

Nano-HS Series

Features

- ▶ High speed, multi-axis
- ▶ XY and XYZ configurations
- ▶ Z-axis step response time down to 2ms
- ▶ Z-axis scans up to 300 Hz
- ▶ Closed loop control
- ▶ Picometer positioning resolution
- ▶ High stability
- ▶ **pico** sensor technology

Typical Applications

- ▶ High speed, high resolution positioning
- ▶ Metrology
- ▶ AFM
- ▶ SPM



Nano-HS2 (XY motion)
constructed from aluminum.



Nano-HS3 (XYZ motion)
constructed from aluminum.

LabVIEW Compatible USB Interfaces



Examples, tutorial, and
Nano-Route 3D supplied
with Nano-Drive USB
interfaces.

Product Description

The Nano-HS Series is a high speed, multi-axis, precision nanopositioning system with picometer positioning resolution. Offering maximum versatility, the Nano-HS can be configured to provide XY or XYZ motion. Internal position sensors utilizing proprietary **pico** technology provide absolute, repeatable position measurement under

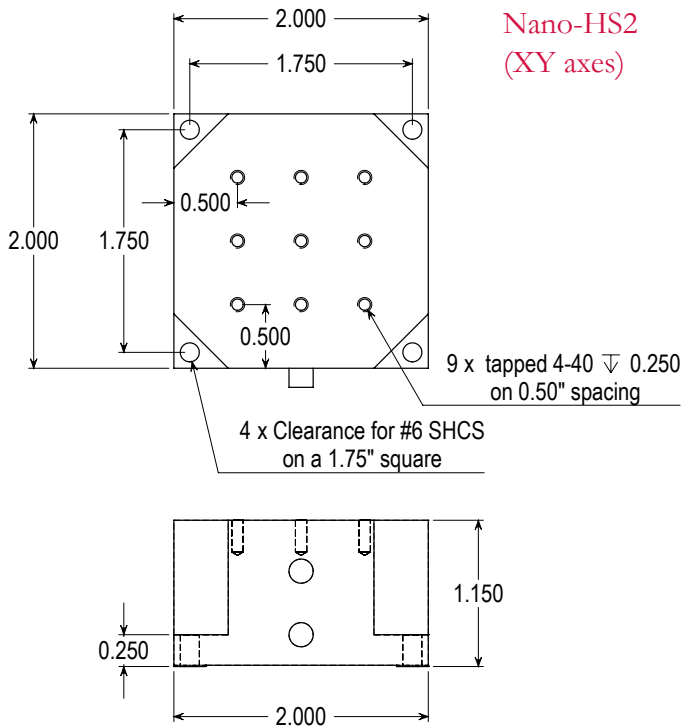
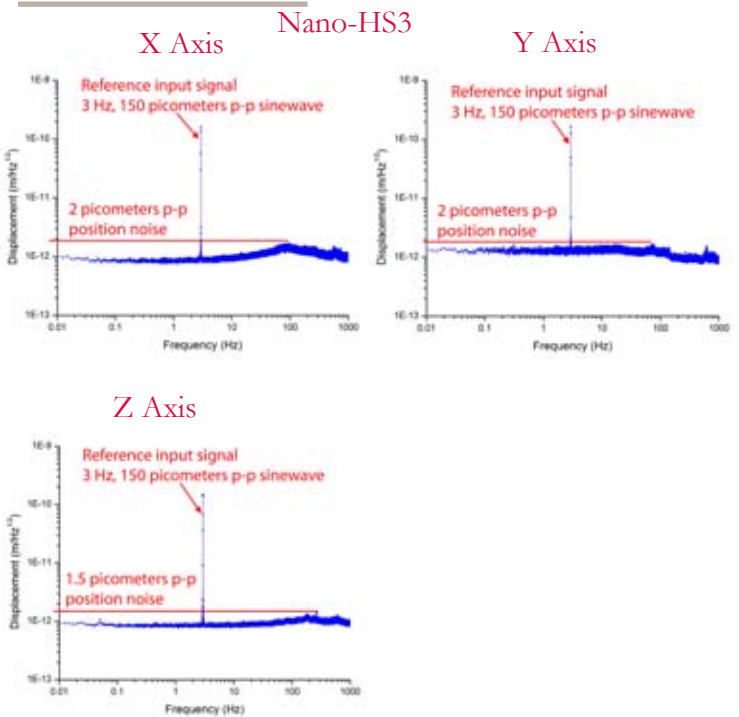
closed loop control. The compact footprint, ultra-low noise characteristics, and a Z-axis resonant frequency of 5kHz make it ideal for metrology applications that require noise floors less than 10 picometers and/or high speed performance.

Technical Specifications

Range of motion (XYZ) 10 μm
 Resolution 0.01 nm
 XY (HS2) Resonant Frequency 1.5 kHz $\pm 20\%$
 XY (HS3) Resonant Frequency 1.0 kHz $\pm 20\%$
 Z (HS3) Resonant Frequency 5.0 kHz $\pm 20\%$
 Scanning Speed up to 300 Hz
 Stiffness (Z-axis) 8 N/ μm
 Recommended max. load (horizontal)* 0.1 kg
 Recommended max. load (vertical)* 0.1 kg
 Body Material Al, Invar or Titanium
 Controller Nano-Drive®

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

Low Position Noise



Note: All Dimensions in Inches

