

NXQ8000 MASK ALIGNER



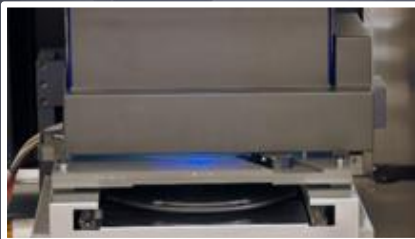
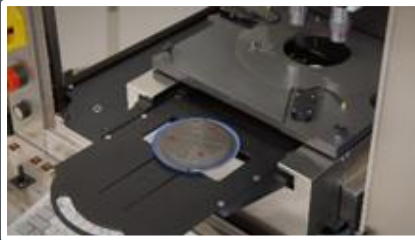
Microelectronics
LED/HB LED
3D IC
SIOP
WLP
2.5D Interposer
MEMS
BioMEMS
Microfluidics
Compound Semi
Solar (HCPV)
Optoelectronics

High Volume Production Mask Aligner and Overlay Inspection System



- The NXQ8000 Production Mask Aligner *and* Front to Back Overlay Inspection System integrates state of the art Robotic Automation and alignment stage design. The NXQ8012 alignment stage Design. The NXQ8000 Alignment Stage utilizes the latest in linear motion technology. With encoder feedback loops measuring actual stage position (not motor position), the vision system is not limited by the hardware, allowing for alignment accuracies of less than 0.5um 3 sigma. This accuracy is achieved using our Quadcam Microscope with 5x objectives, delivering an ideal combination of Magnification, Field of View and Depth of Focus!
- The **Dual Arm Robot** from Milara Corp. delivers lightning fast wafer transfer at twice the accuracy of competitors and incorporates a Pre aligner from Logosol which can detect transparent substrates making it ideal for not only silicon, but a wide range of compound semiconductor materials. It is a WTS combination that is by far the best in the industry!
- The NXQ8000 Series Mask Aligner combines 'open architecture' modular design with precision alignment and exposure features. Scalable from R&D to HVM by adding Robot Upgrade; same process recipes from R&D to HVM and handles partial and whole substrates up to 200mm (8") diameter.
- The versatility of the NXQ8000 makes it the preferred choice of manufacturing facilities, R&D Centers and University around the world, for a wide range of technologies.

NXQ8000 Series MASK ALIGNER



Technical Data

Exposure Modes

- Soft, Pressure, Vacuum Contact and Proximity Printing Modes

Print Resolution

- Proximity 3 um at 20um gap
- Soft Contact 2 um
- Hard Contact 1 um
- Vacuum Contact 0.6 um

Note: Achievable resolution depends on many process conditions including wafer flatness, resist type and therefore might vary according to actual process.

Cycle Time and Alignment Accuracy (3 sigma)

- First Mask Mode 200+ wph
- TSA Auto Align Mode (Contact) +/-0.5um 140+ wph
- TSA Auto Align Mode (Proximity) +/-0.5um 140+ wph
- BSA Auto Align Mode (Contact) +/-0.75um 120+ wph
- BSA Auto Align Mode (Proximity) +/-0.75um 120+ wph

Substrate Size / Mask Size

- Up to 8" & 10mm thick / 3"x3" up to 9"x9" – Mask Adaptors available for smaller Masks

Alignment Stage

- Alignment Travel X-Y and Theta Motorized with automatic re-centering
- X-Y Movement +/- 4mm, 100nm resolution
- Theta Rotation Range +/- 7.5 degrees, 4x10e-5 resolution
- Mask/ Wafer separation 0 – 1000um with 1um resolution

Microscope Travel Range

- Left Travel in X with Standard Objectives - 22mm to Wafer Edge
* With Offset Objectives -5.5mm to Wafer Edge
- Right Travel in X with Standard Objectives +22mm to Wafer Edge
* With Offset Objectives +5.5mm to Wafer Edge
- R/L Microscope Travel in Y +/- 12.7mm
- Extended Y Travel Microscope +12.7mm to -88mm
(Allows for Splitfield Flat Alignment of up to 150mm wafer)

Top Side Microscopes

- Quadcam Microscope
- 5x infinity Corrected Objectives Standard, 2x, 7.5x, 10x and 20x optional

Electronics

- Programming & Control, PC-based Windows 7
- Device Net Control System for pneumatics and sensors
- Ethernet Motor Control

UV Lamphouse / UV Exposure Optics

- UV Lamphouse 350/500W or 500/1KW
- Standard Exposure Optics Broadband (350-450 nm)
- Optional NUV 280-350nm
- Optional MID UV 280-450nm
- Optional DUV 220-280nm
- UV Uniformity +/- 3% - 150mm, +/-4% - 200mm