

The OAI Model 800 MBA Mask Aligner is a four-camera, manual, optical backside mask aligner system that is designed to greatly surpass the performance of IR backside aligners at an extremely competitive price.

APPLICATIONS

Excellent for MEMS, Microfluidics, Nano Imprint and Nanotechnology

Used for sub-micron printing and precise, level-to-level mask alignment

FEATURES

Four-camera optical system

Interchangeable mask holders & chucks

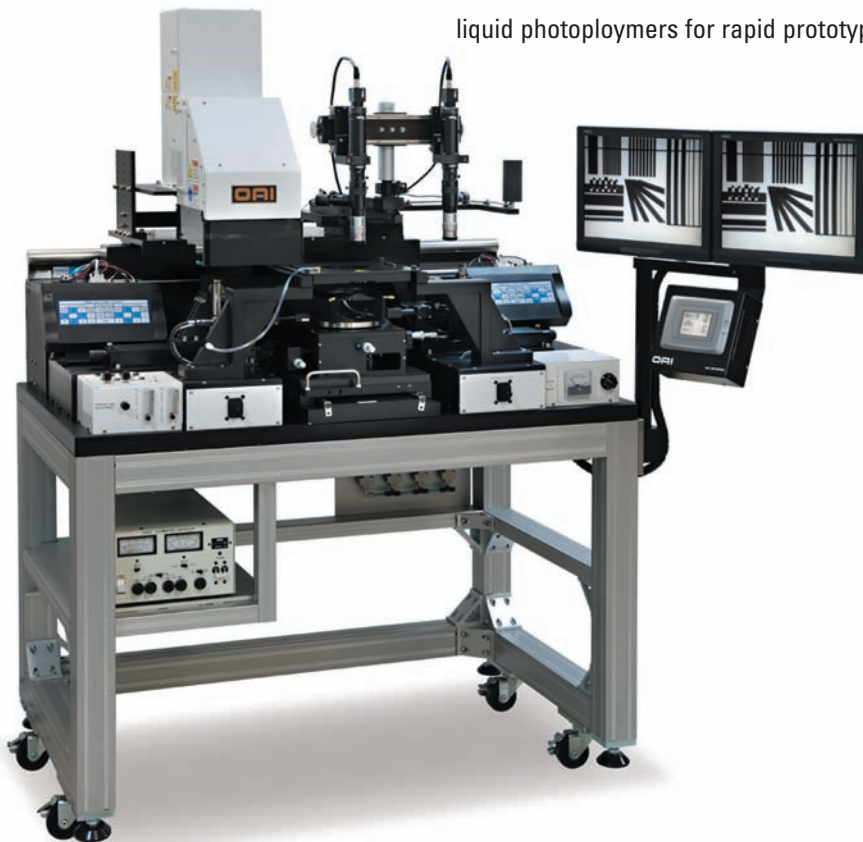
User-defined and controlled, substrate-to-mask pressure

Non-contact, soft-contact and soft-through-hard vacuum contact capability

Precision chuck positioning

The Model 800 MBA provides full optical backside alignment and is ideal for use in R&D labs, universities, and low volume production. With the addition of available automation options, the MBA is suitable for higher rate production.

The Model 800 MBA may be purchased as a topside aligner and upgraded to full optical backside alignment capability when needed. This aligner can be configured with a wide variety of OAI lightsources that range in power up to 2KW and can accommodate substrates up to 8-inch square. The wafer chuck is positioned for very easy loading and unloading of the substrate. For added versatility, this aligner is available with an optional OAI Nano Imprint Module designed for NIL. OAI also offers a module designed for using liquid photopolymers for rapid prototyping or production of microfluidic devices.



Built on an anti-vibration table, the fixed mask holder assembly virtually guarantees alignment accuracy and repeatability. Using the Model 800 MBA is a simple process, as all functions are controlled via the easy to read LCD screens. An operator can be trained on the Model 800 MBA in a very short time and effectively learn to operate the tool in under one hour.

MORE FEATURES

- Up to 8" square substrate
- Special small piece substrate holder
- Sub-micron level-to-level alignment
- High efficiency, uniform exposure system
- Intensity controlled power supply
- User definable operational parameters
- Modular design
- Motorized backside focus
- Anti-vibration table
- Dual video cameras with LCD screens

BENEFITS

- Very versatile, front/backside optical alignment system
- Cost effective tool that can be upgraded easily and affordably
- Greatly exceeds IR system performance at a very competitive price
- Fast changeover for masks and substrates

AUTOMATION FEATURES

- Auto Z Positioning Chuck
- Motorized auto leveling
- Auto gap setting

OPTIONS

- Electronic gap display
- Electronic joy stick control
- Nano Imprint Module available
- Microfluidic Module available

GENERAL SPECIFICATIONS

Front/Backside Mask Aligner System

Mask rotation	Not required (camera compensation front/back)
Mask size	Up to 9"x9"
Mask loading	Vacuum and mechanical clamp
Mask/substrate separation	Manual, user definable, infinitely variable
Mask/substrate pressure	User definable
Chuck motion control	X,Y,Z & Theta (differential micron)
Exposure gap	0-3000µm
Gap adjustment	1µm
Mechanical resolution	1.5µm
X, Y travel	±10mm
Theta travel	±4°
Leveling	Wedge-compensation system
Overlay accuracy	Front to back <2µm (3s) - Top side to 0.5µm
Substrate size	To 200mm square
Printing modes	Proximity, Soft, Hard & Vacuum Contact
Printing resolution	Soft contact - 2µm
Hard Contact	Submicron
Exposure time	1-3,200 in 0.1 second increments



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