



XENOS



XeMove

XENOS Lithography Stage – Update your Scanning Electron Microscope or FIB based lithography system with a high-accuracy specimen stage.

Used as stage replacement or substage on top of the main stage, the XeMove lithography stage upgrades your lithography system with abilities for precise field stitching and overlay.

Features

The XENOS XeMove stages use state-of-art laser measurement systems and ultrasonic piezo drive technology to obtain stitching and overlay accuracies better than 100 nm in combination with our lithography systems (measurement resolution of 10 nm). The compact design allows the use as either substage or replacement stage, with only electrical chamber feedthroughs needed. All components are high-vacuum compatible and completely non-ferromagnetic. The compact design comprises both the laser measurement system and the piezo drive components. On-axis measurement reduces the effects of yaw-errors to a minimum. Travel ranges are available from 55 mm up to 120 mm.

Integration

Integration into existing systems does not require complicated and expensive chamber modifications. No laser viewports for the measurement system or mechanical feedthroughs for the stage motors are needed, all active components are placed within the vacuum chamber and controlled electronically via standard electrical feedthroughs. For some chamber designs (e.g. JEOL JSM-7xxx), the stage can be inserted via the loadlock and connected by special electrical ZIF-contacts within the chamber. The driving motors are powered down when the stage has stopped, the position is locked mechanically, thus overall power consumption is reduced to a minimum, preventing heating up and associated drift.

The stage is controlled via USB interface, a desktop unit allows manual control of stage parameters and movement control via joystick. The same desktop unit controls the XENOS fast electrostatic beam blanker if fitted to the litho system.

Specifications

Measurement resolution:	10 nm
Stitching + Overlay Accuracy:	+/- 100 nm
Travel ranges available:	55 to 120 mm, depending on model
Travel speed:	2 mm/s
Yaw-, Roll- and Pitch- error:	< 0,002°
Controlled axis:	X and Y, Z controlled via SEM main stage
Vacuum and Materials:	< 10 ⁻⁶ mbar, completely oil free and non-magnetic design

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