

Quantum 350™

The Quantum 350 is a revolutionary new scanning acoustic microscope that offers unparalleled scanning speed, while providing a smooth, vibration free, high-resolution acoustic image.

The Quantum 350 is the latest innovation in the Sonix family of Scanning Acoustic Microscopes. Built for speed, the Quantum 350 is a virtually vibration free scanner. The linear servo motor provides smooth and repeatable scan motion at high speed, while achieving 0.5 micron resolution. The large 350mm x 350mm scan area easily accommodates two JEDEC trays, while the unique design requires a minimum amount of floor space.



High-resolution imaging

Matches high frequency up to 300 MHz

High speed scanning of maximum 1000mm/sec

Extra large scan area of 350mm x 350mm

Dual tray capable

Provided with a variety of high throughput scanning modes for large quantity inspection

Small footprint

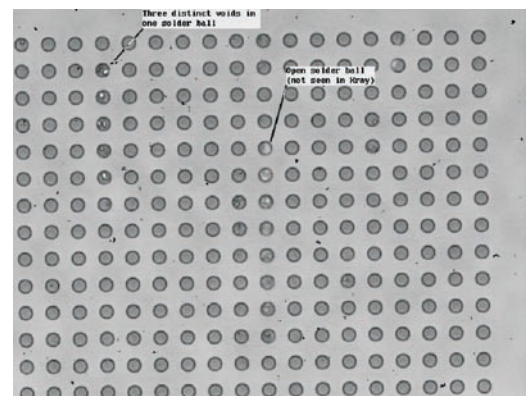
Dual monitor available

Easy to use WinIC™ software

Operating WinIC™, the Quantum 350 provides advanced image analysis features to aid in quantitative and qualitative interpretation of image data. WinIC uses extensive graphics and on-screen guides to help all users, novice to expert, inspect devices without worrying about the intricacies and details of the tool.

The Quantum 350 comes standard with the DPR-500 ultrasonic receiver. The DPR-500 offers improved bandwidth and is completely software controlled. Total control under software includes applied voltage, gain, damping, energy, low pass filters, high pass filters, acquisition mode (E/T), and triggering. Modular in design it allows for multiple configurations within a single unit. The design also improves cable management and was designed for easy operation.

Bumped Wafer: The image to the right was generated using the Quantum 350. The image is a portion of a bumped wafer showing non wet solder balls and voiding in solder balls.



Specifications

Scan Axis

- Positioning device: Linear servo motor
- Servo Max Velocity: 1000 mm/sec
- Servo Repeatability: +/- 0.5 micron
- Linear Encoder Resolution: 0.5 micron
- Max Travel: 350 mm

Step Axis

- Positioning device: Dual Ball Screw Motor Drive
- Step Axis Resolution: 0.5 micron
- Max Travel: 350 mm

Focus Axis

- Positioning device: Ball Screw
- Focus Axis Resolution: 1 micron
- Max Travel: 50 mm

Fixture

- Dual Adjustable Tray Fixtures

Immersion Tank

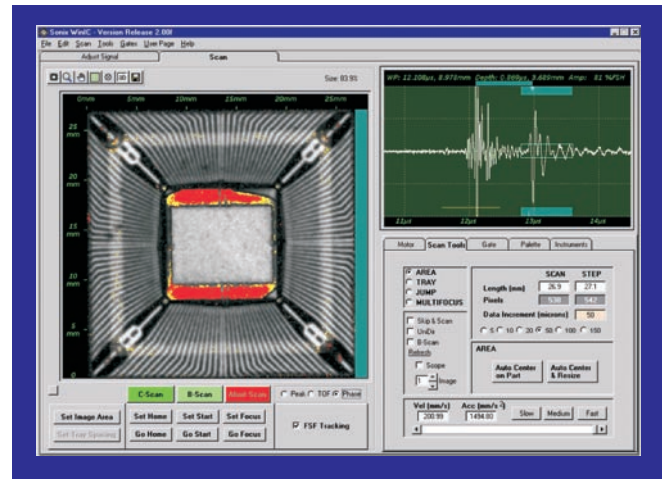
- Acrylic tank 500mm x 596mm x 150mm (WxDxH) includes pump and 30 micron filter plus a tank bottom fitting for complete draining

Ultrasonic Instruments

- DPR500 Receiver with LF/HF pulser
- Optional UHF pulser with expanded bandwidth receiver and UHF transducer
- Optional simultaneous pulse-echo/thru-transmission inspection (one tray scan area)

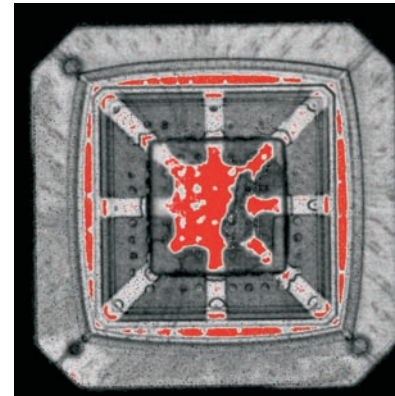
Dimensions

- Overall (WxDxH): 675 x 680 x 1300 (mm)
- Tank (WxDxH): 500 x 596 x 150 (mm)
- Power Requirement: 85-135 volt/230 volt (+/-10%)
- Power Consumption: Typical 100 VA
Max 125 VA
- Weight: Less than 150kg (without water)



Scan Tools View - Showing C-Scan and A-Scan

The combination of the Quantum hardware and WinIC™ software provides the user with a powerful, easy to use analysis tool. WinIC is the innovative new software developed for Sonix' scanning acoustic microscopes. WinIC takes advantage of the robust features of Windows® platforms and operating systems (Windows 95/98/NT). WinIC provides advanced image analysis features to aid in quantitative and qualitative interpretation of image data. WinIC uses extensive graphics and on-screen guides to help all users, novice to expert, inspect devices without worrying about the intricacies and details of the tool.



Ball Grid Array: The above image shows die attach delamination.