

High precision SEM LASER stage

After many years manufacturing standard SEM stages, Deben have now developed a high precision stage or "Lithography Stage". The system comprises a replacement motorised stage fitted to a new door with control electronics and compact joystick controller.

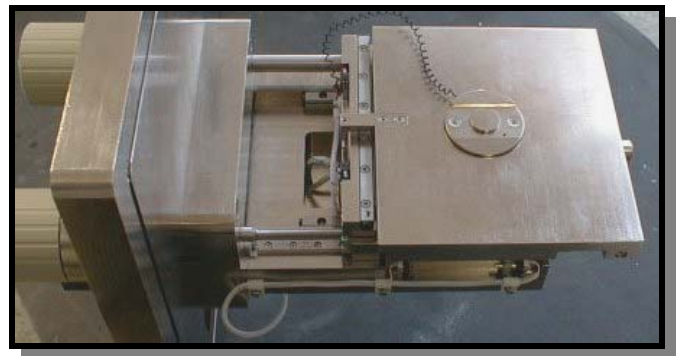
Utilising an XY grid based encoder system, repeatability of 150nm or better is possible. Design has been optimised for minimum drift and figures of less than 500nm per hour should be expected.

Stage travel is 50x50mm with fixed height and no adjustment of Tilt or Rotate. The stage is provided with a LEO dovetail mounting at the correct height for the specimen airlock and different working distances can be selected by using spacer blocks provided. Specimens can be attached to a standard stub, fixed to a 50mm square wafer holder or screwed directly to the dovetail specimen holder. Control of the stage is from the renowned SPRITE SEM stage-controller electronics which provides a comprehensive range of features specifically for the electron microscopist such as mounting, adjustable software limits and programmable specimen exchange position. The system also has an RS-232 interface which allows communication with a remote computer or Lithography system.



Although the replacement stage is heavy, one person can install the system in less than 20 minutes making it easy to swap with the standard stage should the need arise.

A vacuum flange is provided on the door and this can be fitted with an electrical feed-through connector as an option.



SPECIFICATIONS & FEATURES

- Travel (X and Y) 50mm
- Repeatability (<1mm) +/- 0.15µm (optional 0.05µm)
- Repeatability (>1mm) +/- 0.25µm (optional 0.15µm)
- Accuracy (<1mm) +/- 0.25µm* (optional 0.15µm)
- Accuracy (over 50mm) +/- 0.6µm* *Note : accuracy specs for room temperature stabilisation to +/-0.25°C
- Measurement resolution 0.05µm
- Movement resolution 0.01µm
- Encoders (XY) XY grid based laser diffraction system
- Stage drives (X and Y) stepping motors with 50,000 micro-steps per revolution
- Handwheels for manual positioning
- Limit switches fitted to stage
- Maximum speed 2.5mm/sec
- Minimum speed 0.05µm/sec
- Dimensions 220mm x 220mm x 60mm (excluding door)
- SEM stage door supplied
- Ergonomic joystick controller with vacuum-fluorescent coordinate display
- RS-232 interface for remote operation by computer
- Store and recall 99 sets of coordinates
- Program sequences and scan patterns
- Automatic montage facility with adjustable overlap
- RS-232 interface for remote readout and control
- Power requirements: 100VA (115V or 230V)

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