

Stages for Semiconductor Applications

To meet the ever increasing demands of the semiconductor industry, LEP has a full line of high accuracy, high performance stages. Designed to eliminate compromise, these stages offer the best performance available in a low profile microscope stage.

Attention to detail in design, manufacturing and components are keys to the quality of the final product. Each stage uses a highly refined, evolved design that is proven with every stage. All critical components are machined on state of the art machining centers in LEP's machine shop for the highest level of control. All components are inspected and measured to exacting specifications. Our ISO-9001 registered quality system ensures that only perfect parts are used.

We recognize that the wafer fab can be a harsh environment. Stages need to be designed with this in mind to deliver the highest performance and availability in this environment. The LEP semiconductor stages are rugged and durable in production industrial environments. With minimal recommended maintenance, these stages will provide many years of performance meeting or exceeding specifications. All surfaces are anodized aluminum, no paint is used. The guide bearings are stainless steel for corrosion resistance.

Precision and repeatability is assured by the use of high resolution rotary encoders mounted to the leadscrew shaft or linear scales embedded directly into the stage. Zero backlash ballscrews ensure high accuracy and long life. Precision ground crossed roller bearing guideways enhance the performance of this stage.

- 203mm x 203mm (8" x 8") travel range
- Low profile, ergonomic design
- High resolution linear encoder with 0.1µm resolution
- Hardened, ground crossed roller bearing guide ways
- 4µm accuracy over full range of travel
- Solid aluminum insert plate standard



8"x8" Semiconductor Stage

For 200mm wafer applications, the 8"x8" stage is the obvious choice. Its compact size and high performance can convert a routine microscope into a highly productive asset.

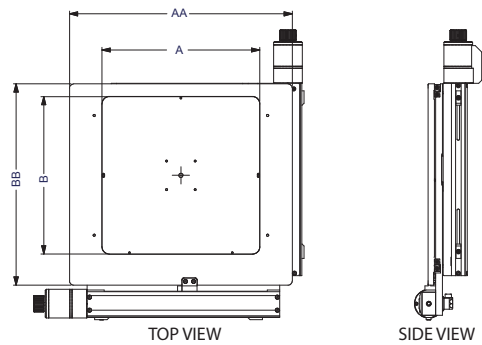
The 8"x8" stage is available in a compact envelope version that can be mounted on most smaller microscopes that were originally designed for 150mm wafer applications. With little compromise, the reduced envelope also makes integration with loaders easier. As a result of the compact envelope, the insert cutout is 193mm square. This is identical to the 6"x6" stage and only provides transmitted light capability over the center 150mm of travel.

Built to exact standards, this stage has specifications that meet or exceed the requirements of routine semiconductor microscopy. Compatible with reflected and transmitted light applications, the standard insert plate can accept a variety of options including motorized rotating vacuum wafer chuck, fixed vacuum chuck, glass plate and other custom holders.

Other features such as adjustable end-limits, anti-creep roller cages and universal mounting make this stage an excellent choice for metrology and inspection applications.

Ordering Information

- 99S103-68"x8" (203mm x 203mm) stepper motor, open loop, compact envelope, 193mm insert
- 99S103-6-LE8"x8" stepper motor, 0.1µm embedded linear encoders, compact envelope, 193mm insert
- 99S1038"x8" stepper motor, open loop, standard envelope, 230mm insert
- 99S103-LE.....8"x8" stepper motor, 0.1µm embedded linear encoders, standard envelope, 230mm insert



Dimension	Stage Cat. Num.	
	99S103	99S103-6
A(mm)	230.5	193.4
B(mm)	230.5	193.4
AA(mm)	325.0	260.0
BB(mm)	294.0	269.0

Specifications	Open Loop	Linear Encoder
Speed Max.	120mm/sec.	
Resolution	0.4µm	0.1µm
Repeatability	2µm	0.25µm
Accuracy	N/A	4µm/200mm
Straightness	1µm/25mm	
Flatness	1µm/25mm	
Height	34mm at object plane	
Weight	7.7kg	

* applicable when used with LEP MAC 6000/2002 controller

- 305mm x 305mm (12" x 12") travel range
- Low profile, ergonomic design
- High resolution linear encoder with 0.1µm resolution
- Hardened, ground crossed roller bearing guide ways
- 6µm accuracy over full range of travel
- Solid aluminum insert plate standard



12"x12" Semiconductor Stage

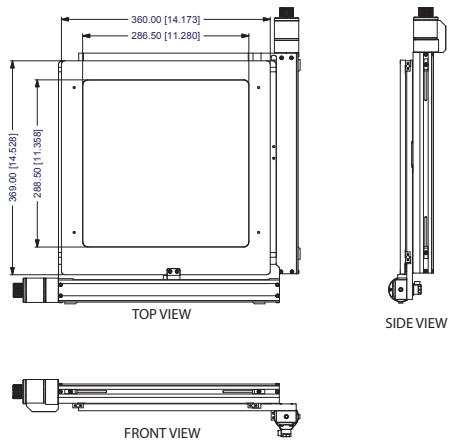
For 300mm wafer applications, the 12"x12" stage is the obvious choice. Its compact size and high performance can convert a routine microscope into a highly productive asset.

Built to exact standards, this stage has specifications that meet or exceed the requirements of routine semiconductor microscopy. Compatible with reflected and transmitted light applications, the standard insert plate can accept a variety of options including motorized rotating vacuum wafer chuck, fixed vacuum chuck, glass plate and other custom holders.

Other features such as adjustable end-limits, anti-creep roller cages, and universal mounting make this stage an excellent choice for metrology and inspection applications.

Ordering Information

99S105 12"x12" (305mm x 305mm) open loop stepper motor stage
 99S105-LE..... 12"x12" (305mm x 305mm) linear encoder stepper motor stage



Specifications	Open Loop	Linear Encoder
Speed Max.	120mm/sec.	
Resolution	0.4µm	0.1µm
Repeatability	4µm	1µm
Accuracy	N/A	6µm/300mm
Straightness	1µm/25mm	
Flatness	1µm/25mm	
Height	34mm at object plane	
Weight	7.7kg	

* applicable when used with LEP MAC 6000/2002 controller