Nano-F Series

Features

- *Compact objective lens focusing element*
- *Interchangeable, quick mount adapters*
- *100 µm or 200 µm ranges of motion*
- *Compatible with all microscopes*
- *Closed loop control*
- *pico® sensor technology*

Typical Applications

- *Microscope focusing element*
- *Confocal imaging*
- *Auto focus*
- *STORM and PALM imaging*

Nano-F200S constructed from aluminum.

Nano-F100S constructed from aluminum.

Compatible Software Packages

LabVIEW — *Examples, tutorial, and Nano-Route® 3D supplied with Nano-Drive® USB interfaces.*

Image-Pro® AMS — *Analog motion control*

µManager — THE OPEN SOURCE MICROSCOPY SOFTWARE — *USB motion control*

MetaMorph® — *USB and analog motion control*

SLIDEBOOK 6.0 — *Analog motion control, 1 or 2 axes.*

Quick mount adapters allow the Nano-F Series to be used with a variety of microscopes and lenses. Threaded adapters include RMS, M25, M26, M27 and M32 (Nano-F100W and F200W for M27 and M32).

Product Description

The Nano-F Series are nanopositioner focusing elements with 100 or 200 microns of travel. Internal position sensors utilizing proprietary pico® technology provide absolute, repeatable position measurement for precise closed loop control. Extensive computer modeling (FEA) of the Nano-F Series mechanical structures has resulted in designs with very low off-axis motion (see runout specifications) - which means that microscope images will remain stable throughout the entire range of motion. The Nano-F Series can be used as stand-alone systems or in conjunction with other Mad City Labs nanopositioning stages. Quick mount adapters thread directly into the microscope turret and the nanopositioner can then be clamped onto the adapter without having to rotate the entire assembly with the attached cable. A variety of quick mount adapter threads allow the Nano-F Series to be used on all microscopes. The desired threads on the quick mount adapter are specified for each system when it is ordered. Extra adapters can be ordered separately.

Technical Specifications

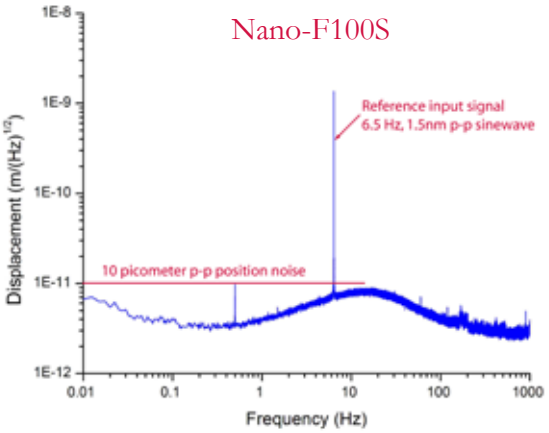
Range of motion (Nano-F100S and F100W) ..... 100 µm
Range of motion (Nano-F200S and F200W) ..... 200 µm
Resolution (100/200 µm) ..... 0.2 / 0.4 nm
Resonant Frequency (100 and 200 µm) .... 500 Hz ±20%
Runout (θ_X) ..... 6 µrad (100 and 200 µm ranges)
Runout (θ_Y) ..... 10 µrad (100 µm), 25 µrad (200 µm)
Stiffness ..... 1.0 N/µm
Recommended max. load* ..... 0.5 kg
Body Material ..... Al and Brass
Threaded Adapters
Nano-F100S and F200S ..... RMS, M25, M26
Nano-F100W and F200W M27, M32
Controller ..... Nano-Drive®

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

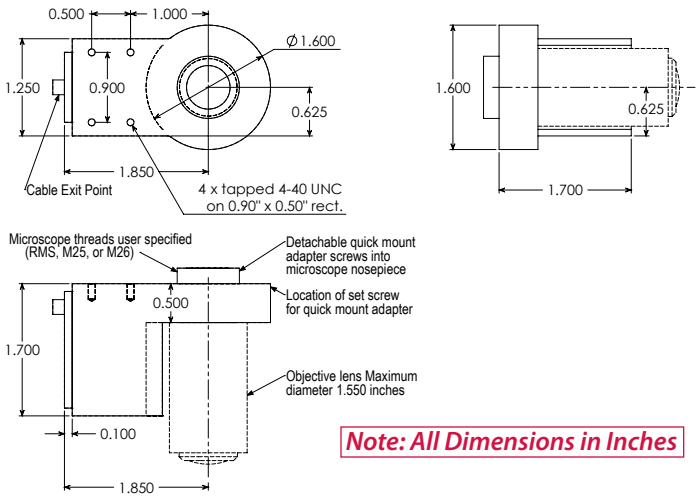
Note: See page 15 for custom high speed lens positioning systems.

Low Position Noise

Nano-F100S

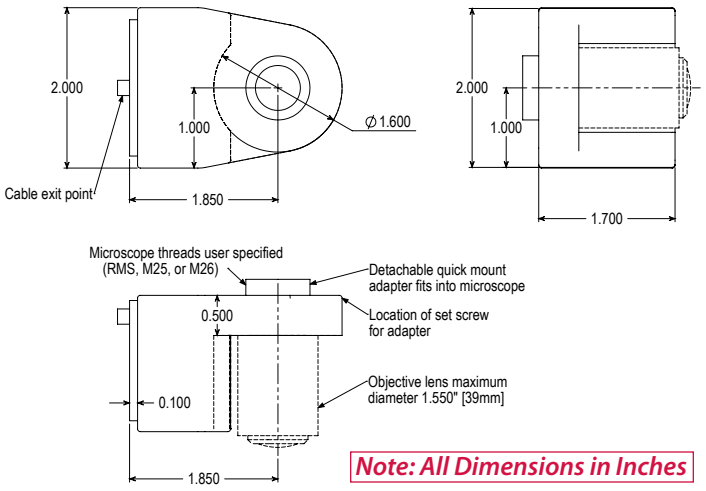


Nano-F100S with RMS, M25, or M26 adapters



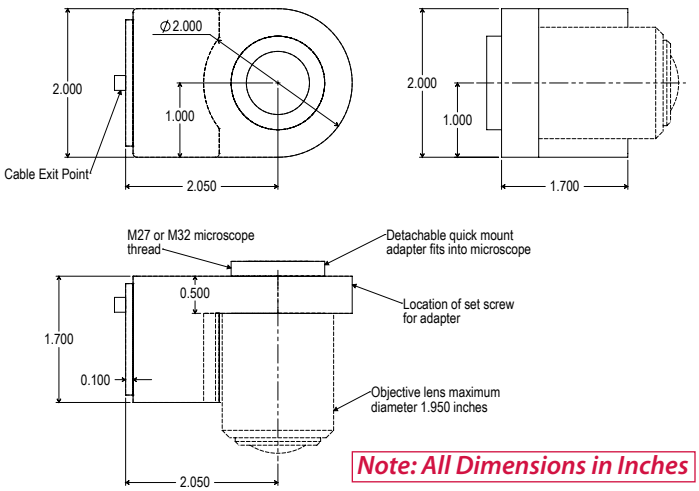
Note: All Dimensions in Inches

Nano-F200S with RMS, M25, or M26 adapters



Note: All Dimensions in Inches

Nano-F100W and F200W with M27 or M32 adapters



Note: All Dimensions in Inches