

Nano-Bio Series

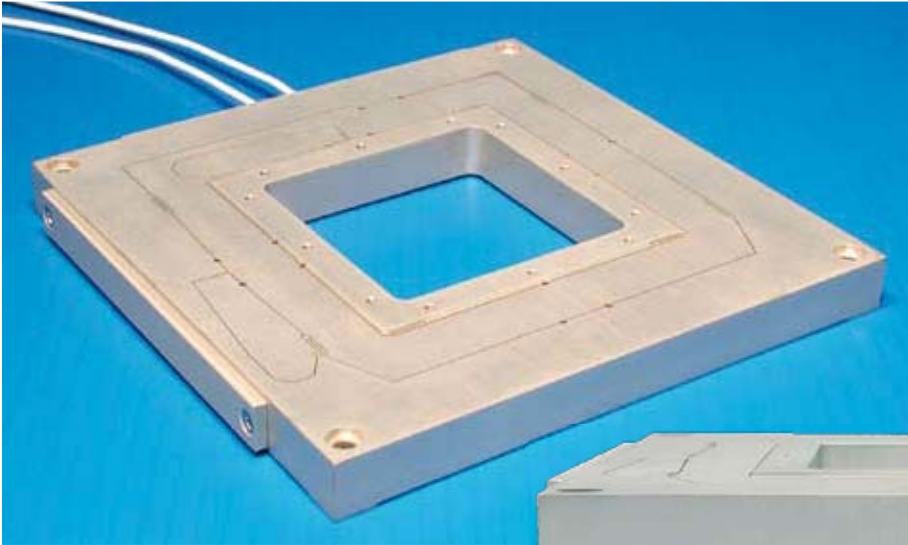
Features

- ▶ Lowest profile 2-axis nanopositioner available
- ▶ Large aperture
- ▶ $50\ \mu\text{m} \times 50\ \mu\text{m}$, $100\ \mu\text{m} \times 100\ \mu\text{m}$, or $200\ \mu\text{m} \times 200\ \mu\text{m}$ ranges of motion
- ▶ **pico**™ sensor technology
- ▶ Closed loop control

Typical Applications

- ▶ Optical microscopy, easy to retrofit
- ▶ Fluorescence imaging
- ▶ Closed-loop AFM scanner
- ▶ Nanolithography

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Nano-Bio2 (2-axis) constructed from aluminum.

Compatible Software Packages



Image-Pro
AIS

Analog motion
control



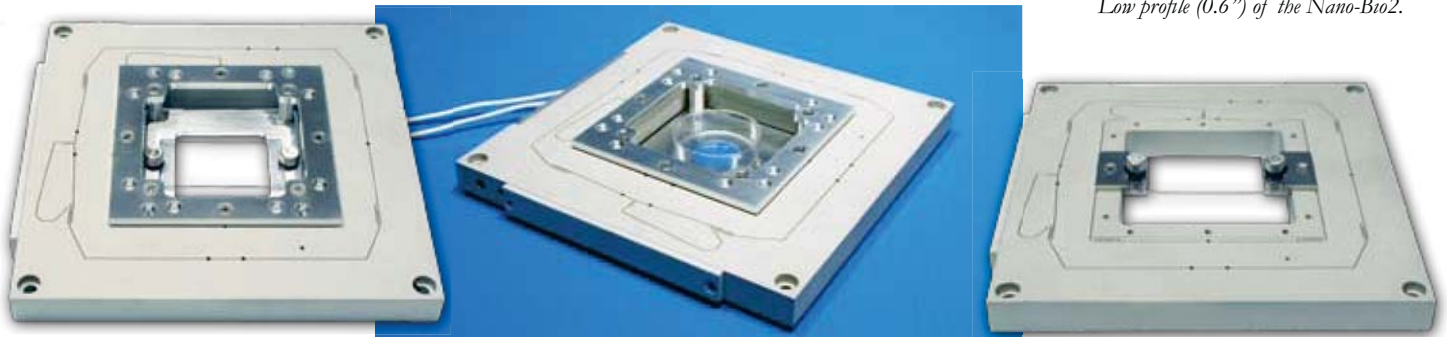
MetaMorph™
USB and analog
motion control

Examples, tutorial,
and Nano-Route™ 3D
supplied with
Nano-Drive™ USB
interfaces.

µManager
THE OPEN SOURCE
MICROSCOPY SOFTWARE
USB motion control



Low profile (0.6") of the Nano-Bio2.



Nano-Bio2 with re-entrant slide holder (left), petri dish holder (center), and top surface slide holder (right).

Product Description

The Nano-Bio Series are ultra low profile, two axis nanopositioning systems. The low profile design allows the Nano-Bio Series to be easily integrated into existing inverted microscopes, AFM's and other instrumentation where space is limited. The large center aperture allows the Nano-Bio to accommodate the lenses of all major microscope manufacturers. The Nano-Bio Series includes internal position sensors with proprietary **pico**™ technology to provide absolute, repeatable position measurement

and picometer accuracy under closed loop feedback control. The Nano-Bio100 and Nano-Bio200 are constructed from aluminum and are ideal for optical microscopy. The invar Nano-Bio2M has increased thermal stability, reduced overall size, and is an easily implemented closed-loop scanner upgrade for instruments using Veeco NanoScope controllers (needs a Nano-Drive™ controller with the AR-10 option).

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MCL

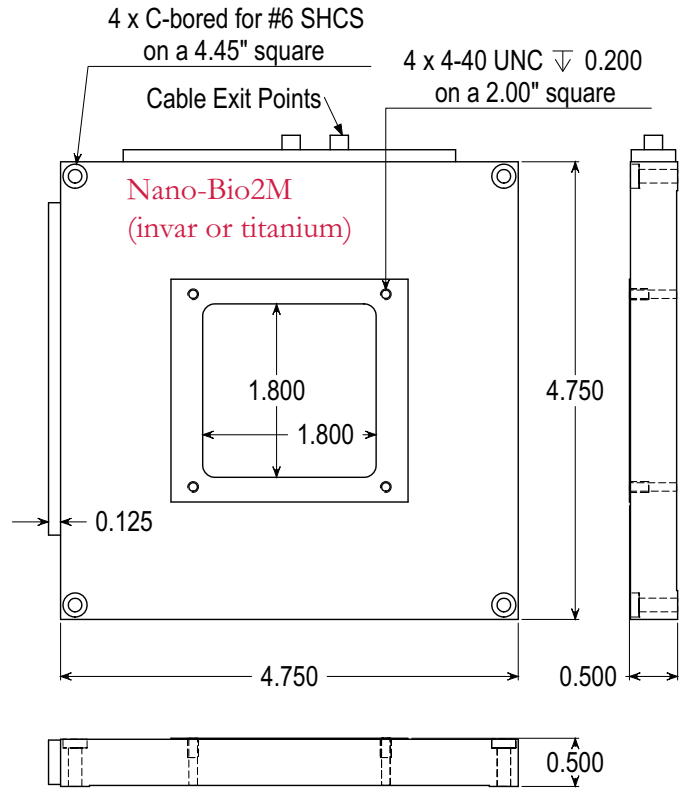
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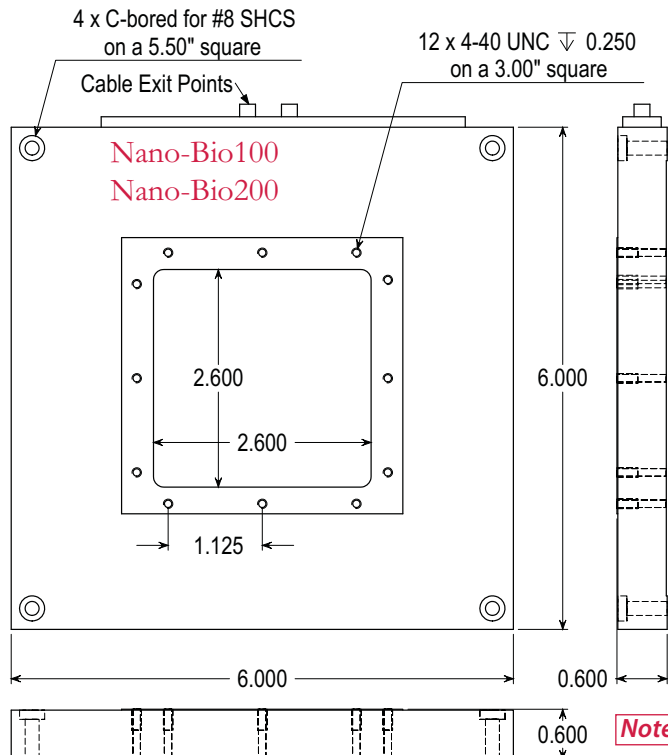
Technical Specifications

Range of motion (Nano-Bio2M)	50 μm x 50 μm
Range of motion (Nano-Bio100).....	100 μm x 100 μm
Range of motion (Nano-Bio200).....	200 μm x 200 μm
Resolution (50/100/200 μm)	0.1/0.2/0.4 nm
Resonant Frequencies (Nano-Bio100 and Nano-Bio200)	
X axis (100/200 μm)	450/400 Hz \pm 20%
Y axis (100/200 μm).....	350/300 Hz \pm 20%
Resonant Frequencies (Nano-Bio2M)	
X axis	500 Hz \pm 20%
Y axis.....	400 Hz \pm 20%
Stiffness	1.0 N/ μm
θ_{roll} , θ_{pitch} (typical)	≤ 1 μrad
θ_{yaw} (typical)	≤ 3 μrad
Recommended max. load (horizontal)*	0.5 kg
Recommended max. load (vertical)*	0.2 kg
Body Material	Al, Invar or Titanium
Controller	Nano-Drive™

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



Note: All Dimensions in Inches



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Low Position Noise

