

Piezo Z-Stage

for upright microscopes

“Reinventing automated microscopy”



96A604 Piezo Z-stage
with 99A613 slide holder

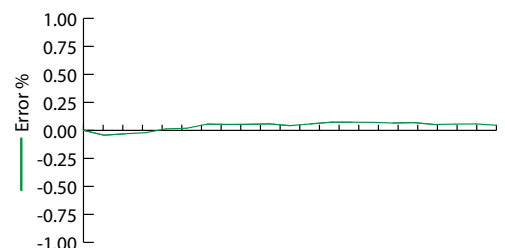
Piezo Z-stage for upright microscopes

NanoPrecision Microscopy

The 96A604 Piezo Z-stage is designed for compatibility with upright microscopes and upright microscope applications. The unique design features an open access area toward the rear to accommodate the swing of the microscope objective turret. Holders are available for standard 1”x3” and 2”x3” glass slides.

Speed Accuracy and Resolution

The NanoPrecision Piezo Z-stage performance features speed, resolution and accuracy. With features that include electronic synchronization and pre-loaded positions gated with low latency control enable the NanoPrecision Z-stage to position with highest speed. Each NanoPrecision Z-stage is critically measured and calibrated for accuracy.



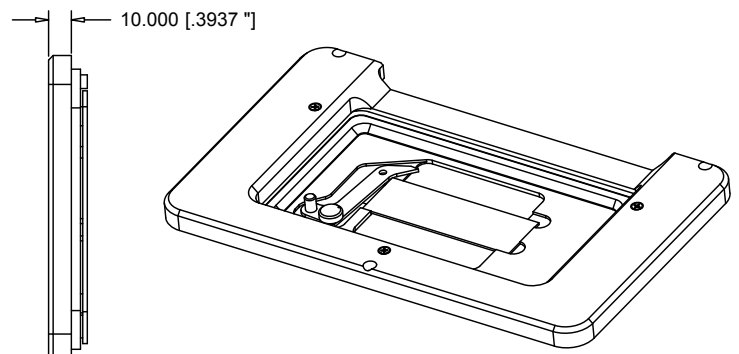
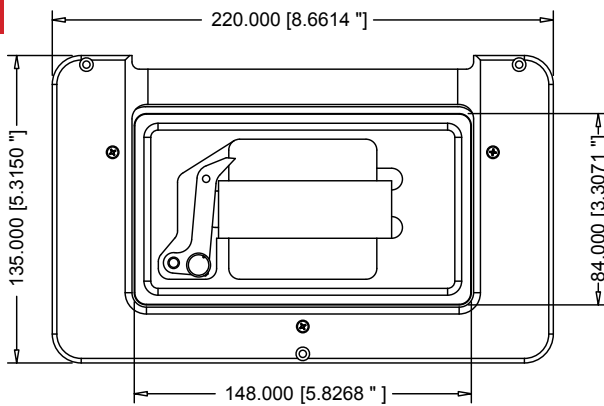
Digital Control

The NanoPrecision Piezo Z-stage is compatible with the LEP MAC 6000 controller and features industry wide support from all popular imaging software applications. Software commands are provided that make the BioPrecision2 Piezo Focus appear as a standard focus drive. Digital gating and synchronization signals are also available for high performance applications. Digipot position control is fully integrated for interactive focus control.

What you can't see makes the difference

The LEP NanoPrecision design features a proprietary balanced displacement sensor to provide accurate high resolution position feedback. The system is uniquely designed to measure actual Z-stage displacement. This design provides the best performance in terms of stability and reliability - with variable loads and at variable frequencies.

Piezo Z-stage



dimensions: mm [in]
shown: 96A604 with 99A613 slide holder

Performance Characteristics

Travel Range	350 μ m	Resolution	16 bit
Repeatability	1 nm	Settling time (50 μ m move 150g load)	25ms
Accuracy (full travel)	0.5 %	Maximum Load	750 g

Note on characteristics: General characteristics are provided for reference. The complex dynamics of the Piezo transducers and feedback systems make the performance dependent upon characteristics specific to the sample and application.

Integration Options

To achieve the highest performance the NanoPrecision Z-stage/MAC 6000 system provides electronic synchronization signals that can be used to integrate the Z-stage into a high performance system.

A typical integrated solution uses signals from the MAC 6000 and a video camera. In this case the MAC 6000 is pre-loaded with position information for the Z-stage. As the Z-stage moves a signal triggers the camera to acquire an image. Once the acquisition is complete a return signal from the camera to the Z-stage/MAC 6000 system triggers the Z-stage to move to the next position. The signal loop continues until the desired sequence of acquisitions is complete. The result is a high speed acquisition system that is easy to implement and minimizes delays with host communication overhead.

Ordering Information

The Piezo Z-stage can be an add-on to an existing MAC 6000 system or as a stand-alone unit when included with the 996001 MAC 6000 base system.

Part Number	Description
<i>add-on for existing MAC 6000 system</i>	
96A604	Open Format Piezo Z-stage insert for LEP upright stage with 350 micron travel
99A613	Slide holder for 1"x3" (25mm x 75mm) glass slides for upright Piezo Z-stage
99A614	Slide holder for 2"x3" (25mm x 75mm) glass slides for upright Piezo Z-stage
99A615	Petri dish holder 36mm for upright Piezo Z-stage
73006063	MAC 6000 Piezo control module
73006365	MAC 6000 Digipot for interactive focus control
96S101	BioPrecision2 Upright Stage with aperture for 96A604 Piezo Z-stage

Registered ISO-9001:2010



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