

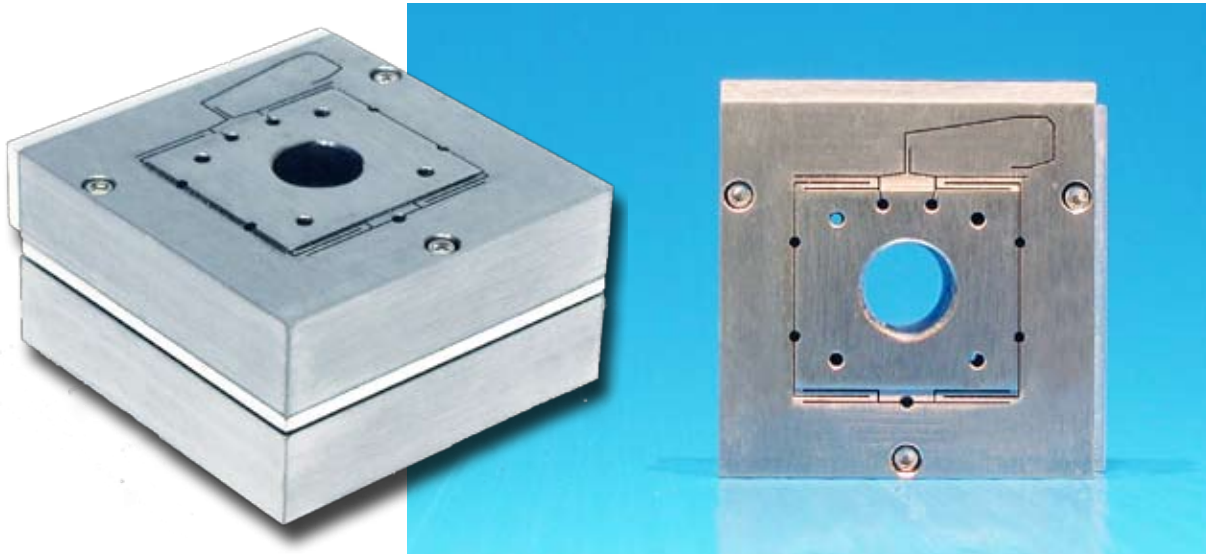
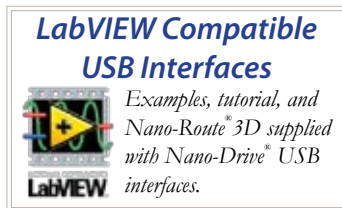
Nano-M250

Features

- ▶ Compact size
- ▶ Two axis motion
- ▶ $50\ \mu\text{m} \times 50\ \mu\text{m}$ ranges of motion
- ▶ 0.5 inch aperture
- ▶ Closed loop control
- ▶ **pico** sensor technology

Typical Applications

- ▶ Alignment
- ▶ Nanolithography
- ▶ Scanning microscopy



Nano-M250 (actual size) constructed from titanium.

Product Description

The Nano-M250 is a compact, two axis nanopositioning system constructed from titanium or invar. The small dimensions of the Nano-M250 allow it to be easily integrated into existing instrumentation for applications such as nanolithography and SEM. The 0.5" center aperture provides a convenient optical pathway or feedthrough for probe assemblies. Internal position sensors utilizing pro-

prietary **pico** technology provide absolute, repeatable position measurement with picometer accuracy under closed loop control. The Nano-M250 is also available in high vacuum and ultra high vacuum compatible models.

Technical Specifications

Range of motion (XY)	50 μm x 50 μm
Resolution	0.1 nm
Resonant Frequency (X)	1.0 kHz \pm 20%
Resonant Frequency (Y)	700 Hz \pm 20%
Stiffness	1.0 N/ μm
θ_{roll} , θ_{pitch} (typical)	\leq 1 μrad
θ_{yaw} (typical)	\leq 3 μrad
Recommended max. load (horizontal)*	0.5 kg
Recommended max. load (vertical)*	0.2 kg
Body Material	Invar or Titanium
Controller	Nano-Drive [®]

* Larger load requirements should be discussed with our engineering staff.

