

Nano-Man5

Features

- ▶ Compact size
- ▶ Five axis motion (XYZ θ_x θ_y)
- ▶ $50\ \mu\text{m} \times 50\ \mu\text{m} \times 25\ \mu\text{m} \times 1\ \text{mrad} \times 1\ \text{mrad}$
- ▶ Closed loop control
- ▶ **pico** sensor technology

Typical Applications

- ▶ Alignment
- ▶ MEMS
- ▶ Nanolithography
- ▶ SEM



The Nano-Man5 is a 5 axis closed loop nanomanipulation system constructed from aluminum.

LabVIEW Compatible USB Interfaces



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

Product Description

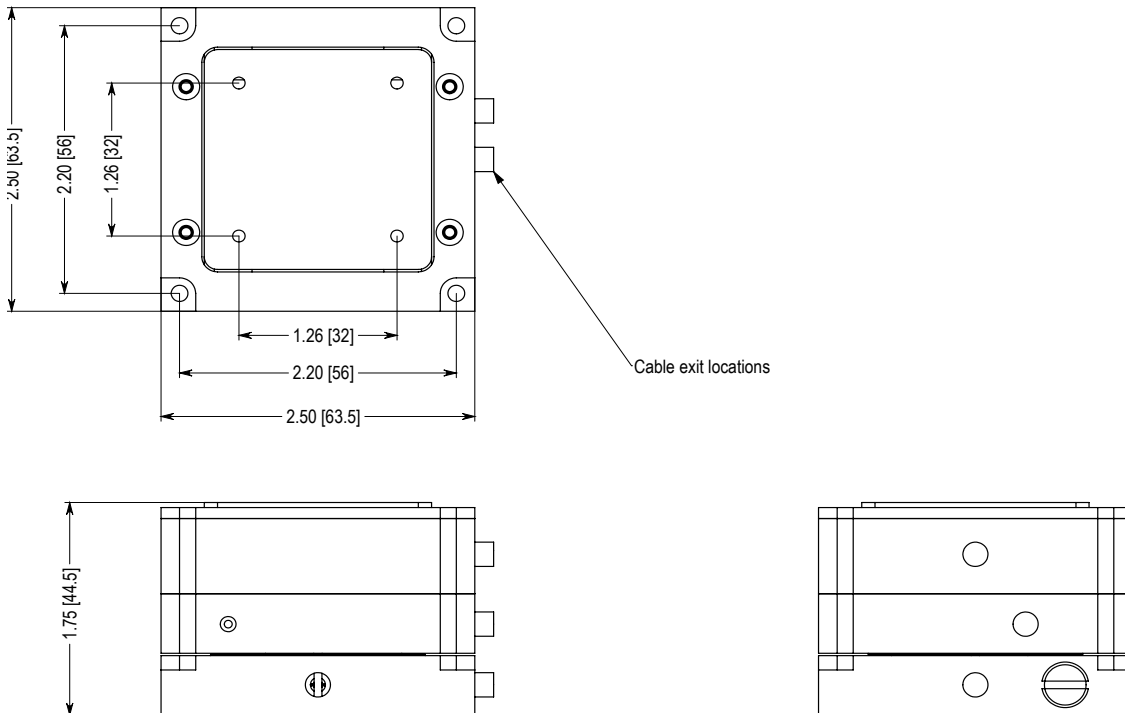
The Nano-Man5 is a five axis (X, Y, Z, θ_x , θ_y) nanomanipulation system with closed loop feedback control for absolute position measurement. The compact design of the Nano-Man5 allows it to be easily integrated into existing instrumentation for applications such as nanolithography and SEM. The Nano-Man5 is ideal for alignment applications which require three linear axes of motion combined with “tip” and “tilt” (θ_x , θ_y). Internal

position sensors utilizing proprietary **pico** technology provide absolute, repeatable position measurement with picometer and nanoradian accuracy under closed loop control. The Nano-Man5 is also available in high vacuum (non-bakeable) compatible models. Similar to the Nano-Man5, the Nano-M350 shares the same physical dimensions but has only three axes (XYZ) of motion.

Technical Specifications

Range of motion (X)	50 μ m	Resonant Frequency (X)	285 Hz \pm 20%
Range of motion (Y)	50 μ m	Resonant Frequency (Y)	235 Hz \pm 20%
Range of motion (Z)	25 μ m	Resonant Frequency (Z)	1580 Hz \pm 20%
Range of motion (θ_x)	1 mradian	Recommended max. load (horizontal)*	0.2 kg
Range of motion (θ_y)	1 mradian	Recommended max. load (vertical)*	0.2 kg
Resolution (X)	0.1 nm	Body Material	Aluminum
Resolution (Y)	0.1 nm	Controller	Nano-Drive®
Resolution (Z)	0.05 nm		
Resolution (θ_x)	2 mradian		
Resolution (θ_y)	2 mradian		

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



Note: All Dimensions in Inches [mm]