

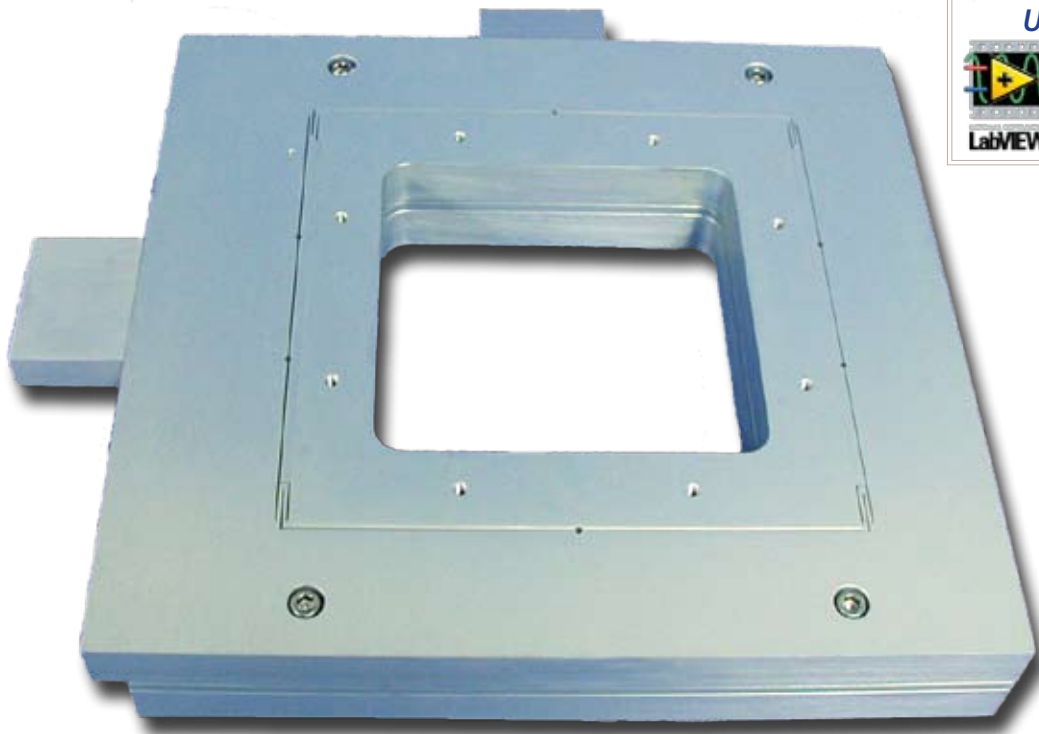
# Nano-Max50

## Features

- ▶ Large load capacity
- ▶ Two axis motion
- ▶  $50\ \mu\text{m} \times 50\ \mu\text{m}$  ranges of motion
- ▶ Extra large aperture
- ▶ Closed loop control
- ▶ **pico** sensor technology

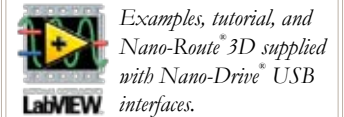
## Typical Applications

- ▶ Precision cryostat positioning
- ▶ Low temperature optical microscopy
- ▶ Quantum dot research
- ▶ High load positioning



*Nano-Max50 (2-axis) constructed from aluminum.*

### LabVIEW Compatible USB Interfaces



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

## Product Description

The Nano-Max50 is a heavy duty, two axis nanopositioning stage designed to carry heavy experimental assemblies. With a load capacity of 5 kg, the Nano-Max50 to be used in applications such as precision positioning of cryostats for low temperature optical microscopy. The low profile and extra large aperture allows the Nano-Max50 to be integrated into existing optical microscopes. Internal

position sensors utilizing proprietary **pico** technology provide absolute, repeatable position measurement with picometer accuracy under closed loop control. Special Nano-Max systems can be built with ranges of motion that exceed the standard 50 microns.

## Technical Specifications

Range of motion (X) .....	50 $\mu\text{m}$
Range of motion (Y) .....	50 $\mu\text{m}$
Resolution .....	0.1 nm
Resonant Frequency (X) .....	1.5 kHz $\pm 20\%$
Resonant Frequency (Y) .....	1.0 kHz $\pm 20\%$
Stiffness .....	5.0 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)* .....	5 kg
Body Material .....	Al
Controller .....	Nano-Drive <sup>®</sup> /Nano-Drive <sup>®</sup> 85

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

