

NxQ8012 300mm MASK ALIGNER



**Full-field Exposure up to
320mm x 320mm**

**UV-LED Broadband or I-Line
Exposure Source**

**Topside or Backside Alignment
.5 μ m 3 sigma**

Manual or Automatic Operation

**Extremely Small Cleanroom
Footprint - bulkhead mountable**

Robust for R/D or HVM

**Designed for Applications \geq 300mm
wafers or square substrates (i.e. Glass
/ Si Interposers)**



Alignment Stage utilizes the latest in linear motion technology with encoder feedback measuring actual stage position (not motor position)

Backside Alignment with integrated IR Inspection, the system is transformed into a dual function tool that can not only pattern substrates, but also do post develop front to back alignment verification prior to etch

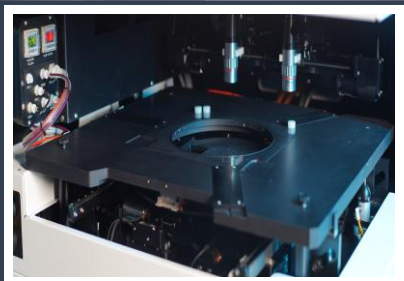
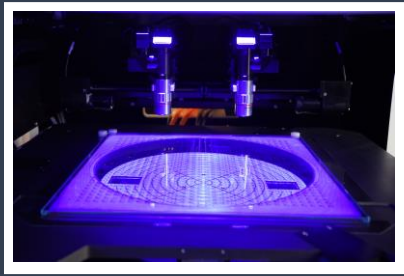
Availability in two configurations

Manual Load for R/D

Auto Load for HVM

Configurable for 300mm FOUP / EFM

NxQ8012 Series MASK ALIGNER



Technical Data

Exposure Modes

- Soft, Pressure, Vacuum Contact and Proximity Printing Modes

Print Resolution

- Proximity 4 μm at 20 μm gap
- Soft Contact 3 μm
- Hard Contact 2 μm
- Vacuum Contact 1 μm

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

Alignment Accuracy (3 sigma)

- Top Side Alignment (TSA) 0.5 μm
- Backside Alignment (BSA) 0.75 μm

Substrate Size / Mask Size

- Up to 310 mm x 310mm / 400 mm x 400mm -

Alignment Stage

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

Microscope Travel Range

- R/L Microscope Travel in X \pm 22mm to 190mm
- R/L Microscope Travel in Y Gantry +/- 175mm
- R/L Microscope Travel in split Y +/- 35mm

Top Side Microscopes

- HD GigE Quadcam Microscope
- 5x infinity Corrected Objectives Standard, 2x, or 7.5x

Electronics / Connectivity

- Windows 10 64-bit processor
- SECS / GEM and Remote Service Diagnostics

UV-LED Exposure Optics

- UV LED Lamphouse
Mono or Poly-Chromatic (365nm or BB), Uniformity \pm 3%
 - Standard Unit Polychromatic (GHI) recipe set 20-100%
 - Intensity Output Range
 - 3.2-16mw/cm² I-line
 - 7.2-36mw/cm² Broadband
 - Replaces 2kW Hg Lamp
 - High Power I-line unit recipes set 20-100%
 - Intensity Output Range
 - 6.4-32mw/cm² I-line
 - Replaces 5kW Hg Lamp
- Duty Cycle 7-10 years
- Environmental aspects
- Low power consumption / heat generation