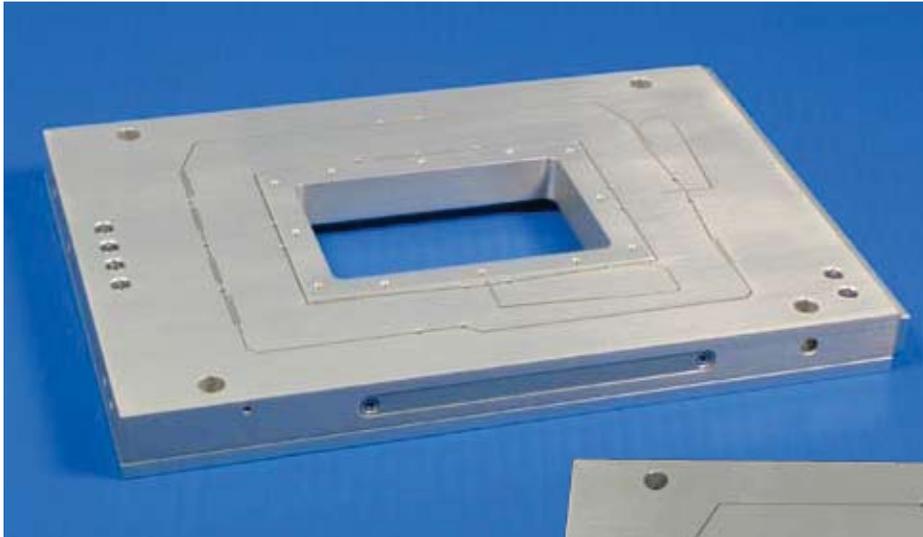


## Features

- ▶ Lowest profile 3-axis nanopositioner available
- ▶ Large aperture for standard 3" slides
- ▶ 100  $\mu\text{m}$ , 200  $\mu\text{m}$ , and 300  $\mu\text{m}$  ranges of motion (XYZ)
- ▶ **pico**™ sensor technology
- ▶ Closed loop control

## Typical Applications

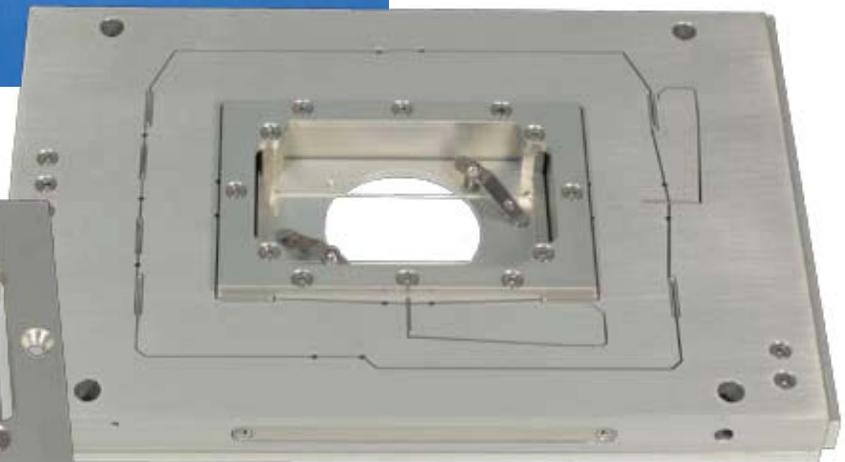
- ▶ Optical microscopy, easy to retrofit
- ▶ Optical trapping experiments
- ▶ Fluorescence imaging
- ▶ Alignment
- ▶ Single molecule spectroscopy



Nano-LPS100 (3-axis) constructed from aluminum.



Re-entrant slide holder with coverslip adapter.



Nano-LPS100 with re-entrant slide holder.

## Compatible Software Packages



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



Analog motion control



USB and analog motion control



USB motion control

## Product Description

The Nano-LPS Series are ultra-low profile, three axis nanopositioning systems with 100, 200, and 300 micron ranges of motion in all three axes. The low height of the Nano-LPS Series allows it to be easily integrated into existing inverted optical microscopes. Like the related Nano-LP Series, the Nano-LPS Series is ideal for de-

manding microscopy applications which require long range travel, fast scan rates, and three axes of motion. Uniquely suited for biological samples, the Nano-LPS has a large center aperture which is large enough to hold full size 3 inch (75mm) standard slides. Precise and repeatable motion is made possible through closed loop control combined with **pico**™ position sensors.

## Technical Specifications

Range of motion (Nano-LPS100) ...100 x 100 x 100  $\mu\text{m}$   
 Range of motion (Nano-LPS200) ...200 x 200 x 200  $\mu\text{m}$   
 Range of motion (Nano-LPS300) ...300 x 300 x 300  $\mu\text{m}$   
 Resolution (100/200/300  $\mu\text{m}$ ) ..... 0.2/0.4/0.6 nm  
 Resonant Frequencies  
 X axis (100/200/300  $\mu\text{m}$ ) .....400/350/300 Hz  $\pm 20\%$   
 Y axis (100/200/300  $\mu\text{m}$ ) .....400/350/300 Hz  $\pm 20\%$   
 Z axis (100/200/300  $\mu\text{m}$ ) .....400/300/200 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, Invar or Titanium  
 Controller ..... Nano-Drive™

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

פז"מ-טק (1991) בע"מ

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