

OAI MODEL 200

# MASK ALIGNER AND UV EXPOSURE SYSTEM



*OAI systems can process a wide range of substrates in a variety of conventional and irregular shapes.*



*The high efficiency light source provides uniform ultraviolet exposure across a variety of spectra.*

The OAI Model 200 Mask Aligner and UV Exposure System is a cost-effective high performance tool that is engineered with the industry proven modular components that make OAI a leader in the MEMS, Nanotechnology and Semiconductor equipment industries. The Model 200 is a bench top model that requires minimal clean room space. It offers an economic alternative for R&D, pilot, or low volume production. Utilizing an innovative, air bearing / vacuum chuck leveling system, the substrate is leveled quickly and gently for parallel photomask alignment and uniform contact across the wafer during contact exposure. The system is capable of micron resolution and alignment precision. The Alignment Module features mask insert sets and quick-change wafer chucks that allow the use of a variety of substrates and masks without requiring tools for reconfiguration. The Alignment Module incorporates micrometers for the X, Y, and  $\theta$  axes. The Model 200 Aligner can be fitted with a wide range of alignment optics including backside IR. The IR illumination vacuum chuck can be configured for alignment of whole wafers or pieces. The OAI Model 200 can be configured with an OAI Nano Imprint Module making it the lowest cost NIL tool available. OAI also offers a module designed for using liquid photopolymers for rapid prototyping or production of microfluidic devices.

The Model 200 features a dependable OAI light source that provides collimated UV light in Near or Deep UV using lamps ranging in power from 200 to 2000 watts. Dual-sensor, optical feedback loops are linked to the Constant Intensity Controller to provide control of exposure intensity within  $\pm 2\%$  of the desired intensity. Changes may be made to the UV wavelength quickly and easily.

**The Model 200 is a highly flexible, economic solution for any entry level mask alignment and UV exposure application.**

## APPLICATIONS

**MEMS**

**NIL**

**Microfluidics**

**Nanotechnology**

**II-VI & III-V device fabrication**

**Multi-level resist processing**

**LCD and FED displays**

**MCM's**

**Thin film devices**

**Solar cells**

**SAW devices**

## OPTIONS

**Available with single or dual cameras and screens**

*(Dual camera / dual screen version shown in photo)*

**May be fitted with Nano Imprint Module for NIL**

**May be fitted with Module for Microfluidics**



**OAI MODEL 200 TABLE TOP MASK ALIGNER AND UV EXPOSURE SYSTEM**

# OAI

## FEATURES

- Small Footprint*
- Vacuum Chuck*
- Precision Alignment Module*
- Interchangeable Mask Holders and Substrate Chucks*

## BENEFITS

- *Requires minimal clean room space*
- *Causes minimal damage to fragile substrate materials*
- *Accurate alignments to 1 micron*
- *Easily accommodates a wide variety of substrates and masks*
- *Backside mask alignment of IR transparent wafers with accuracy up to 3-5 microns*
- *Highly collimated, uniform UV light*
- *Quickly change the UV light wavelength*
- *Exposure controlled intensity to  $\pm 2\%$*
- *Can be configured as a Nano Imprint tool for NIL*
- *Can be configured with a Microfluidics Module*



Charter Member, MEMS Industry Group



## SPECIFICATIONS

Substrate Stage	X, Y Travel	$\pm 10\text{mm}$
	Z Travel	1,500 microns
	Micrometer Graduations	.001"; .0001" or .01mm; .001mm
	Rotation	$\pm 3.5^\circ$
Mask	Size	Up to 9" x 9"
Lightsource	Beam Size	Up to 8" square
	Lamp Power	200, 350, 500, 1,000, and 2,000 Watt NUV 500, 1,000 and 2,000 Watt DUV
Shutter Timer	Timer	0.1 to 99.0 sec. at 0.1 second increments or 1 to 999 sec. at 1 second increments
Facilities	Electrical	110 or 220 vac (or other according to Power Supply requirements and Country)
	Vacuum Air and N <sub>2</sub>	20 - 28" Hg. CDA at 60 PSI and N <sub>2</sub> at 40 PSI
	Exhaust	.35" to .5" Water
Dimensions	Height	37" (940mm)
	Width	31" (788mm)
	Depth	25" (635mm)
	Shipping Weight	250 Lbs.

464 South Hillview Drive • Milpitas, CA, 95035 USA

Phone (408) 232-0600 • Toll free (800) 843-8259

sales@oainet.com

www.oainet.com

www.oai-instruments.com