

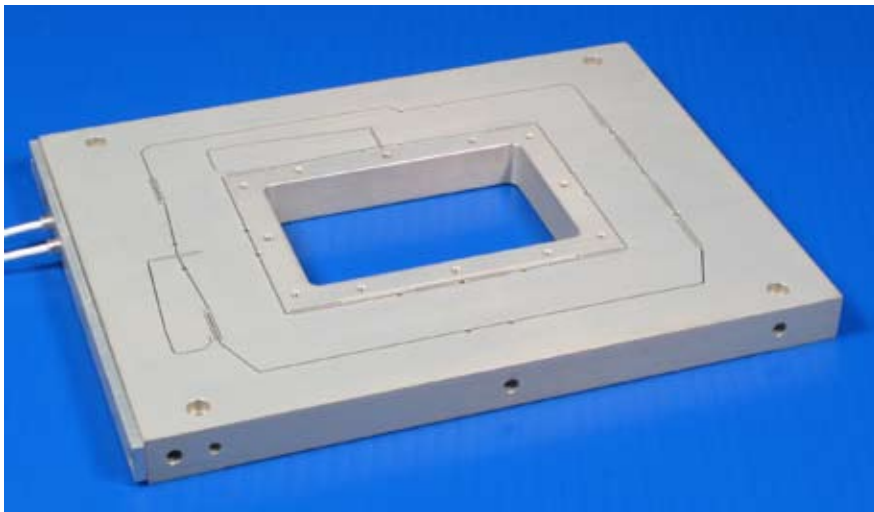
Nano-BioS Series

Features

- ▶ Lowest profile 2-axis nanopositioner available
- ▶ Large rectangular aperture for slides
- ▶ 100 μm \times 100 μm , 200 μm \times 200 μm , or 300 μm \times 300 μm ranges of motion
- ▶ **pico** sensor technology
- ▶ Closed loop control, high stability

Typical Applications

- ▶ Aperture sized for 3 inch slides
- ▶ Optical microscopy, easy to retrofit
- ▶ Fluorescence imaging
- ▶ Closed-loop AFM scanner
- ▶ Nanolithography
- ▶ Optical tweezers
- ▶ Super resolution microscopy



Nano-BioS300 (2-axis) constructed from aluminum.

Compatible Software Packages



Image-Pro
AMS
USB and analog motion control

μ Manager
THE OPEN SOURCE
MICROSCOPY SOFTWARE
USB motion control

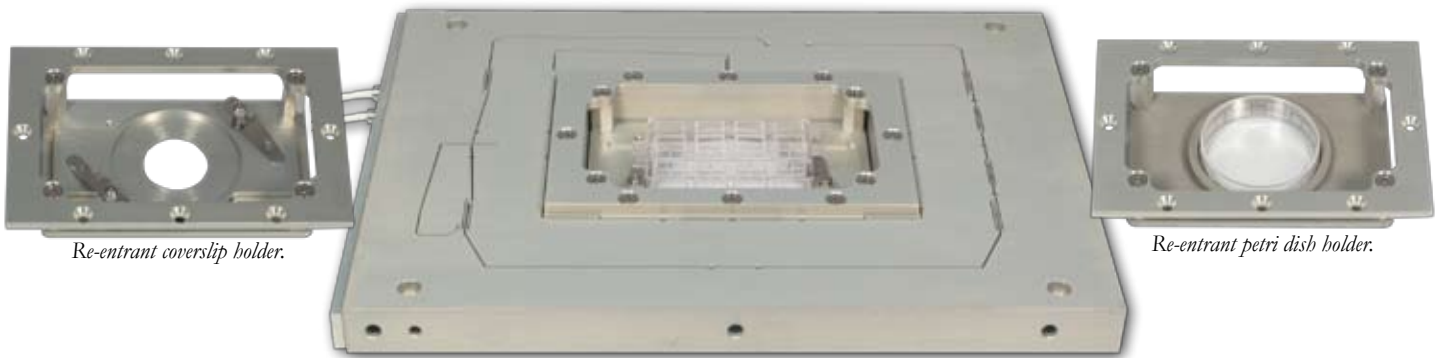


MetaMorph
USB and analog motion control



SLIDEROOK 6.0
Analog motion control,
1 or 2 axes.

Examples, tutorial, and Nano-Route^{3D} supplied with Nano-Drive^{USB} and analog USB interfaces.



Re-entrant coverslip holder.

Re-entrant petri dish holder.

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

Product Description

Like the popular Nano-Bio Series, the new Nano-BioS Series are ultra low profile, two axis 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 inch slides and other similar sized biological samples such as Lab-Tek chamber slides. The Nano-BioS Series stages include internal position sensors with propri-

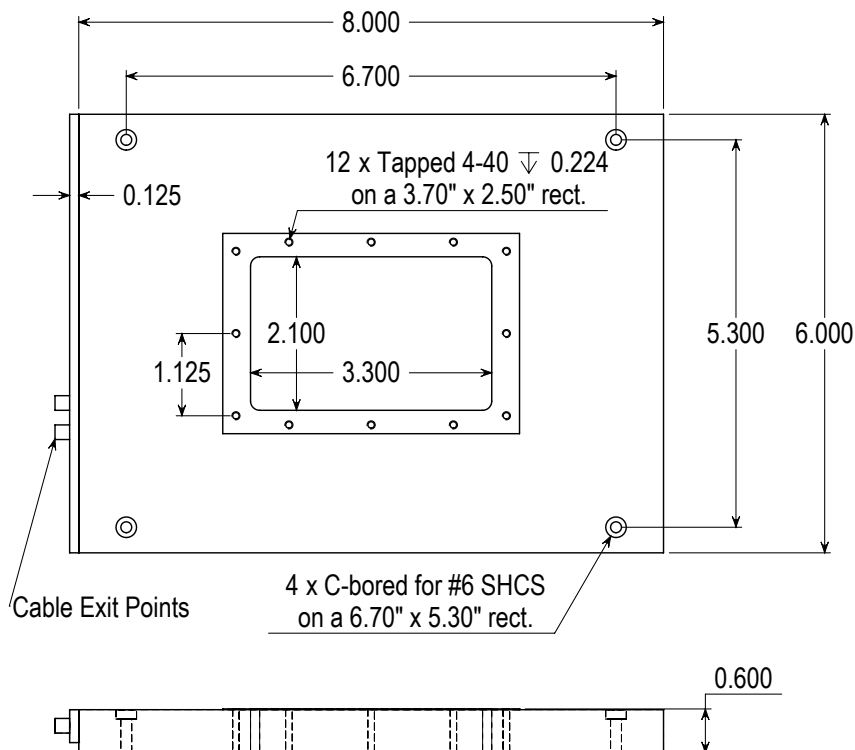
etary **pico** technology to provide absolute, repeatable position measurement and picometer resolution under closed loop feedback control. The Nano-BioS stages are constructed from anodized aluminum and are offered in three ranges of motion: 100 μm , 200 μm , and 300 μm . If motion in all three axes 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)	400/350/300 Hz $\pm 20\%$
Y axis (100/200/300 μm)	280/230/180 Hz $\pm 20\%$
Stiffness	1.0 N/ μm
$\theta_{\text{roll}}, \theta_{\text{pitch}}$ (typical)	$\leq 1 \mu\text{rad}$
θ_{yaw} (typical)	$\leq 3 \mu\text{rad}$
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.



Note: All Dimensions in Inches