



NEUTRONIX-QUINTEL

NXQ4006 Mask Aligner

- The NXQ4006 Mask Aligner combines innovative design with precision alignment and exposure features.
- The versatility of the NXQ4006 has made it the choice of manufacturing facilities, R&D Centers and university programs around the world, for a wide range of technologies.
- It supports both vacuum and contact printing and will process partial and whole substrates up to 150mm (6") diameter.

Microelectronics

MEMS

LED

MicroFluidics

WLP



Q4006 Mask Aligner

Optical head swivels to allow mask loading and easy access to work area.
Trayload feature allows direct loading of substrates onto the wafer chuck.

NXQ4006 MASK ALIGNER

Features

- Substrate sizes from 5mm pieces to 150mm (6") diameter
- Manual X-Y joystick and micrometer theta alignment stage
- ScanStage – This unique feature allows you to move the entire mask holder and wafer stage an additional +/- 16mm in X-Y under the objectives for increased viewing area.
- Z Axis – Frictionless air bearing – highly reliable and maintenance free
- Easy manual tray-load for substrate loading / unloading
- Automatic Wedge Error Compensation and movement to Align Gap after loading wafer
- Soft, Pressure and Vacuum contact exposure modes
- VideoView CCTV splitfield/ singlefield Video microscope, Infinity Corrected 5x Objectives for the best possible depth of focus, 7x Optical Zoom (select desired field of view and magnification)
 - Optional Objectives – 2x, 10x or 20x
- Simple topside mask loading
- UltraSense constant power or constant intensity UV power supply
- Integration and UV Collimation lens for improved printing resolution
- Vibration Isolation table included as standard
- Easy operation- ideal for multi-user labs
- Extremely reliable, low maintenance and low cost of ownership
- Large Gap Alignment

Options

- Infrared (IR) backside alignment (BSA)
- Optical backside alignment
- NUV Hg (280-350nm) / MID UV (280-450nm) / DUV Hg-Xe (220-280nm) exposure optics
- Quadcam – 2 High Resolution CCD Cameras per objective – This unique feature allows you to switch between Wide View and High Magnification at the touch of a button without refocusing!
- Manual micrometer for X-Y alignment
- MagnaView (optical) splitfield / singlefield microscope
 - CCTV option for MagnaView microscope
 - Objectives – 2x, 5x, 10x or 20x
 - Eyepieces – 10x or 15x
- Pulsed exposure timer sequencing

Applications

- Microelectronics
- MEMS
- LED
- MicroFluidics
- WLP

Performance

Print Modes	Soft, Pressure or Vacuum Contact modes
Print Resolution (with vacuum contact-)	= / >0.6 microns*
Substrate size	from pieces 5mm sq, up to 150mm Round or Square
Mask Size	2"x2" up to 9"x9" (2"x2" requires mask adaptor)
Alignment Stage	
• Alignment Travel X-Y	Manual Joystick
• Alignment Travel Theta	Manual Micrometer
• Stage Scan	+/- 16mm
• X-Y Movement	+/- 3.8mm
• Theta Rotation Range	+/- 7 degrees
• Mask/ Wafer separation	0 – 180 microns
• Mask Size	2.5"x2.5" up to 7"x7"
• Topside Alignment overlay*	1.0 microns
• Bottomside Alignment Overlay*	>2 microns
* Operator/ process dependant	
Video View Microscope Travel Range (not including Scan Stage)	
• Left Microscope Travel X	-25 to -100mm
◦ Offset Objectives	-12.5 to -87.5mm
• Right Microscope Travel X	+25 to +100mm
◦ Offset Objectives	+12.5 to +87.5mm
• R/L Microscope Travel in Y	+/- 12.7mm

UV Lamphouse/UV Exposure Optics

- UV Lamphouse 200/350W, 350/500W or 500/1KW
- Exposure Optics UV (350-450nm) standard
 - NUV (280-350nm) Optional
 - MID UV (280-450nm) Optional
 - DUV (220-280nm) Optional
- UV Uniformity +/- 3%, 4" diameter field
+/- 4%, 6" diameter field

Electronics

- Programming & Control PLC with LCD Display. Intuitive operator Interface for menu driven operation

System Requirements

- Voltage 110VAC/60 Hz or 240VAC/50Hz
- Compressed Air 5.4 bar (80 PSI)
- Vacuum -0.7 bar (21" Hg)
- Nitrogen (or CDA) 3 bar (40 PSI)

System / Module Data

- W x D x H ~1220mm x 915mm x 1423mm (48"x36"x56")
- Weight 217Kg (480 Lb)

*Specifications subject to change.