



Production Mask Aligners

For: Semiconductors, MEMS, Sensors, Advanced WLP, Compound Semiconductors, LED and Fanout PLP



HIGHLY OPTIMIZED YIELDS

200 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

REMOTE DIAGNOSTICS



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 200 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 Cognex™ Pattern Recognition software with OAI's pattern assist software. This unique software improves total throughput. 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



Specifications: OAI Series 6000 Mask Aligner System

Exposure System

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

Advanced Beam Optics

Long working distance light source allows for all fixed optical components and more exposures

Uniform Beam Size:	2" -200mm square/round 200mm -300mm square/round
Uniformity:	Better than $\pm 3\%$
Camera:	Dual Camera GigE with large field of view

Alignment System

Pattern Recognition	Cognex VisionPro™ with OAI customized software
Alignment Accuracy	0.5 μ topside 1.0 μ with top to bottom optional backside alignment
Pre-alignment Accuracy	Better than $\pm 50\mu$
Auto-alignment	Top to bottomside Topside

Wafer Handling

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

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 FOUP Interface Modules
Non-contact Leveling
Edge Gripping
Laser Gap Measurement

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