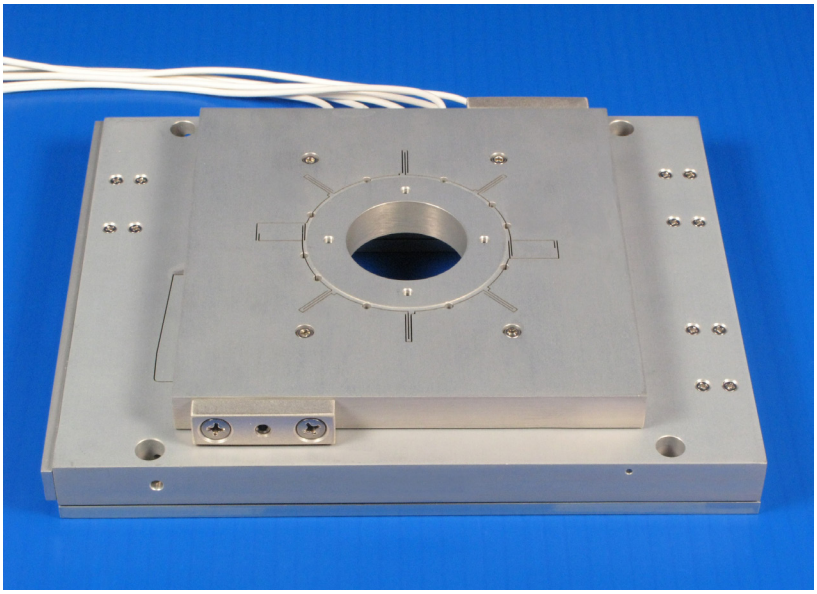
Nano-Align6 Series

Features

- *Low profile*
- *Six axis motion (XYZ θ_X θ_Y θ_Z)*
- *100 µm x 100 µm x 100 µm x 1.1 mrad x 1.5 mrad x 5 mrad ranges of motion*
- *200 µm x 200 µm x 200 µm x 2.3 mrad x 3.0 mrad x 5 mrad ranges of motion*
- *Center aperture: 35mm diameter*
- *Closed loop control*
- *picoQ® sensor technology*

Typical Applications

- *Alignment*
- *MEMS*
- *Nanolithography*
- *Metrology*



Nano-Align6 constructed from aluminum.

LabVIEW Compatible USB Interfaces

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

Related products

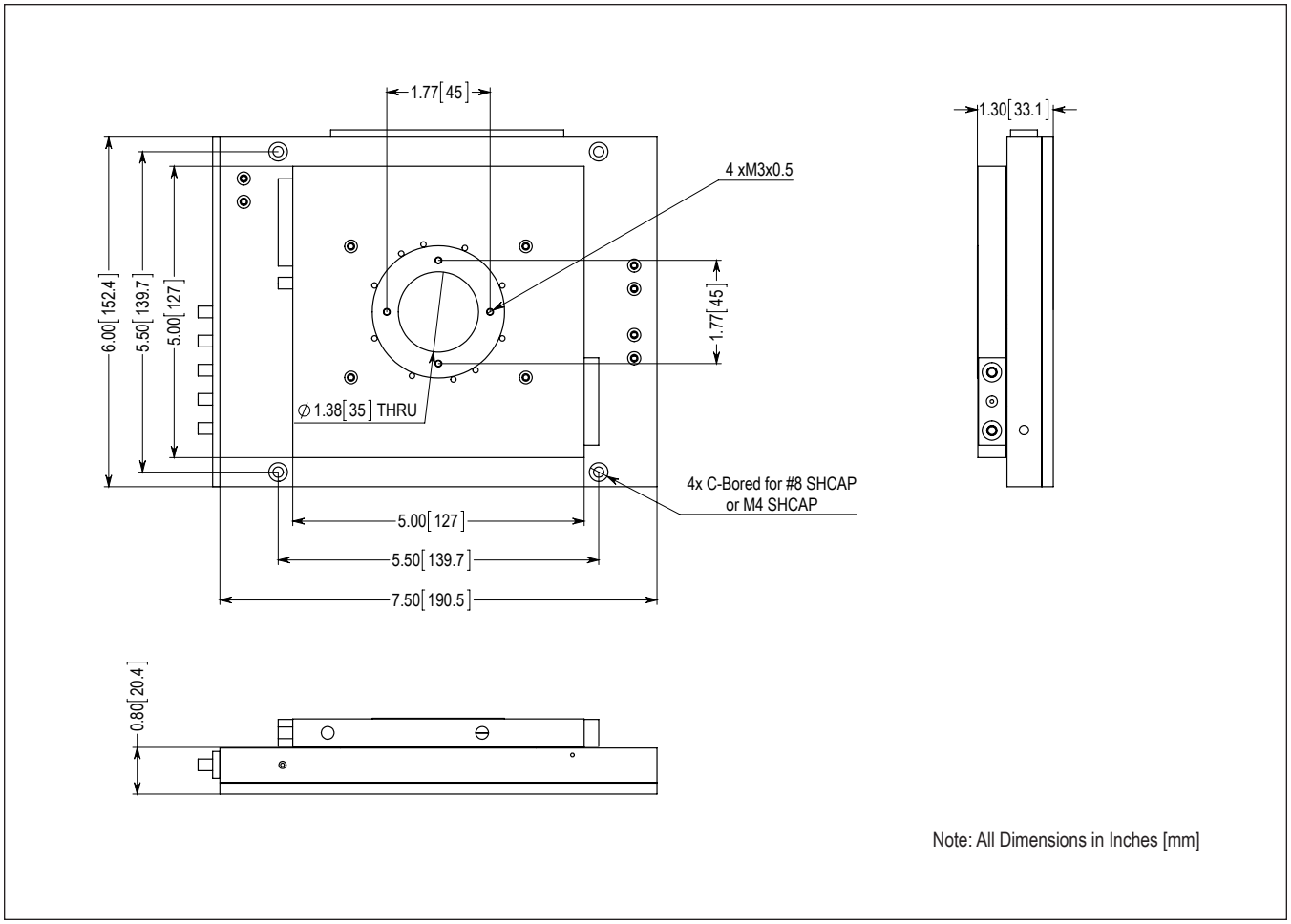
- Nano-Align5
- Nano-Theta/H
- Nano-Align3

Product Description

The Nano-Align6 is a six axis closed loop, piezo nanopositioning system with a large center aperture. The Nano-Align6 is ideal for alignment applications which require three linear axes of motion (X, Y, Z) combined with rotational motion about each axis. The large aperture provides excellent access for microscopy optics, sample holders, and probe placement. The Nano-Align6 includes internal position sensors on every axis using Mad City Labs' proprietary PicoQ® technology for absolute position measurement and picometer/nanoradian accuracy under closed loop control.

The Nano-Align6 is a unique product combining linear motion with precision rotational motion.

Technical Specifications

Ranges of motion (Nano-Align6-100) ..... 100 x 100 x 100 µm x 1.1 mrad (θ_X) x 1.5 mrad (θ_Y) x 5 mrad (θ_Z)
Ranges of motion (Nano-Align6-200) ..... 200 x 200 x 200 µm x 2.3 mrad (θ_X) x 3.0 mrad (θ_Y) x 5 mrad (θ_Z)
Resolution (Nano-Align6-100) ..... 0.2 nm (XYZ), 2.2 nrad (θ_X), 3.0 nrad (θ_Y), 10 nrad (θ_Z)
Resolution (Nano-Align6-200) ..... 0.4 nm (XYZ), 4.6 nrad (θ_X), 6.0 nrad (θ_Y), 10 nrad (θ_Z)
Resonant Frequencies
X axis (Nano-Align6-100/Nano-Align6-200) ..... 200/135 Hz ±20%
Y axis (Nano-Align6-100/Nano-Align6-200) ..... 110/95 Hz ±20%
Z axis (Nano-Align6-100/Nano-Align6-200) ..... 130/100 Hz ±20%
θ_Z axis ..... 870 Hz ±20%
Recommended max. load (horizontal)* ..... 0.5 kg
Recommended max. load (vertical)* ..... 0.2 kg
Body Material ..... Aluminum, Titanium, or Invar
Controller ..... Nano-Drive®

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