

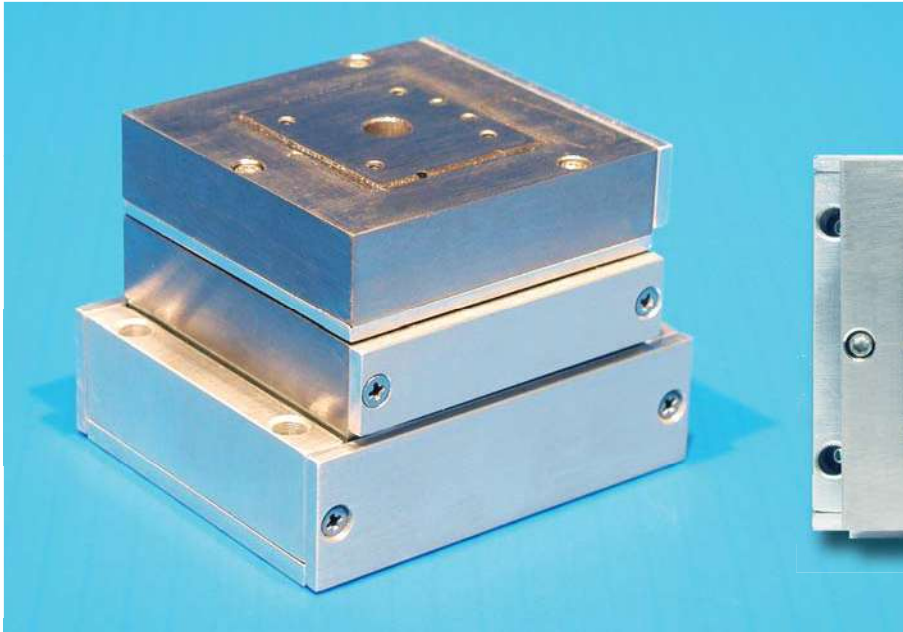
# Nano-M350

## Features

- ▶ Compact size
- ▶ Three axis motion (XYZ)
- ▶  $50\ \mu\text{m} \times 50\ \mu\text{m} \times 25\ \mu\text{m}$  ranges of motion
- ▶ Center aperture: 0.25"
- ▶ Closed loop control
- ▶ **pico** sensor technology

## Typical Applications

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

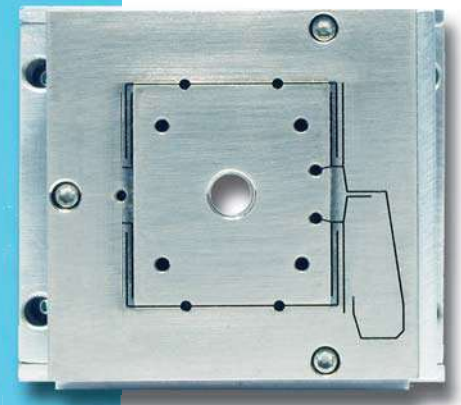


Nano-M350 (actual size) constructed from aluminum and titanium.

## LabVIEW Compatible USB Interfaces



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



## Product Description

The Nano-M350 is a compact three axis (X, Y, Z) nanopositioning system constructed from aluminum combined with titanium or constructed completely from invar for the highest degree of thermal stability. The compact design of the Nano-M350 allows it to be easily integrated into existing instrumentation for applications

such as nanolithography, SEM. Internal position sensors utilizing proprietary **pico** technology provide absolute, repeatable position measurement with picometer accuracy under closed loop control. The Nano-M350 is also available in high vacuum (non-bakeable) compatible models.

## Technical Specifications

|  |                           |
|--|---------------------------|
| Range of motion (X) .....  | 50 $\mu\text{m}$          |
| Range of motion (Y) .....  | 50 $\mu\text{m}$          |
| Range of motion (Z) .....  | 25 $\mu\text{m}$          |
| Resolution (25/50 $\mu\text{m}$ ).....                           | 0.05/0.1 nm               |
| Resonant Frequency (X) .....                                     | 1 kHz $\pm 20\%$          |
| Resonant Frequency (Y) .....                                     | 700 Hz $\pm 20\%$         |
| Resonant Frequency (Z) .....                                     | 700 Hz $\pm 20\%$         |
| Stiffness .....  | 1.0 N/ $\mu\text{m}$      |
| $\theta_{\text{roll}}$ , $\theta_{\text{pitch}}$ (typical) ..... | $\leq 1$ $\mu\text{rad}$  |
| $\theta_{\text{yaw}}$ (typical) .....                            | $\leq 3$ $\mu\text{rad}$  |
| Recommended max. load (horizontal)* .....                        | 0.5 kg                    |
| Recommended max. load (vertical)* .....                          | 0.2 kg                    |
| Body Material .....  | Al and Titanium, or Invar |
| Controller .....   | Nano-Drive <sup>®</sup>   |

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

