

# Quantum 350™



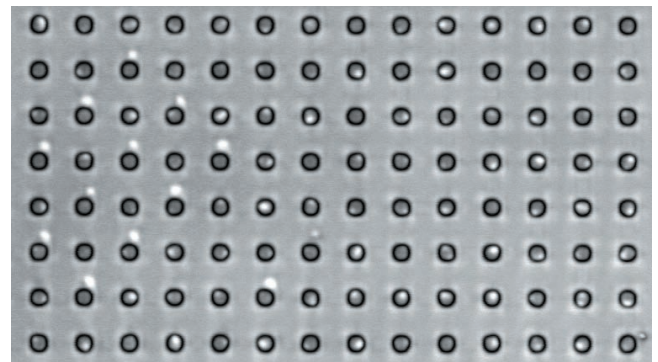
The Quantum 350 is a revolutionary new scanning acoustic microscope that offers ultrahigh scanning speed, while providing a smooth, vibration free, high-resolution acoustic image.

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.

**Flip Chip:** The image to the right was generated using the Quantum 350. The image is a portion of a Flip Chip showing underfill delamination and voiding in solder balls.



# Specifications

## Scan Axis

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

## Step Axis

Positioning device:	Dal Ball Screw Motor Drive
Step Axis Resolution:	0.5 micron
Max Scan Area:	350mm

## Focus Axis

Positioning device:	Ball Screw
Focus Axis Resolution:	1 micron
Max Scan Area:	50mm

## Fixtures

Dual Adjustable Tray Fixture

## Immersion Tank

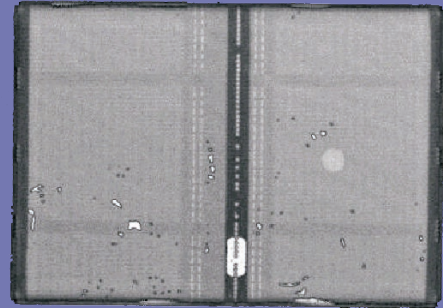
Acrylic tank 500mm x 569mm x 120mm (WxDxH)  
includes pump and 30 micron filter plus a tank bottom  
fitting for complete draining fitting for complete draining

## Ultrasonic Instruments

- DPR500 Receiver with L2/H2 pulser
- Optional U2 pulser with expanded bandwidth receiver and
- Optional HF Kit
- Optional simultaneous pulse-echo/thru-transmission inspection (on tray)

## Enclosure

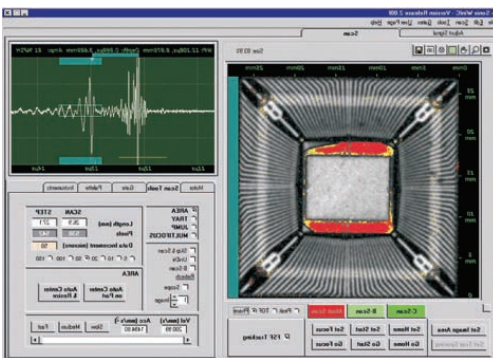
- Includes base cabinet for computer and instrumentation, with casters and leveling feet
- Approved emergency off and safety interlock



### Chip Scale Package:

With CTE mismatch present between the elastomer layer and substrate layer, electrical overstressing caused delamination in the elastomer layer.

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



The combination of the Quantum 350 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 2000). 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. ®

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