



APPLIED SCIENTIFIC
INSTRUMENTATION

MS-2000 Low Mass XY Stage

The MS-2000 Low Mass XY stage has been specifically designed to reach thermal equilibrium faster with 3/4 the mass of a regular stage while retaining ASI's legendary precision. The stage retains the high resolution, and high repeatability, of all ASI microscope stages. 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, high-precision lead screws, 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

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

Specifications for Standard Configuration

XY axis range of travel	100 mm x 100 mm
XY axis resolution (rotary encoder step)	0.022 μ m
XY axis RMS repeatability	< 0.7 μ m
XY axis maximum velocity	7 mm/sec



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

Linear Encoder Options

Axis	Resolution	Scale Accuracy
XY	10 nm	\pm 3 μ m per length of scale