

For current pricing,
please see our website.

CHAPTERS

Manual Stages

Motorized Stages

Multi-Axis
Platforms

Actuators

Controllers

SECTIONS

3-Axis Roller
Bearing Platforms

3-Axis Flexure
Platforms

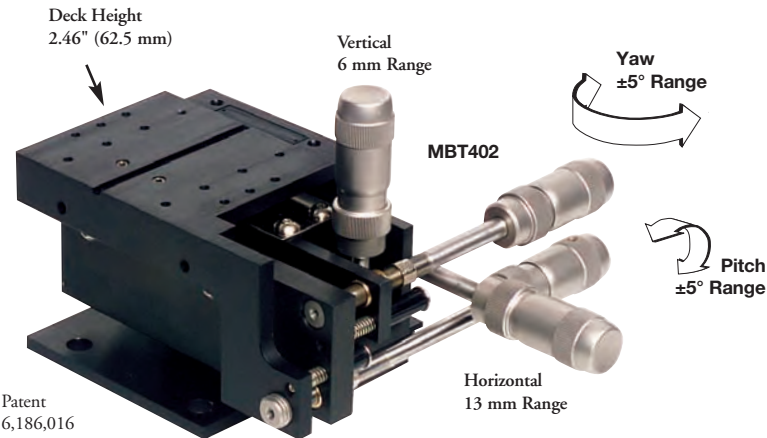
4-Axis Flexure
Platforms

5-Axis Flexure
Platforms

6-Axis Flexure
Platforms

Flexure Accessories

Low-Profile, Four-Axis MicroBlock™ Positioner



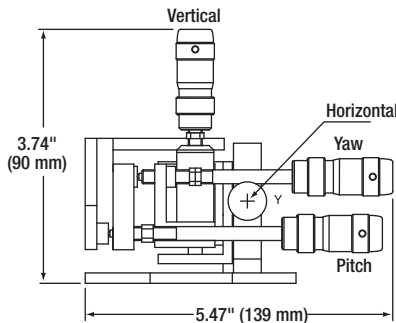
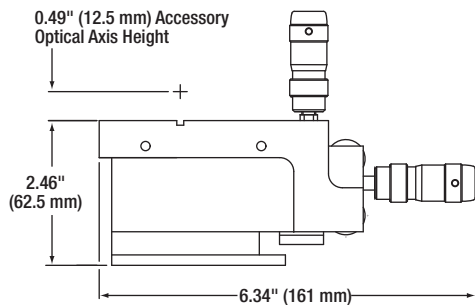
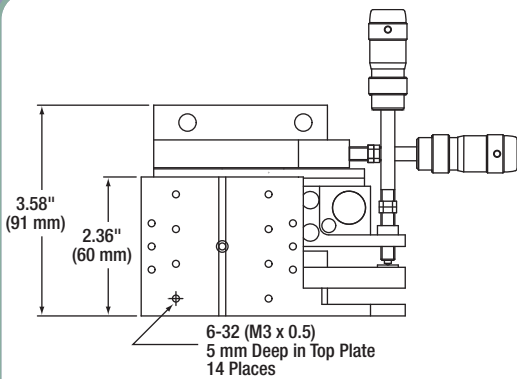
Patent
6,186,016

This low-profile MicroBlock™ Device Platform is a compact, cost-effective, four-axis positioner designed for precise orientation of photonics components and other planar devices. This device is intended to allow a complex optical element that either has multiple single mode ports or has angled output surfaces to be properly positioned with respect to one of our high-performance stages. The four independent degrees of freedom provide 0.5" (13 mm) of horizontal translation, 0.24" (6 mm) of vertical translation, 10° of pitch, and 10° of yaw.

This stage, when combined with any of our three-axis stages (MicroBlock™, NanoMax™, or RollerBlock™ on pages 541 - 559), is ideal for building high-performance fiber launch or single-mode-waveguide couplers (see photograph below). The 0.5" (13 mm) of horizontal travel allows the individual channels of a multichannel waveguide to be readily accessed.

Specifications

- **Coarse Travel**
 - Horizontal Axis (Y): 0.5" (13 mm)
 - Vertical Axis (Z): 0.24" (6 mm)
 - Pitch Axis (θ_x): 10°
 - Yaw Axis (θ_z): 10°
- **Fine Travel**
 - Horizontal Axis: 300 μ m
 - Vertical Axis: 300 μ m
 - Pitch Axis: 12 arcmin
 - Yaw Axis: 30 arcmin
- **Coarse Travel Resolution**
 - Horizontal Axis: 1 μ m
 - Vertical Axis: 1 μ m
 - Pitch Axis: 10 arcsec
 - Yaw Axis: 10 arcsec
- **Fine Travel Resolution**
 - Horizontal Axis: 50 nm
 - Vertical Axis: 50 nm
 - Pitch Axis: 1 arcsec
 - Yaw Axis: 1 arcsec
- **Deck Height:** 2.46" (62.5 mm) to the Mounting Surface of the Moving Platform, Accessory Beam Height is 75 mm Measured from the Bottom Surface of the Stage
- **Load Capacity:** 1.1 lbs (500 g)
- **Weight:** 1.7 lbs (750 g)



An example showing fiber to fiber alignment with a 3-axis flexure platform and MBT402.



The use of nested flexure elements ensures smooth, continuous motion for both rotational axes, making this device ideally suited for high resolution optical applications. Aside from its low profile, the key feature that this particular stage offers is the easy accessibility of the moving platform. As can be seen from the photograph above, the moving platform is accessible from three of the four sides; this feature maximizes the free space available for additional equipment that your setup may require.

Please refer to our website for complete models and drawings.

ITEM #	METRIC ITEM #	\$	£	€	RMB	DESCRIPTION
MBT402	MBT402/M	\$ 1,940.00	£ 1,396.80	€ 1,687.80	¥ 15,461.80	MicroBlock™ 4-Axis, Low-Profile Positioner