

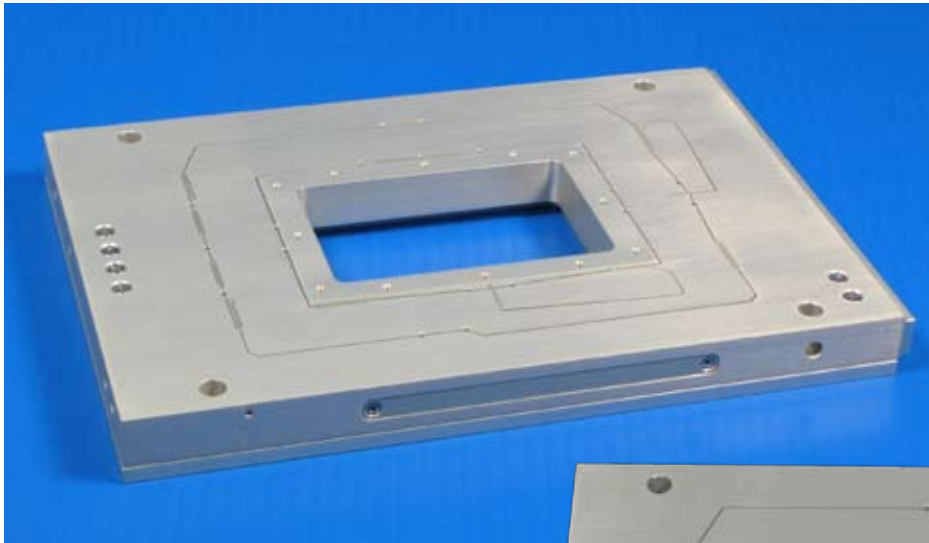
Nano-LPS Series

Features

- ▶ Lowest profile 3-axis nanopositioner available
- ▶ Large aperture for standard 3" slides
- ▶ 100 μm , 200 μm , and 300 μm ranges of motion (XYZ)
- ▶ **pico** sensor technology
- ▶ Closed loop control
- ▶ High stability

Typical Applications

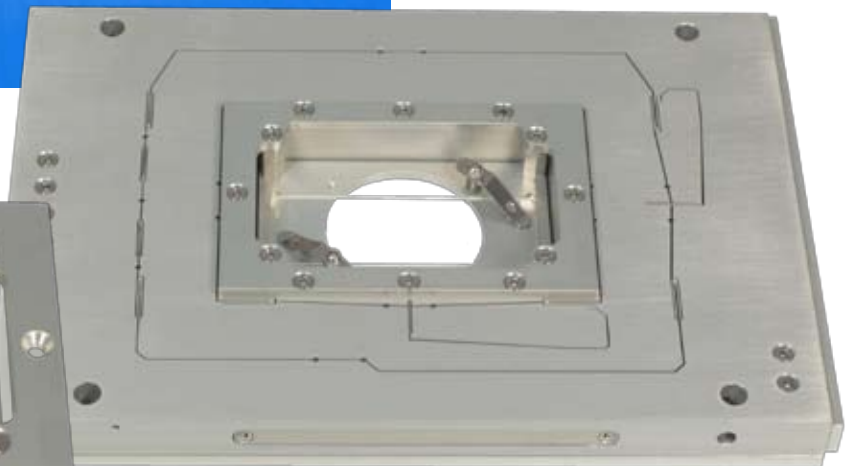
- ▶ Optical microscopy, easy to retrofit
- ▶ Optical trapping experiments
- ▶ Fluorescence imaging
- ▶ Alignment
- ▶ Single molecule spectroscopy
- ▶ Super resolution microscopy



Nano-LPS100 (3-axis) constructed from aluminum.



Re-entrant slide holder with coverslip adapter.



Nano-LPS100 with re-entrant slide holder.

Compatible Software Packages



USB and analog motion control

USB and analog motion control

Examples, tutorial, and Nano-Route[®] 3D supplied with Nano-Drive[®] USB interfaces.



USB motion control

Product Description

The Nano-LPS Series are ultra-low profile, three axis nanopositioning systems with 100, 200, and 300 micron ranges of motion in all three axes. The low height of the Nano-LPS Series allows it to be easily integrated into existing inverted optical microscopes. Like the related Nano-LP Series, the Nano-LPS Series is ideal for de-

manding microscopy applications which require long range travel, fast scan rates, and three axes of motion. Uniquely suited for biological samples, the Nano-LPS has a large center aperture which is large enough to hold full size 3 inch (75mm) standard slides. Precise and repeatable motion is made possible through closed loop control combined with **pico** position sensors.

Technical Specifications

Range of motion (Nano-LPS100) ...100 x 100 x 100 μm	$\theta_{\text{roll}}, \theta_{\text{pitch}}$ (typical) $\leq 1 \mu\text{rad}$
Range of motion (Nano-LPS200) ...200 x 200 x 200 μm	θ_{yaw} (typical) $\leq 3 \mu\text{rad}$
Range of motion (Nano-LPS300) ...300 x 300 x 300 μm	Recommended max. load (horizontal)* 0.5 kg
Resolution (100/200/300 μm) 0.2/0.4/0.6 nm	Recommended max. load (vertical)* 0.2 kg
Resonant Frequencies	Body Material** Al, Invar or Titanium
X axis (100/200/300 μm) 400/350/300 Hz $\pm 20\%$	Controller Nano-Drive [®]
Y axis (100/200/300 μm) 400/350/300 Hz $\pm 20\%$	* Larger load requirements should be discussed with our engineering staff.
Z axis (100/200/300 μm) 400/300/200 Hz $\pm 20\%$	** Material is aluminum for Nano-LPS300.
Stiffness 1.0 N/ μm	

