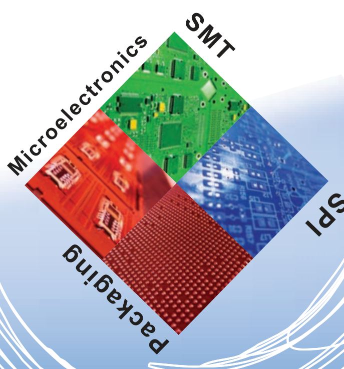
MVP
MACHINE VISION PRODUCTS



The Full Spectrum of AOI Solutions

BGA and Packaging Inspection - 850 XB

The 850G XB modular AOI Inspection platform provides a range of advanced optic and handling solutions including 3D, high-resolution imaging and quad color lighting to provide the maximum defect, and measurement capabilities for in-tray BGA and package inspection. In addition a range of custom material handling configurations are available including; JEDEC tray handling, magazine handling, strip handling, and wafer handling. For in-line operations, single and dual lane options are also available to process microelectronic or semiconductor assemblies.

The 850G XB flying inspection technology ensures in-tray inspection rather than movement of the substrate within the inspection bay.

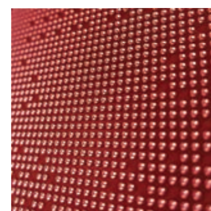
Our configurable electro-optics solutions provide performance inspection capabilities for:

- **BGA and Packaging**
- **Ball Height and Coplanarity Measurements**
- **Ball Diameter and Shape Measurements**
- **Ball Offset Measurements**
- **Missing Ball and Bridging defects**
- **Coining and Damage**
- **Substrate Damage**
- **Full Graphical Ease-of-use Set-up Utilities**
- **Integrated Off-line Repair Tools**

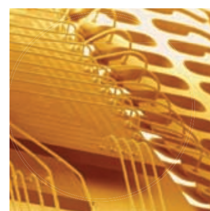
Discuss your SMT and microelectronics inspection application with Machine Vision Products, Inc and discover your solution

SMT AOI

3D Paste AOI

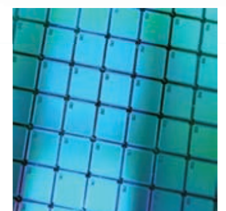


BGA AOI



Wire Bond AOI

Die and Epoxy AOI



Die Surface AOI

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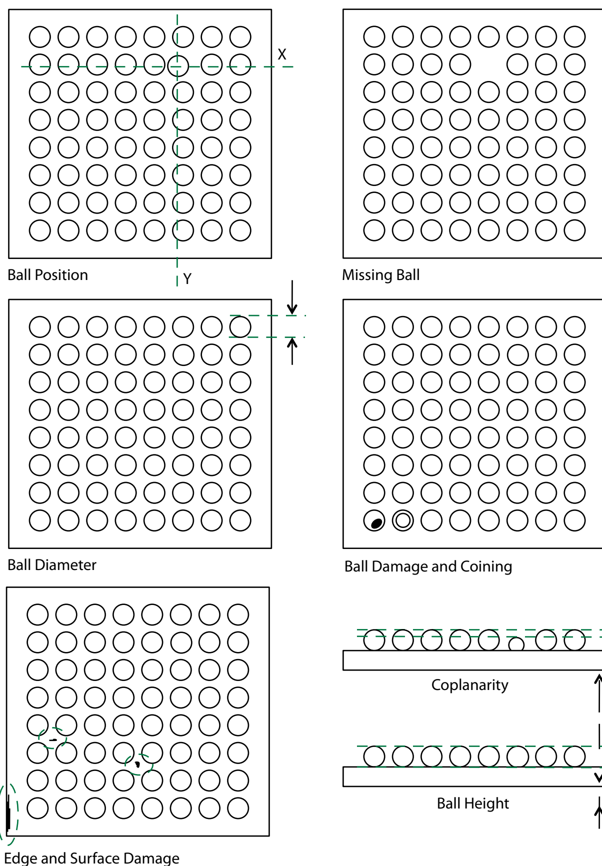
Key Capabilities

System Applications

The 850 XB, as configured for BGA Inspection provides capabilities for:

- Ball Height and Coplanarity Measurements
- Ball Diameter and Shape Measurements
- Ball Offset Measurements
- Missing Ball and Bridging defects
- Coining and Damage
- Substrate Damage



Measurement Approach

The 850 Series Microelectronics Inspection System provides both 2D and 3D measurements through the use of its proprietary Optics and 3D Laser based measurement system.

General Specification

Leaded	Resolution	Technique
Lead coplanarity	4um	3D
Lead pitch	6um	2D or 3D
Lead offset skew	6um	2D or 3D
Body standoff	6um	2D or 3D
Lead length, width	6um	2D or 3D
Terminal dimensions	6um	2D or 3D
Foot angle	0.75 °	3D
Burr inspection	25um	2D or 3D
Substrate Damage	15um	2D
OCV, OCR		2D
2D Barcode		2D

Area Array Packages	Resolution	Technique
Ball offset	6um	2D or 3D
Coplanarity	4um	3D
Warpage	4um	3D
Ball height	4um	3D
Ball pitch	6um	2D or 3D
Ball Diam	6um	2D or 3D
Ball quality	20%	2D
Ball presence		2D or 3D
Grid to package offset	6um	2D or 3D
Body size	6um	2D or 3D
Substrate Damage	15um	2D
OCV, OCR		2D
2D Barcode		2D

LGA, QFN, BCC, LCC	Resolution	Technique
Land position	6um	2D or 3D
Pitch, width, length	6um	2D or 3D
Body size, parallelism	6um	2D or 3D
Warpage	4um	3D
Substrate Damage	15um	2D
OCV, OCR		2D
2D Barcode		2D

Bold = Preferred technique
Specifications Based on 6um Ultra 850XB Platform
(850XB is also available in 1um 3um and 10um configurations)

Software Features

All algorithms and measurement techniques are provides for full BGA, Die, Surface and packaging inspection, including:

- ePro - Grahical ease-of-use program set-up
- iRepair - Defect Map and review software
- Full BGA and Microelectronics algorithm suite

Handling Options

MVP provides complete handling solutions, which include:

- In-Line tray inspection
- JEDEC Tray
- Part Disposition and Tray to Reel
- Strip Handling
- Magazine
- Custom Configurations

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