



NEUTRONIX-QUINTEL

NXQ4004 Mask Aligner

- The NXQ4004 Mask Aligner combines innovative design with precision alignment and exposure features.
- It supports both vacuum and contact printing and handles partial and whole substrates up to 100mm (4") diameter.
- The versatility of the NXQ4004 has made it the choice of manufacturing facilities, R&D Centers and University programs around the world, for a wide range of technologies.

Microelectronics

MEMS

LED

MicroFluidics



Q4004 Mask Aligner

(Shown with optional Binocular Microscope and Backside Alignment Upgrade)

NXQ4004 MASK ALIGNER

Features

- Substrate sizes from pieces to 100mm (4") diameter (6" diameter with 4k6 configuration)
- Manual X-Y joystick and micrometer theta alignment stage
- Easy manual tray-load for substrate loading / unloading
- Vacuum / Pressure contact exposure modes
- VariView splitfield/ singlefield microscope with zoom feature (CCTV viewing optional)
- Simple topside mask loading
- Vari-Watt constant power UV power supply
- Shock Isolation table included as standard
- Easy operation- ideal for multi-user labs
- Low maintenance

Options

- Infrared (IR) backside alignment
- NUV Hg (280-350nm) exposure optics
- Manual micrometer for X-Y alignment
- Binocular microscope (in addition to CCTV)
- Pulsed exposure timer sequencing

Applications

- Microelectronics
- MEMS
- LED
- MicroFluidics

Performance

Print Modes	Soft, Pressure or Vacuum Contact modes
Minimum Print Resolution (with vacuum contact-)	0.6 - 1.0 micron *
Substrate size	from pieces 1sq cm, up to 100mm
Alignment Stage	
• Alignment Travel X-Y	Manual Joystick
• Alignment Travel Theta	Manual Micrometer
• Stage Scan	+/- 16mm in X and Y
• X-Y Movement	+/- 3.8mm
• Theta Rotation Range	+/- 7 degrees
• Z Axis Shiftage	= / < .5 microns
• Mask/ Wafer separation	0 – 180 microns
• Mask Size	2.5"x2.5" up to 5"x5"
• Topside Alignment overlay*	<=1.0 microns
• Backside IR Alignment Overlay*	= / < 5 microns
* Operator/ process dependant	
Vari View Microscope Travel Range (not including Scan Stage)	
• Left Microscope Travel X	-10 to -40mm
• Right Microscope Travel X	+10 to +40mm

Electronics

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

UV Lamphouse/ UV Exposure Optics

- | | |
|-------------------|-----------------------------------|
| • UV Lamphouse | 200/350W |
| • Exposure Optics | UV (350-450nm) standard |
| • UV Uniformity | equal to or less than 5% @ 3.5" Ø |

System Requirements

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|---------------------|-----------------------------|
| • 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

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|-------------|-------------------|
| • W x D x H | (48" x 36" x 50") |
| • Weight 2 | 17Kg (480 Lb) |

Viewing Optics

- | | |
|------------------------|--------------------|
| • Objectives | 2.5x, 6.0x or 8.0x |
| • Eyepieces (Optional) | 10x or 15x |

*Specifications subject to change.