is compatible with the MMC-200 controller.

KEY FEATURES

- Travel range of 10 mm
- 50 nm closed loop resolution
- Load capacity up to 1 kg
- Steel ball slides
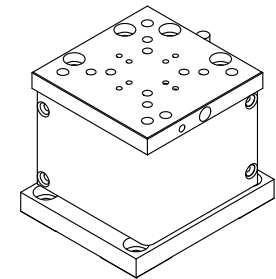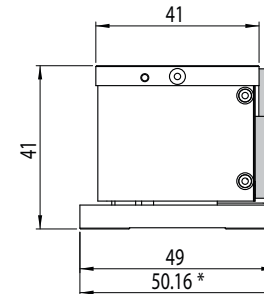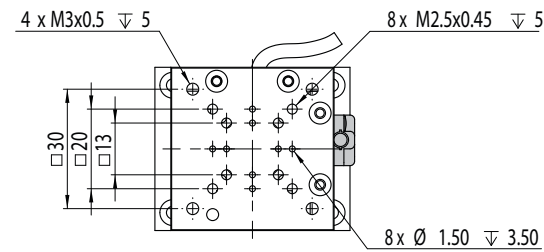- Integrated mechanical limit switches
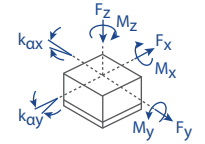- Vacuum versions available

TECHNICAL DATA

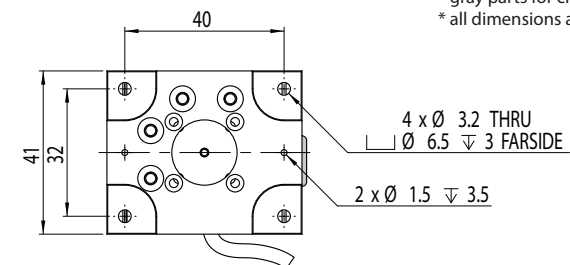| Travel range [mm]	10		
Straightness / Flatness [µm]	± 4		
Pitch [µrad]	± 300		
Yaw [µrad]	± 300		
Weight [g]	110		
Motor option	2-Phase Stepper Motor		
Speed, max [mm/s]	5		
Encoder option	None (open loop)	Analog (1 V_{pp})	Digital (RS-422)
Resolution, typical [µm]	0.5	0.05	0.05
Repeatability, bi-directional [µm]	± 2	± 0.2	± 0.2
Repeatability, uni-directional [µm]	0.5	0.2	0.2
Accuracy [µm]	-	± 1	± 1
Materials	aluminum body, steel bearing (other materials i.e. stainless steel, titanium, etc. available upon request)		

ORDERING INFORMATION

ES-50- **1** **1** **1**

DRIVE	Stepper Motor, SM-001	1
TRAVEL	10 mm	1
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

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]
SM-001	5	5	10	1	1	1	-	-

* gray parts for closed loop versions only
* all dimensions are in millimeters

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PRECISION MOTION SOLUTIONS