

Nano-Max50

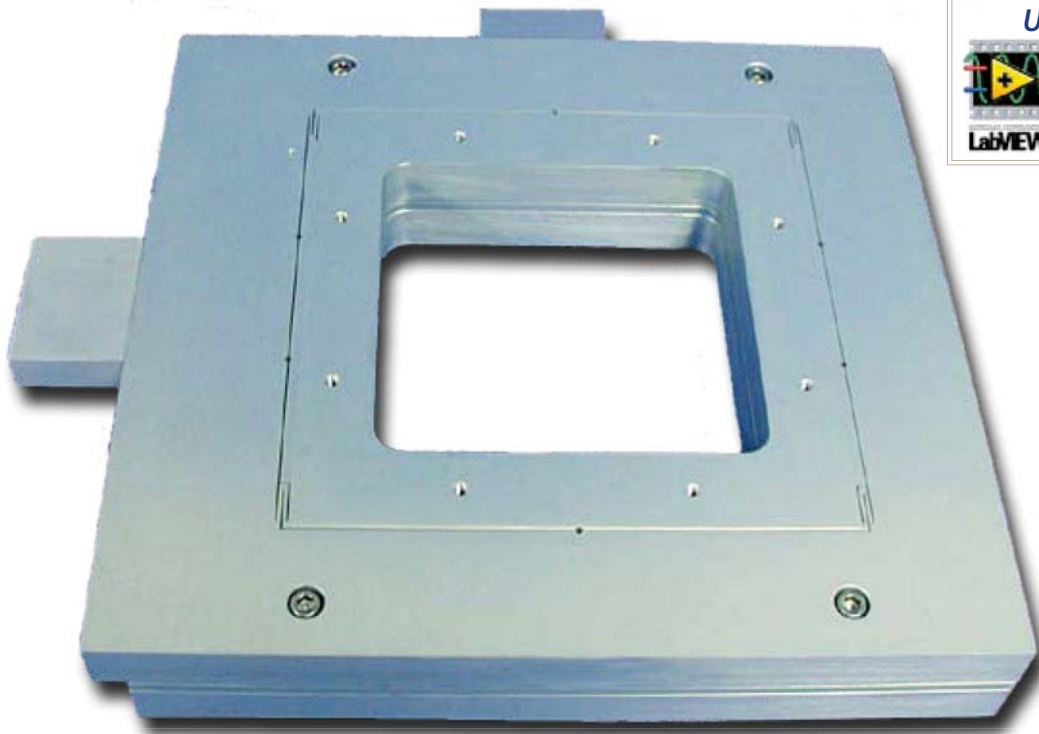
Features

- ▶ 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

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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.

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Technical Specifications

Range of motion (X)	50 μm
Range of motion (Y)	50 μm
Resolution	0.1 nm
Resonant Frequency (X)	1.5 kHz $\pm 20\%$
Resonant Frequency (Y)	1.0 kHz $\pm 20\%$
Stiffness	5.0 N/ μm
$\theta_{\text{roll}}, \theta_{\text{pitch}}$ (typical)	$\leq 1 \mu\text{rad}$
θ_{yaw} (typical)	$\leq 3 \mu\text{rad}$
Recommended max. load (horizontal)*	5 kg
Body Material	Al
Controller	Nano-Drive™/Nano-Drive™85

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

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