



APPLIED SCIENTIFIC
INSTRUMENTATION

MS-9400 XY Automated Stage

The MS-9400 XY motorized stage system has a travel range of 9" by 4" (225 x 100 mm) and has been specifically designed to scan eight 25 x 75 mm slides at a time while providing a high resolution, and highly repeatable, means of controlling the X and Y position of the microscope stage. All axes derive their precise control through the use of closed-loop DC servomotors employing high-resolution rotary encoders for positioning feedback. Optional linear encoders improve repeatability to less than 300 nm (typical) compared to the standard 700 nm rms rating, and improve resolution to 50 nm.

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 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 X and Y-axes for precise positioning and highly repeatable focusing
- Wide dynamic speed range with XY joystick control
- Can be used with ASI's proven Z-axis drives
- Backlit LCD display shows X and Y 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 (9 x 23 16½ cm)
- Microprocessor control with RS-232 serial and USB communications
- Proven operation with many popular software packages
- Suitable for stand-alone, OEM, and specialty applications as well

MS-9400 Options

- X and Y-axis Linear Encoders for high-accuracy positioning, incorporated into the stage plates
- Auto Focus for stages with ASI Z-axis drives (requires composite video signal)
- CRIFF Continuous Reflective-Interface Feedback Focus System for high level long-term focus stability on high-power XYZ microscopy systems
- Other lead screw pitches are available



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Specifications for Standard Configuration

XY axis range of travel	225 mm x 100 mm (9" x 4")
XY axis resolution	100 nm (typical)
XY axis RMS repeatability	< 700 nm (typical)
XY axis maximum velocity	7 mm/sec

Lead Screw Options

Lead Screw Pitch Options	Rotary Encoder Resolution	Maximum Speed
25.40 mm (Ultra-coarse)	352 nm	28 mm/sec
12.70 mm (Super-coarse)	176 nm	14 mm/sec
6.35 mm (Standard)	88 nm	7 mm/sec

Linear Encoder Options

Axis	Scale Resolution	Scale Accuracy
XY	20nm	0.5 μ m per 10 mm 1.5 μ m per 100 mm