



Applied Scientific Instrumentation

MS-2000 Small XY Stage

The MS-2000 XY stage has been specifically designed to provide a high resolution, and highly repeatable, means of controlling the X and Y position of a microscope stage. All axes derive their precise control through the use of closed-loop DC servomotors employing high-resolution rotary encoders for positioning feedback. By using closed-loop control of the stage position, there is no chance that the stage will become lost, as can occur with open-loop micro-stepped stages after a



number of moves and direction changes. The MS-2000 XY stage utilizes crossed-roller slides, a high-precision lead screw, and zero-backlash miniature geared DC servomotors for smooth and accurate motion. The microprocessor-controlled MS-2000 control unit provides for RS-232 and USB communication with a host computer.

Features

- Closed-loop DC servo control of the XY-axes for precise positioning and repeatability
- Wide dynamic speed range with XY joystick control
- Backlit LCD display shows the coordinates
- Works with ASI's proven Z-axis drives
- Proven operation with many popular software packages
- "Zero" and "Home" button for simple stand-alone operations
- Microprocessor control with RS-232 serial and USB communications
- Compact ergonomic tabletop control unit size is 6"D x 9"W x 3"H (16½ x 23 x 9 cm)
- Suitable for smaller upright microscopes, stand-alone, OEM, and specialty applications

We Create Solutions

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Specifications for Standard Configuration (with 6.35 mm pitch Lead Screws)

XY axis range of travel	100 mm x 100 mm
XY axis resolution (rotary encoder step)	0.022 μm
XY axis RMS repeatability	< 0.7 μm
XY axis maximum velocity	7 mm/sec
Max Recommended Load (*higher loads available upon request)	10kg

Lead Screw Options

Lead Screw Pitch Options	Rotary Encoder Resolution	Maximum Speed
12.70 mm (Super-coarse)	44 nm	14 mm/sec
6.35 mm (Standard)	22 nm	7 mm/sec
1.59 mm (Fine)	5.5 nm	1.75 mm/sec
0.635 mm (Extra-fine)	2.2 nm	0.7 mm/sec

- ⦿ Standard Lead Screw Accuracy is 0.25 μm per mm.

Linear Encoder Options

Axis	Resolution	Scale Accuracy
XY	10 nm	$\pm 3 \mu\text{m}$ per length of scale

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