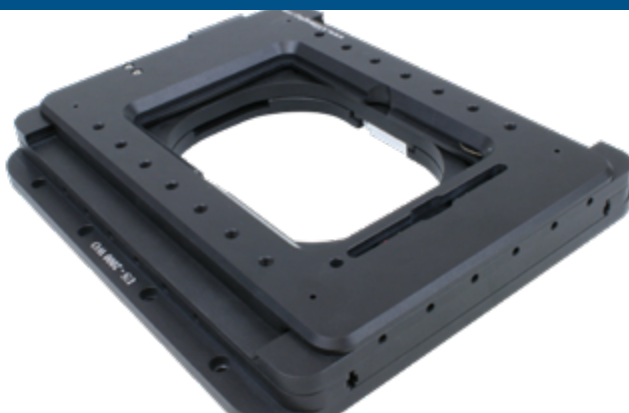


## Ultra-Stable US-2000 Flat-Top XY Automated Stage



The US-2000 has been designed to provide an ultra-stable, high resolution stage for super resolution microscopy, especially localization microscopy. Materials were selected to minimize thermal drift not only in the X- and Y-axes, but Z- as well. It utilizes crossed-roller bearings, a high precision lead screw, and closed-loop DC servo motors. Though the US-2000 is the most thermally stable of ASI stages (without feedback), other stages offer longer travel and even better repeatability.

### Controllers

- Closed-loop DC servo control for precise positioning
- Wide dynamic speed range with XY joystick
- “Zero” and “Home” buttons for simple stand-alone operations
- Microprocessor control with RS-232 serial or USB communications
- Proven operation with many popular software packages

### US-2000 XY Options

- Objective lens coupled directly to the stage (available only with Piezo Z-axis options)
- ASI’s proven line of Z-axis drives can also be added to the fine focus shaft of the microscope to provide Z-axis positioning with a resolution of 50 nm throughout the range of the microscope’s travel. The piezo unit can then be used for fast and accurate Z-axis positioning to any point within the range of travel; piezo objective movers are also available
- Stage wings for extra room for attachments
- Linear encoders to improve repeatability and resolution (with most lead screws)
- Various lead screws

### US-2000 XY Features

- XY thermal drift comparable to a plate of aluminum
- Focus (Z-axis) thermal drift much less than a typical stage

### US-2000 XY Specifications

<b>Stage dimensions</b>	283 mm x 238 mm x 52 mm
<b>X- and Y-travel range</b>	50 mm x 50 mm
<b>X- and Y- RMS repeatability (rotary encoders)</b>	< 1.5 $\mu$ m
<b>Recommended load capacity</b>	5 kg

### US-2000 XY Lead Screw Options

Lead screw pitch options	Rotary encoder resolution	Maximum speed
25.40 mm (Ultra-coarse)	88 nm	28 mm/s
12.70 mm (Super-coarse)	44 nm	14 mm/s
6.35 mm (Standard)	22 nm	7 mm/s
1.59 mm (Fine)	5.5 nm	1.75 mm/s
0.635 mm (Extra-fine)	2.2 nm	0.7 mm/s

\* Standard 6.35 mm pitch lead screws