



## OAI Series 6000 Production Mask Aligners

For: Semiconductors, MEMS, Sensors, Microfluidics, IOT, Packaging

With over 4 decades of manufacturing in the semiconductor industry, OAI meets the growing challenge of a dynamic market with a new elite class of production photolithography equipment. Built on the venerable OAI modular platform, the Series 6000 is a fully automated cassette to cassette system with sub-micron resolution which delivers performance that is unmatched at any price. The aligners have Advanced Beam Optics with better than  $\pm 3\%$  uniformity and a throughput of 180 wafer per hour in first mask mode, which results in higher yields. The Series 6000 can handle a wide variety of wafers from thick and bonded substrates (up to 7000 microns), warped wafers (up to 7 mm-10mm), thin substrates (down to 100 micron thick), and thick photo resist. With superb process repeatability, the Series 6000 is the perfect solution for all production environments. Choose either top side or optional back side alignment which uses OAI's customized pattern assist software that is Cognex based. For the total lithography process, the Series 6000 can be integrated seamlessly with cluster tools. OAI's new production mask aligners are the total package.

- Fully Automated*
- Topside Alignment*
- Bottomside Alignment*
- DUV to NUV*
- Cluster Tool Integration*
- Customized Software*

### HIGHLY OPTIMIZED YIELDS

180 WPH in 1st Mask Mode

Advanced Beam Optics with better than  $\pm 3\%$  Uniformity

### WIDE VARIETY OF WAFER HANDLING

Including thick & bonded substrates and warped substrates

### WEDGE EFFECT LEVELING

### SUPERB PROCESS REPEATABILITY

### SUB MICRON RESOLUTION





## Specifications: OAI Series 6000 Mask Aligner System

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### Exposure System

Exposure Modes	Vacuum contact	Hard contact	Soft contact	Proximity (20 $\mu$ gap)
Resolution	0.5-0.8 $\mu$	0.8-1.0 $\mu$	1.0-3.0 $\mu$	3.0 $\mu$

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### Advanced Beam Optics

Uniform Beam Size:	2" -200mm square/round 200mm -300mm square/round
Uniformity:	Better than $\pm 3\%$
Camera:	Dual Camera with CCTV with Expanded Depth of Field

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### Alignment System

Pattern Recognition	Cognex VisionPro™ with OAI customized software
Alignment Accuracy	0.5 $\mu$ topside 1.0 $\mu$ with top to bottom optional backside alignment
Pre-alignment Accuracy	Better than $\pm 25\mu$
Auto-alignment	Top to bottomside Topside

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### Wafer Handling

Substrate size	2" -200mm round or square or 200mm-300mm round or square
Thin wafers	Down to 100 $\mu$
Warped Wafers	Up to 7mm-10mm
Thick & Bonded Substrates	Up to 7000 $\mu$
Robotics	Single and dual arm wafer handling
Run-out compensation	Standard software or optional thermal chuck
Wafer size conversion	5 minutes or less
Throughput	1st mask 180 wafers per hour - subsequent 75-100 wafers per hour
Wedge Effect Leveling	3 point or optional non-contact

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### Available Options

IR Auto-align,  
Cassette Mapping  
365nm LED Exposure Light Source  
Temperature Controlled Wafer Chuck  
Integrated Mask Management Control  
Integrated Lithography Cluster for Full Lithography  
Process Environment Control with SMIF or FOUF Interface Modules  
Non-contact Leveling  
Edge Gripping

685 River Oaks Parkway • San Jose, CA 95134  
Phone (408) 232-0600 • Toll free 1 (800) 843-8259  
email: sales@oainet.com • www.oainet.com