

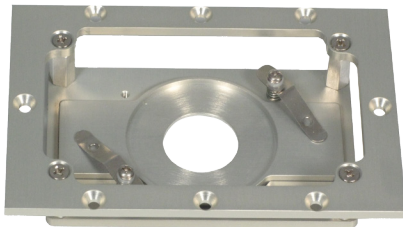
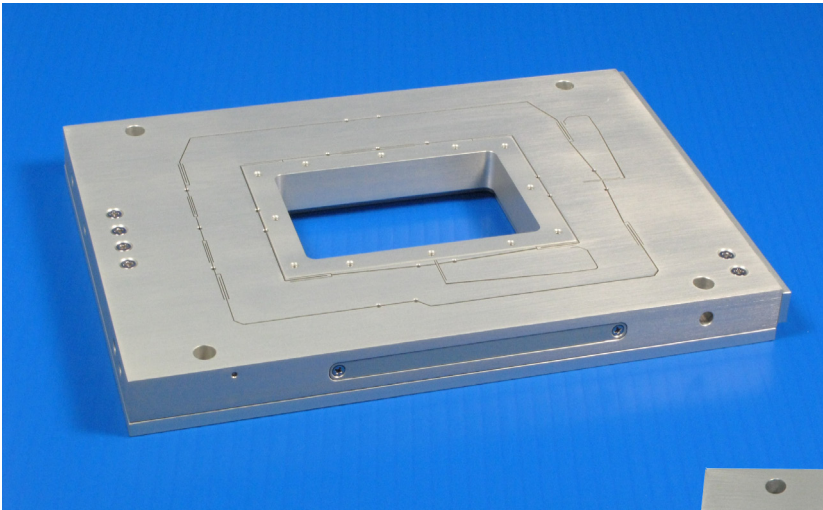
Nano-LPS Series

Features

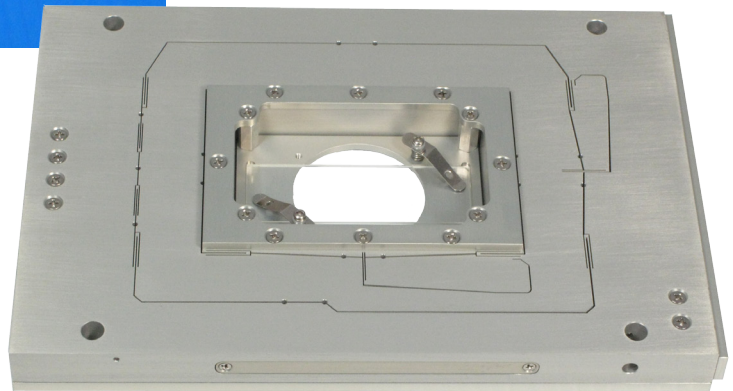
- ▶ Lowest profile 3-axis nanopositioner available
- ▶ Large aperture for standard 3" slides
- ▶ 100 μm , 200 μm , and 300 μm ranges of motion
- ▶ **pico** sensor technology
- ▶ Closed loop control
- ▶ High stability

Typical Applications

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



Re-entrant slide holder with coverslip adapter.



Nano-LPS100 with re-entrant slide holder.

Compatible Software Packages



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



Product Description

The Nano-LPS Series are ultra-low profile, three axis piezo nanopositioning systems with up to 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. With comparable performance to the Nano-LP Series, the Nano-LPS Series is ideal for demanding microscopy applications which require long range travel and three axes of mo-

tion. 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 proprietary PicoQ[®] position sensors. The low noise floor of PicoQ sensors enables high resolution and high stability performance essential to advanced nanoscopy and metrology applications.

Technical Specifications

Range of motion (Nano-LPS100) ...100 x 100 x 100 μm
 Range of motion (Nano-LPS200) ...200 x 200 x 200 μm
 Range of motion (Nano-LPS300) ...300 x 300 x 300 μm
 Resolution (100/200/300 μm) 0.2/0.4/0.6 nm
 Resonant Frequencies
 X axis (100/200/300 μm)365/250/250 Hz $\pm 20\%$
 Y axis (100/200/300 μm)285/150/125 Hz $\pm 20\%$
 Z axis (100/200/300 μm)150/115/110 Hz $\pm 20\%$
 Stiffness1.0 N/ μm
 θ_{roll} , θ_{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®

- Related products**
- Nano-LP Series
 - Nano-LPQ
 - Nano-Bio Series
 - Nano-BioS Series
 - RM21® Microscopes

* Larger load requirements should be discussed with our engineering staff.
 ** Nano-LPS300 is available in Aluminum only.

