Nano-PDQ Series

Features

- *High speed, direct drive*
- *Two or three axis motion*
- *50 µm or 75 µm ranges of motion*
- *Large aperture*
- *Large load capacity*
- *pico sensor technology*
- *Closed loop control*

Typical Applications

- *Fast multi-axis scanning*
- *Optical trap calibration*
- *Particle tracking*

Nano-PDQ350 (3-axis) constructed from aluminum.

Nano-PDQ250 (2-axis) constructed from aluminum.

Compatible Software Packages

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

LabVIEW, MetaMorph, NIS Elements, Image-Pro Plus, SlideBook 6, µManager Open Source Microscopy Software

Product Description

The Nano-PDQ Series are high speed, multi-axis piezo nanopositioning systems. The Nano-PDQ Series offers a compact footprint with a large center aperture while still offering fast response and sub-nm precision The Nano-PDQ Series are ideal for applications that demand high scan rates or large load capacities. The Nano-PDQ series may be ordered with the standard Nano-Drive® or higher power Nano-Drive® controllers to match to your application speed requirements. The Nano-PDQ Series features parallel, uncoupled motion in up to three axes and fully integrated position sensors utilizing proprietary PicoQ® technology to provide absolute, repeatable position measurement and picometer accuracy under closed loop control.

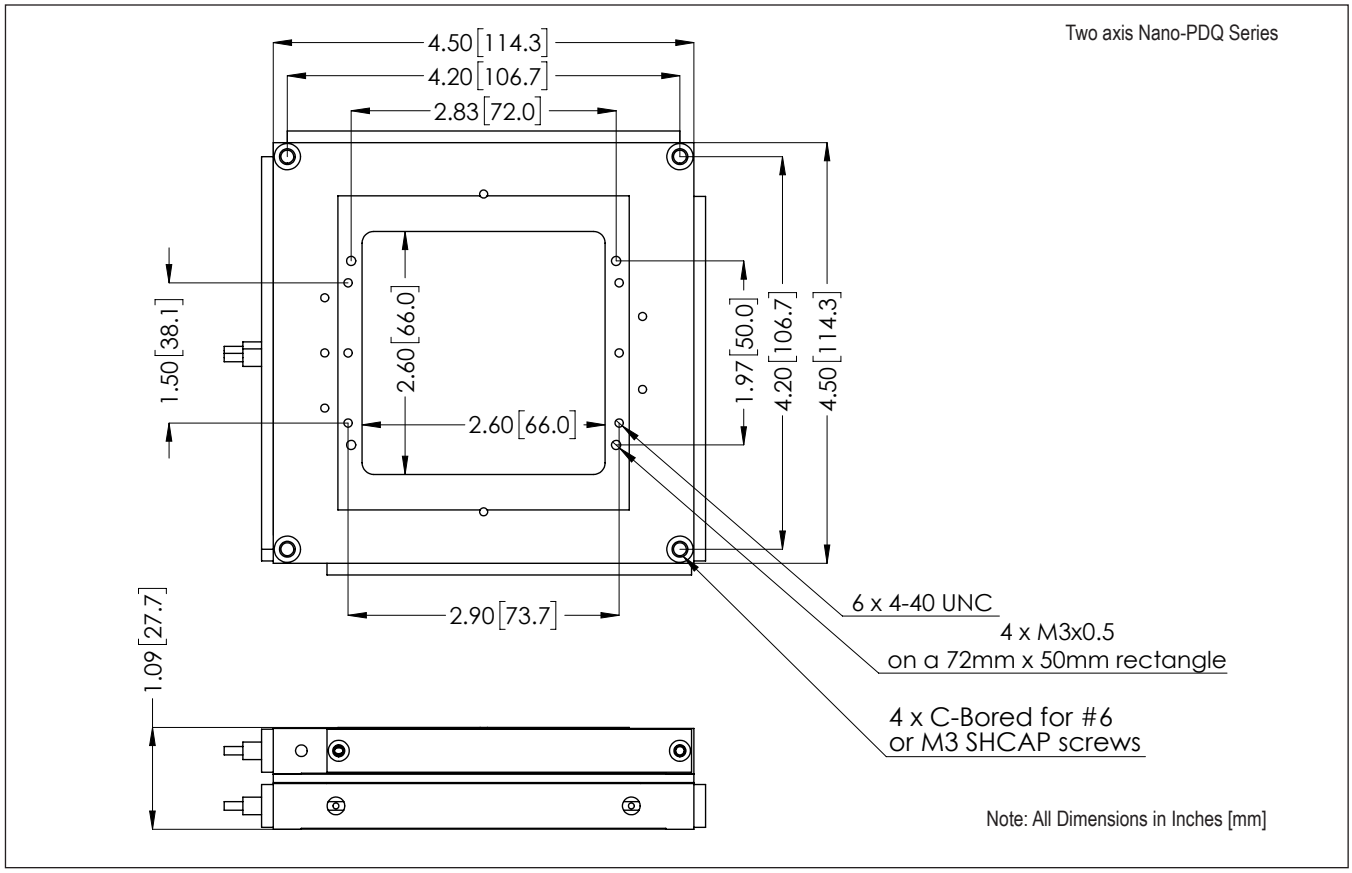
Another system to consider: the low profile Nano-LPQ has similar 3-axis, high speed positioning performance but is sized to be more convenient when used on inverted research microscopes.

Technical Specifications

Range of motion (X)	50 µm/75 µm
Range of motion (Y)	50 µm/75 µm
Range of motion (Z)	50 µm
Resolution (50/75 µm)	0.1/0.15 nm
Resonant Frequency (X)	2.7/1.0 kHz ±20%
Resonant Frequency (Y)	1.6/0.4 kHz ±20%
Resonant Frequency (Z)	275 Hz ±20%
Scanning Speed†	up to 400 Hz
Stiffness	3.0 N/µm
θ_{roll} , θ_{pitch} (typical)	≤1 µrad
θ_{yaw} (typical)	≤3 µrad

Recommended max. load (horizontal)*	0.5 kg
Recommended max. load (vertical)*	0.2 kg
Body Material	Al, Invar or Titanium
Controller	Nano-Drive®
Models available	Nano-PDQ250
	Nano-PDQ275
	Nano-PDQ350
	Nano-PDQ375

* Larger load requirements should be discussed with our engineering staff.
† Using a Nano-Drive®85 controller.



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