



Medical and Biotech
Developments, Inc.



Low Profile Positioner

Features

- Low profile, high speed, XYZ motion
- Built-in sample holders
- Equal speeds on all three axes
- Closed loop control

Typical Applications

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

Product Description

The Nano-LPQ is an ultra-low profile, high speed, three axis nan positioning 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 PicoQ™ technology to provide absolute, repeatable position measurement with sub-nanometer resolution under closed loop control. The Nano-LPQ is just one of many multi-axis low profile nan positioning systems available.

Compatible Software Packages:



Note: Products are compatible with other software platforms not shown.



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
θ_{roll} , θ_{pitch} (typical)	\leq 1 μrad
θ_{yaw} (typical)	\leq 3 μrad
Recommended max. load (horizontal)*	0.5 kg
Recommended max. load (vertical)*	0.2 kg
Body Material	Al or Titanium
Controller	Nano-Drive85™

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