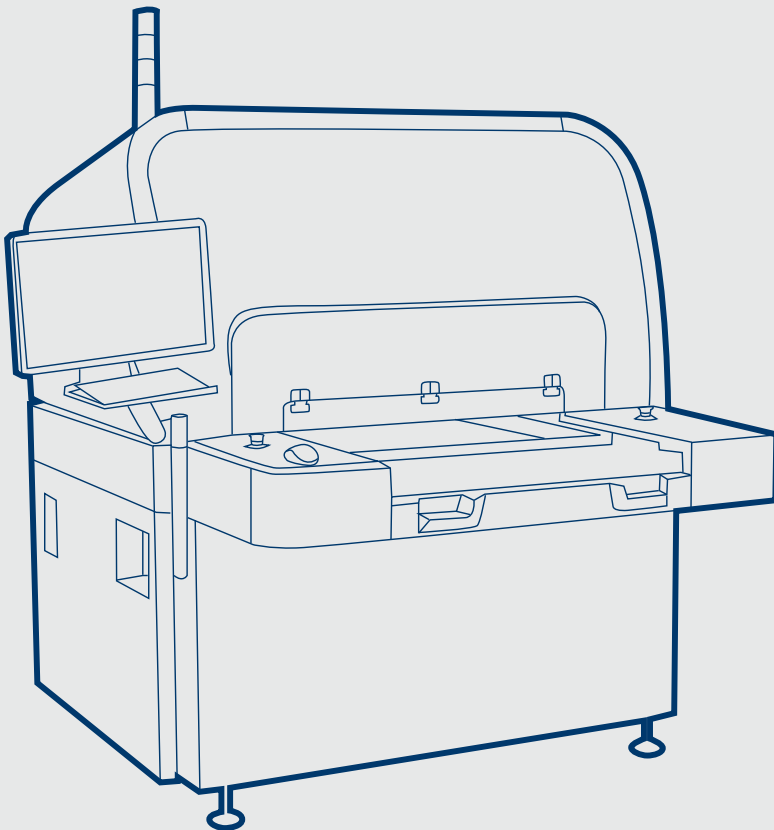


ULTRA DIMENSION™ 900

Automated Optical Inspection (AOI)



ULTRA DIMENSION™ 900

The Start of a New Era

Ultra Dimension™ 4-in-1 AOI Solution

Orbotech's Ultra Dimension™ 900 continues the series' revolution of the AOI room workflow, now for the IC substrate market.

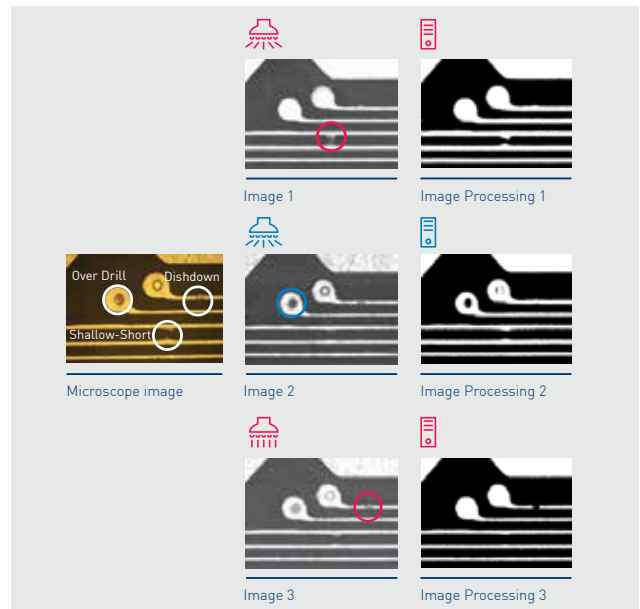
Designed for ultra fine pattern inspection down to 5µm and superior laser via (LV) inspection accuracy & operational efficiency, the Ultra Dimension 900 leverages field-proven inspection and measurement capabilities to meet the demanding, high precision requirements of automated optical inspection for IC substrate manufacturing.



Benefits

Exceptional Inspection Capabilities

- Unique combination of pattern and laser via (LV) inspection in a single scan, enabled by Triple Vision Technology™
- Dedicated inspection channels for different stages of LV production
- Significantly lower false alarms with no need for inspection masks enabled by Magic Technology™
- Unprecedented micro defect detection based on advanced proprietary algorithms



Ultra Fine Inspection Performance Down to 5µm

- 3D illumination delivering full light coverage on the substrate surface
- Custom developed lens enables variable resolution
- Dynamic focus ensuring high accuracy of warped panels
- Advanced throughput optimization according to line/space width and magnification

Remote Multi Image Verification Pro (RMIV Pro) – A New Generation of Verification

- Major reduction in quantity of standard verification stations and operators
- Smart enhancement of defect image quality
- Optimized productivity enabled by simultaneous 'grabbing' of defect multi-images enabled by Triple Vision Technology™



On the fly automated 2D Metrology for Laser Via

- Advanced accurate, 'on-the-fly' measurement of the LV top and bottom diameter, location, roundness and taper, ensuring high reliability and tight quality control
- High sampling rates in a single scan enabled by automated measurements
- Industry 4.0-ready including traceability, measurement analysis and statistics

4 Best-in-Class AOI Solutions in a Single System

Ultra Dimension 900 combines four best-in-class solutions in a single system, delivering new capabilities that further improve quality, yield and cost-efficiency. Combined together, these solutions signify a revolution in the AOI room workflow, representing a new era in AOI efficiency.

Unique Inspection Capabilities

Ultra Dimension 900 performs exceptional pattern and laser via inspection in a single scan. Powered by Orbotech's proprietary Triple Vision Technology™ and Magic Technology™, the solution delivers superior pattern inspection results across the board, from improving detection and reducing false alarms to decreasing set up time. It also delivers superior inspection results at different stages of LV production, including DLD after desmear, DLD after plating and more.

Ultra Dimension 900 provides manufacturers of advanced PCB processes with the flexibility to inspect a variety of applications and materials. Triple Vision technology enables the simultaneous inspection and analysis of three different types of images using varied light settings and thresholds.

Remote Multi Image Verification Pro (RMIV Pro) - New Generation of Verification

Powered by Triple Vision Technology™, Ultra Dimension 900 enables the remote verification of multiple images which are automatically and simultaneously grabbed during the inspection process.

RMIV Pro uses advanced algorithms to enable smart image enhancement including better contrast, clarity, brightness and color. By integrating images from three channels into a single

multicolor image, the solution enables operators to accurately differentiate between real and false defects in <1 sec.

Integrated, Automated 2D Laser Via Measurement

Orbotech's 2D LV measurement enables automated on-the-fly measurement of the top and bottom via diameters as well as the via's location, roundness and taper.

This highly accurate measurement solution meets the industry's growing demand for the quality control necessary for advanced IC substrate manufacturing technologies. The fully automated process ensures fast, accurate and repeatable measurement with a high sampling rate, all in a single scan. This fully digitalized process is Industry 4.0-ready and supports traceability, data analysis and statistics.



Robust Inspection Performance Down to 5µm

Ultra Dimension 900 is ready for the challenging demands of the most advanced IC substrate production with fine resolutions down to 5µm line/space. With its custom-developed lens that enables variable resolution, the solution's dynamic focus ensures superior image quality on warped panel in high magnification. Special algorithms for IC substrates ensure best detection performance with low false alarms. Ultra Dimension 900 is able to work on all IC substrate types, from the most advanced FCBGA to typical CSP applications and optimizes inspection throughput according to each job's line/space features.

With patented, LED based 3D illumination, Ultra Dimension 900 ensures full uniformity light coverage over all objects on the IC substrate's surface, providing superior inspection clarity for complex designs.