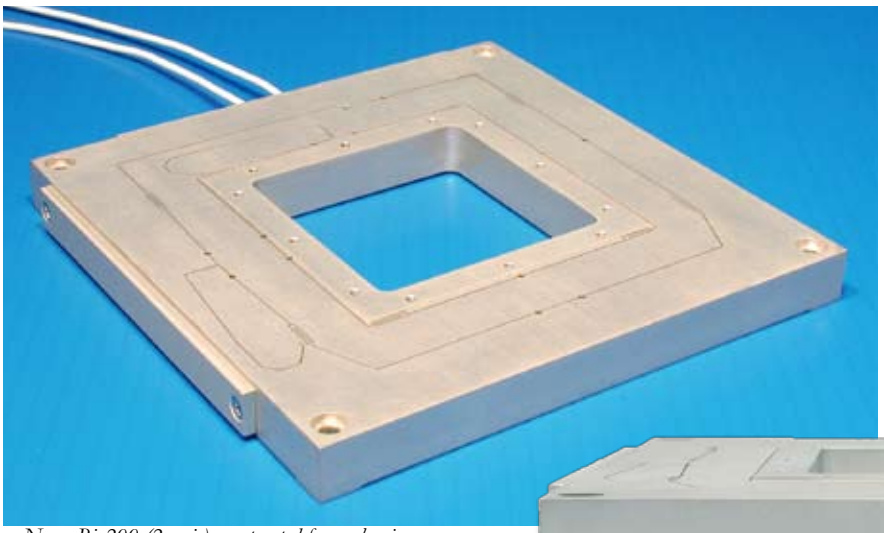
Nano-Bio Series

Features

- *Lowest profile 2-axis nanopositioner available*
- *Large aperture*
- *50 µm, 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*



Nano-Bio200 (2-axis) constructed from aluminum.

Compatible Software Packages

LabVIEW — *Examples, tutorial, and Nano-Route® 3D supplied with Nano-Drive® USB interfaces.*

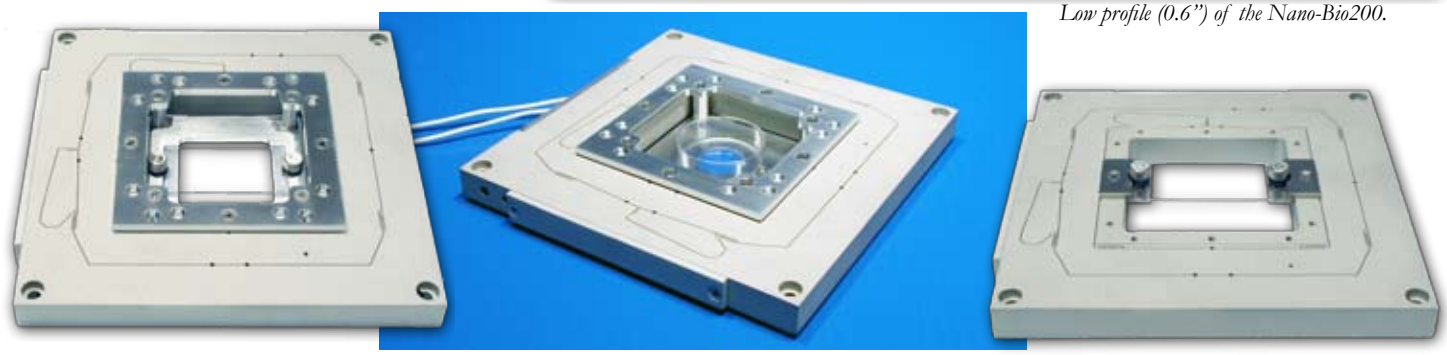
Image-Pro® AMS — *USB and analog motion control*

MetaMorph® — *USB and analog motion control*

µManager — THE OPEN SOURCE MICROSCOPY SOFTWARE — *USB motion control*

SLIDEBOOK 5.0 — *Analog motion control, 1 or 2 axes.*

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



Nano-Bio200 with re-entrant slide holder (left), petri dish holder (center), and top surface slide holder (right).

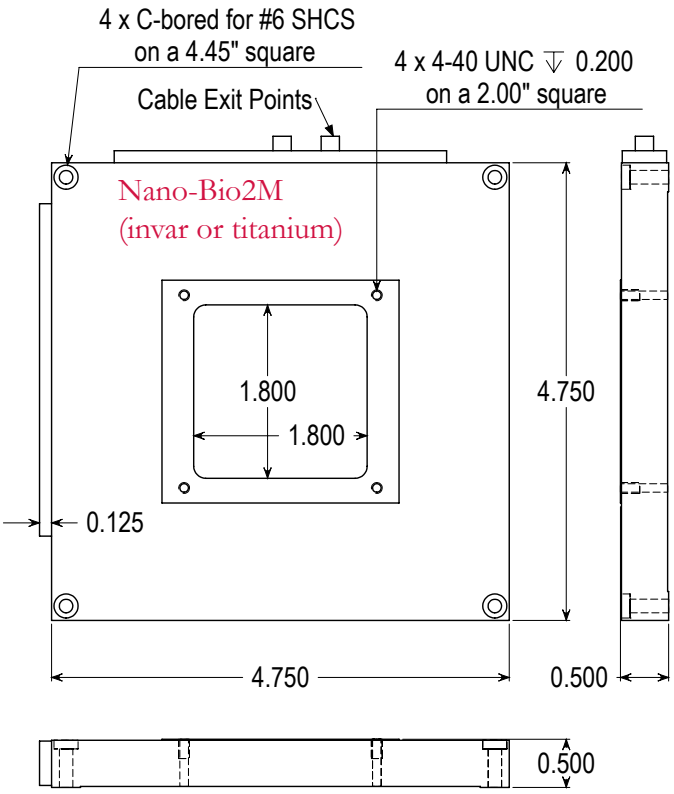
Product Description

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 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. 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).
See the Nano-LP Series for a low profile, 3-axis stage.

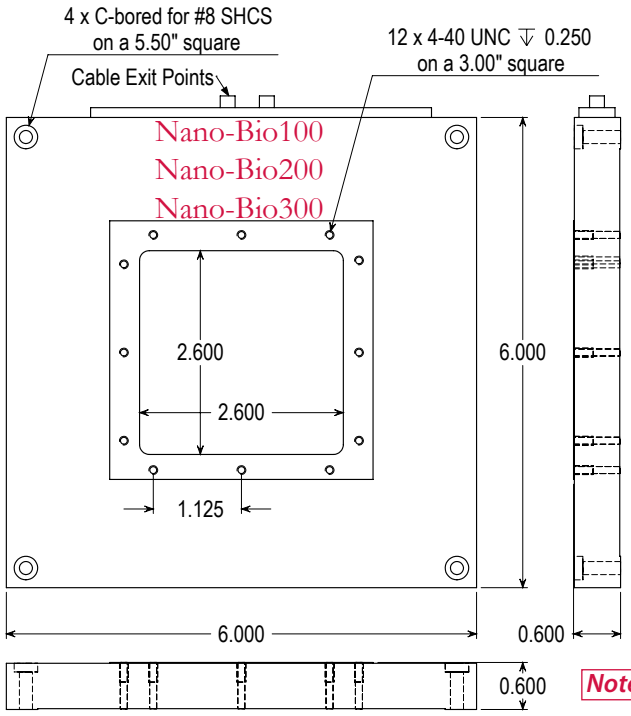
Technical Specifications

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
Range of motion (Nano-Bio300)..... 300 µm x 300 µm
Resolution (50/100/200/300 µm) .... 0.1/0.2/0.4/0.6 nm
Resonant Frequencies (Nano-Bio100, 200, and 300)
X axis (100/200/300 µm) .....450/400/260 Hz ±20%
Y axis (100/200/300 µm) .....350/300/200 Hz ±20%
Resonant Frequencies (Nano-Bio2M)
X axis ..... 500 Hz ±20%
Y axis..... 400 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.



Note: All Dimensions in Inches



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Low Position Noise