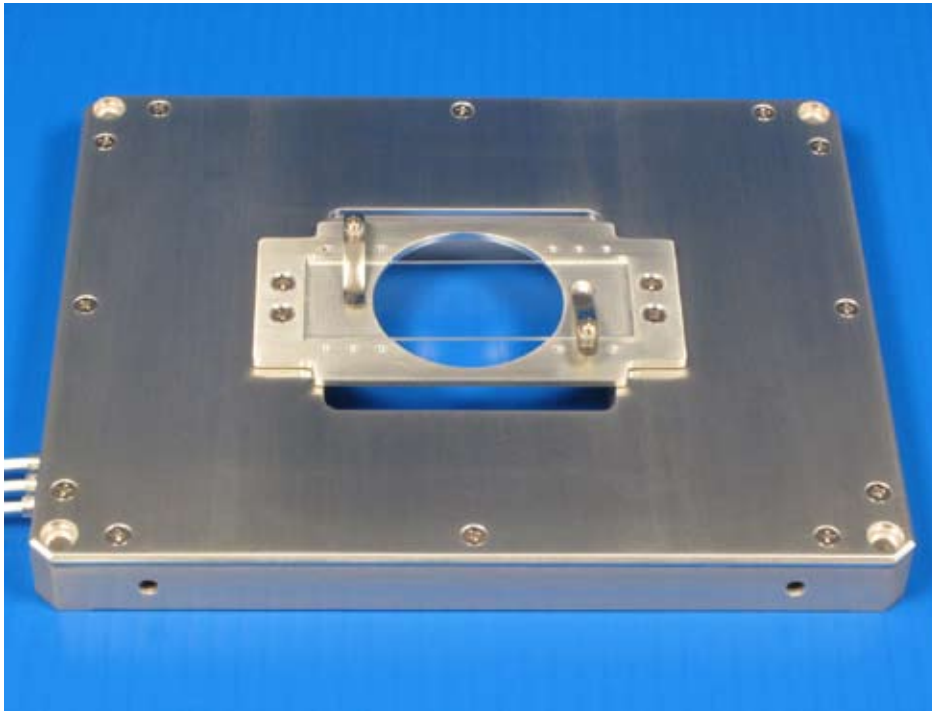


Features

- ▶ Low profile, high speed, XYZ motion
- ▶ Built-in sample holders
- ▶ Equal speeds on all three axes
- ▶ **pico** sensor technology
- ▶ Closed loop control
- ▶ High stability

Typical Applications

- ▶ Optical microscopy, easy to retrofit
- ▶ Optical trapping experiments
- ▶ Fluorescence imaging
- ▶ Particle tracking
- ▶ Single molecule spectroscopy



Nano-LPQ375HS with built-in slide holder.

Compatible Software Packages



USB and analog
motion control

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



USB motion control

Product Description

The Nano-LPQ is an ultra-low profile, high speed, three axis nanopositioning system with 75 microns of travel in XY and 50 microns in Z. Designed to minimize the moving mass, lightweight sample holders are integrated into the stage and represent the only moving component. This unusual design allows the three axes of motion to have matched resonant frequencies and step response

times. Equal 3-axis speed is particularly useful for applications like 3D particle tracking. The Nano-LPQ uses internal position sensors utilizing proprietary **pico** technology to provide absolute, repeatable position measurement with sub-nanometer resolution under closed loop control. Another system to consider: the Nano-PDQ Series stages offer similar high speed positioning performance with a larger sample mounting area and higher load capacity.

Technical Specifications

Range of motion (XYZ)	75 x 75 x 50 μm
Resolution (X/Y/Z)	0.2/0.2/0.1 nm
Resonant Frequencies (XYZ)	1000 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)*	100 g
Recommended max. load (vertical)*	100 g
Body Material	Aluminum
Controller	Nano-Drive [®] 85

* Larger load requirements should be discussed with our engineering staff.

