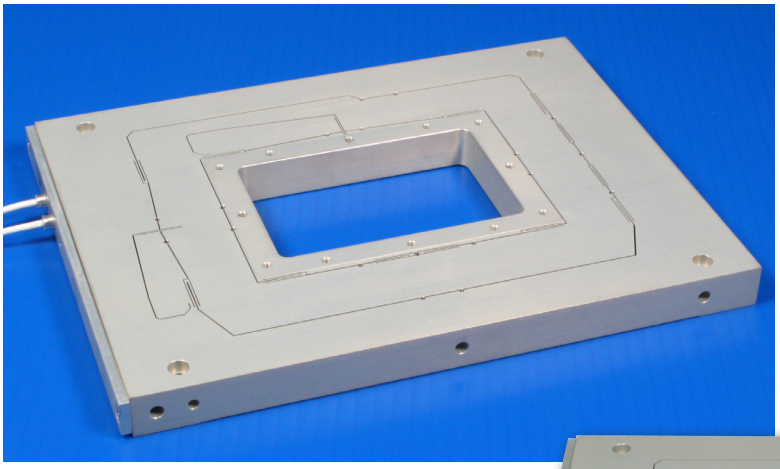
Nano-BioS Series

Features

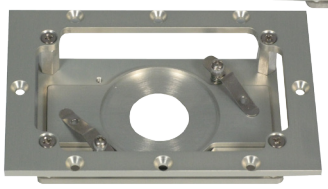
- *Lowest profile 2-axis nanopositioner available*
- *Large rectangular aperture for slides*
- *100 µm, 200 µm, or 300 µm ranges of motion*
- *picoQ® sensor technology*
- *Closed loop control, high stability*
- *Aperture sized for 3"/75mm slides*

Typical Applications

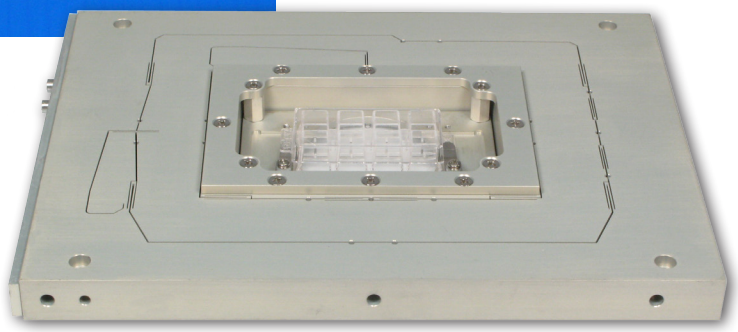
- *Optical microscopy, easy to retrofit*
- *Fluorescence imaging*
- *Closed-loop AFM scanner*
- *Nanolithography*
- *Optical tweezers*
- *Super resolution microscopy*



Re-entrant petri dish holder.



Re-entrant coverslip holder.



Nano-BioS300 with re-entrant slide holder (shown with Lab-Tek chamber slide).

Product Description

The Nano-BioS Series are ultra low profile, two axis piezo nanopositioning systems designed to be easily integrated into existing inverted microscopes, AFM's and other instrumentation where space is limited. The large, rectangular center aperture allows the Nano-BioS to hold re-entrant sample holders for standard 3"/75mm slides and other similar sized biological samples such as Lab-Tek chamber slides. The Nano-BioS Series stages include internal position sensors with proprietary PicoQ® technology to provide absolute, repeatable position measurement and picometer resolution under closed loop feedback control. The noise performance is similar to the Nano-Bio Series. The Nano-BioS stages are constructed from anodized aluminum and are offered in three ranges of motion: 100µm, 200µm, and 300µm. If motion in all three axes is needed, the Nano-LPS Series is a similar sized microscopy stage which is also able to move in the Z-axis for focusing operations.

Technical Specifications

Range of motion (Nano-BioS100)..... 100 µm x 100 µm
Range of motion (Nano-BioS200)..... 200 µm x 200 µm
Range of motion (Nano-BioS300)..... 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).....365/305/270 Hz ±20%
Y axis (100/200/300 µm) .....220/185/165 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-BioS300.

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

Related products

- Nano-Bio Series
- Nano-Bio2M
- Nano-LP Series
- Nano-LPS Series