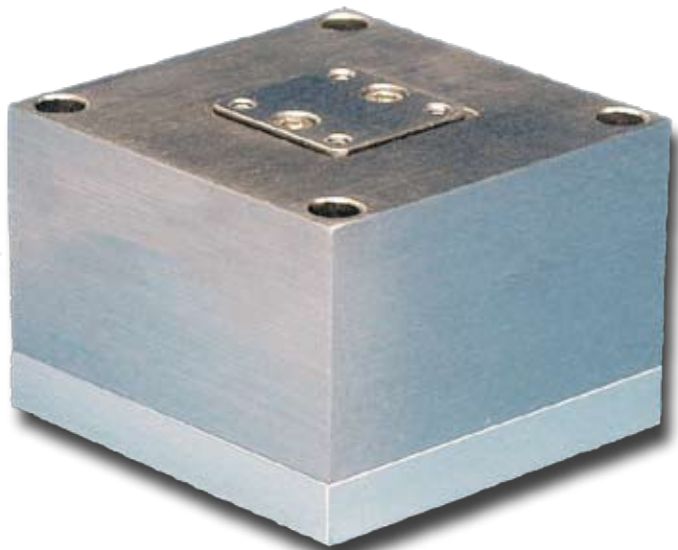


Features

- ▶ *Single axis (Z) motion*
- ▶ *Step response less than 1 millisecond*
- ▶ *Scans up to 500 Hz*
- ▶ *Closed loop control*
- ▶ *Combine with Nano-OP Series for multi-axis configurations*
- ▶ **pico** sensor technology

Typical Applications

- ▶ *High speed, high resolution positioning*
- ▶ *Metrology*
- ▶ *Interferometry*



Nano-HSZ constructed from aluminum.

LabVIEW Compatible USB Interfaces



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



Nano-HSZ (shown actual size) combined with two Nano-OP Series stages for high speed, high resolution, 3-axis motion (XYZ).

The 3-axis Nano-HS3 (pages 36-37) provides similar high speed, high resolution performance in an integrated package.

Product Description

The Nano-HSZ is a high speed single axis (Z-axis) precision nanopositioning system. Internal position sensors utilizing proprietary **pico** technology provide absolute, repeatable position measurement with picometer accuracy under closed loop control. The Nano-HSZ offers a compact footprint, ultra low noise characteristics, and a reso-

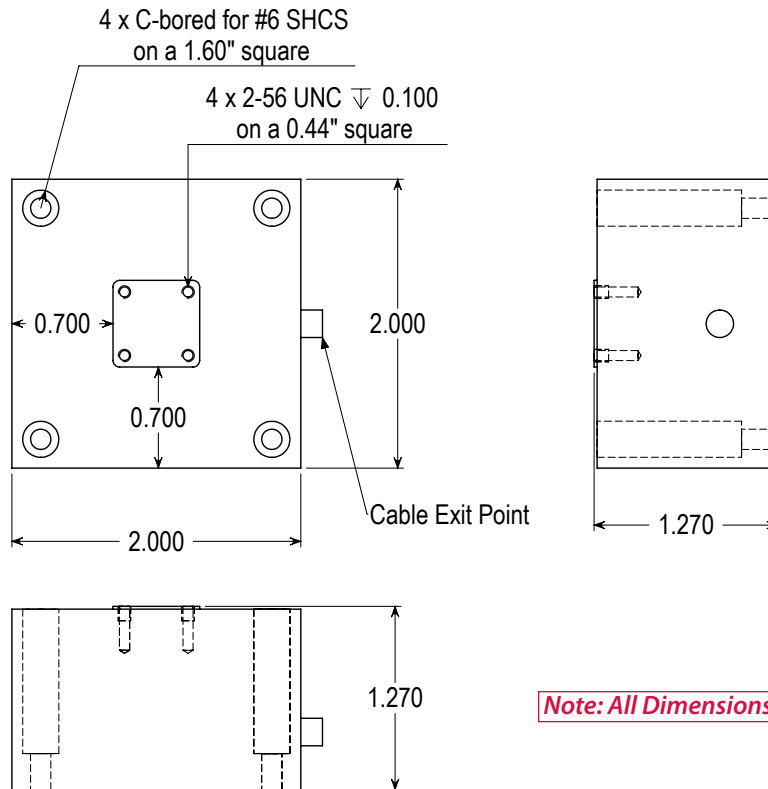
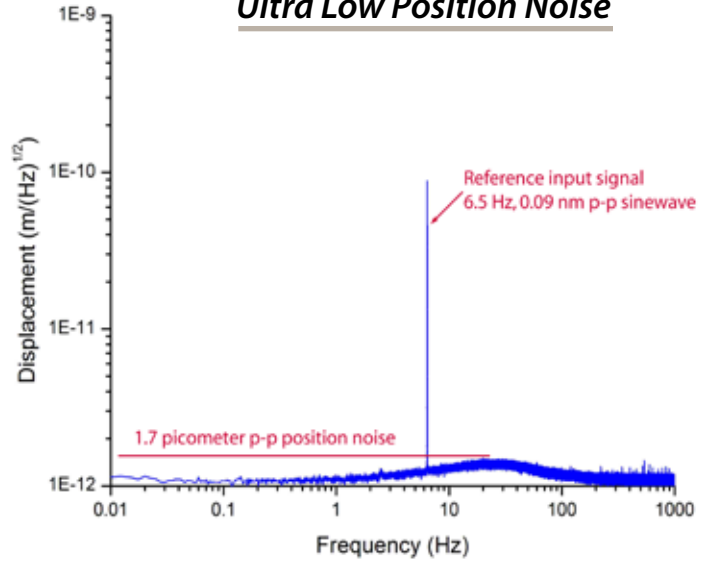
nant frequency greater than 7 kHz. These characteristics make it ideal for applications that require noise floors less than 10 picometers and/or high speed performance. With the step response time of the Nano-HSZ set to less than 1 millisecond for extremely high speed applications, scan frequencies up to 500Hz can be achieved.

Technical Specifications

Range of motion (Z)	10 μm
Resolution	0.01 nm
Resonant Frequency	7.5 kHz \pm 20%
Scanning Speed	up to 500 Hz
Stiffness	12 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.

Ultra Low Position Noise



Note: All Dimensions in Inches