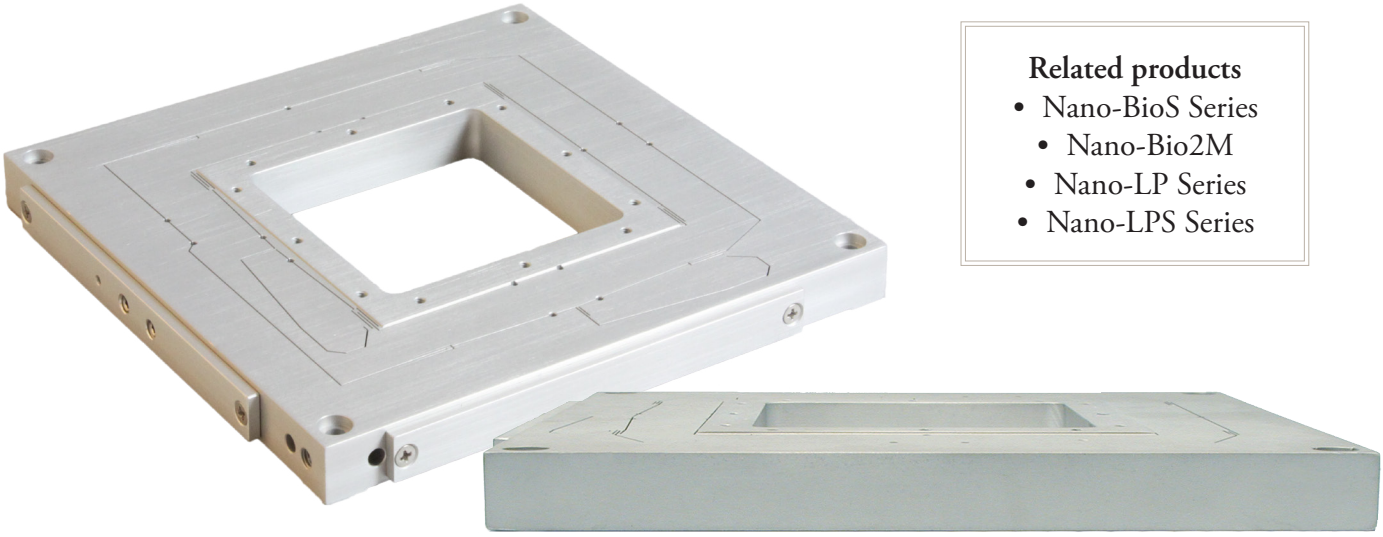
Nano-Bio Series

Features

- *Lowest profile 2-axis nanopositioner available*
- *Large aperture*
- *100 µm, 200 µm, or 300 µm ranges of motion*
- *picoQ® sensor technology*
- *Closed loop control, high stability*

Typical Applications

- *Optical microscopy, easy to retrofit*
- *Fluorescence imaging*
- *Closed-loop AFM scanner*
- *Nanolithography*
- *Optical tweezers*
- *Super resolution microscopy*



Low profile (0.6") of the Nano-Bio200.

Related products

- Nano-BioS Series
- Nano-Bio2M
- Nano-LP Series
- Nano-LPS Series

Product Description

The Nano-Bio Series are ultra low profile, two axis piezo 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 PicoQ® technology to provide absolute, repeatable position measurement and picometer accuracy under closed loop feedback control. The Nano-Bio100, Nano-Bio200, and Nano-Bio300 are constructed from aluminum and are ideal for optical microscopy. A related product, the Nano-Bio2M has increased thermal stability, reduced overall size, and is an easily implemented closed-loop scanner upgrade for commercial AFM instruments.

Compatible Software Packages

Examples, tutorial, and Mad City Labs Nano-Route® 3D motion control software

LabVIEW · MetaMorph · NIS-Elements · Image-Pro Plus · SlideBook 6 · µManager Open Source Microscopy Software

Technical Specifications

Range of motion (Nano-Bio100)..... 100 µm x 100 µm
Range of motion (Nano-Bio200)..... 200 µm x 200 µm
Range of motion (Nano-Bio300)..... 300 µm x 300 µm
Resolution (100/200/300 µm) ..... 0.2/0.4/0.6 nm
Resonant Frequencies
X axis (100/200/300 µm) .....300/300/260 Hz ±20%
Y axis (100/200/300 µm) .....250/170/170 Hz ±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.
** Material is aluminum for Nano-Bio300.

Low Position Noise