

Elevation Stage | ES-50SM

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 encoder resolution
- Load capacity up to 1 kg
- Ball slide bearings
- Integrated mechanical limit switches
- Vacuum versions available

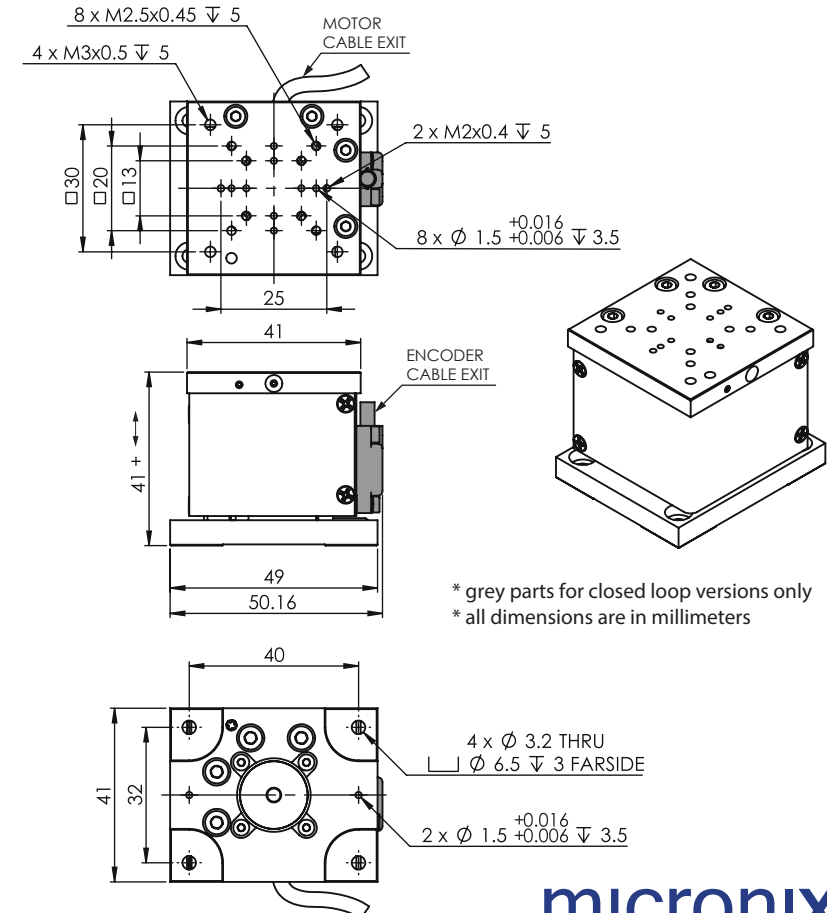
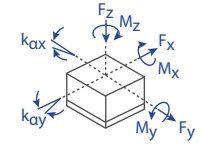
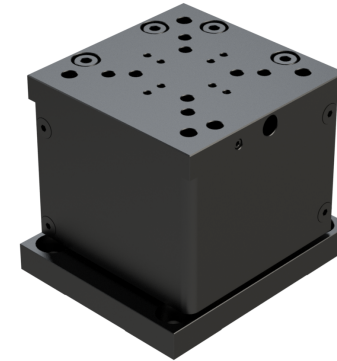
TECHNICAL DATA

| | | | |
|--|---|-----------------------------|------------------|
| Travel range [mm] | 10 | | |
| Straightness / Flatness [μm] | ± 4 | | |
| Pitch [μrad] | ± 300 | | |
| Yaw [μrad] | ± 300 | | |
| Weight [g], Open Loop | 175 | | |
| Weight [g], Closed Loop | 195 | | |
| 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 |
| 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 | 1 | 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} [$\mu\text{rad}/\text{N·m}$] | k _{ay} [$\mu\text{rad}/\text{N·m}$] |
|-----------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|--|--|
| SM-001 | 5 | 5 | 10 | 1 | 1 | 1 | - | - |



Specifications are subject to change without notice.