The **850G** modular AOI Inspection platform provides a range of advanced optic and handling solutions including 3D, high-resolution imaging and quad color lighting. Camera resolutions are scalable to resolutions below 1 Micron. In addition, a range of custom material handling configurations are available including magazine handling, strip handling, tray handling, and wafer handling. For in-line operations, single and dual lane options are also available to process microelectronic or semiconductor assemblies.

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

- **Die Placement Metrology**
- **Wire-bond, Lead-frame**
- **BGA and Packaging**
- **Underfill**
- **3D Paste and 2D Flux**
- **Silver Epoxy, Bond Layer**
- **Bump Inspection**
- **Epoxy, Glues and Sealants**
- **SMT Components**
- **Foreign Objects and Scratches**
- **Material Dimensional Metrology**

Discuss your SMT and Microelectronics inspection application with Machine Vision Products, Inc. and discover your solution.
Die Placement, Surface Finish and Scratches
- Surface Damage such as Scratch, Exposed Circuitry
- In-line High Speed Positional Accuracy of Die Placement (X, Y and Rotation) Post and Pre Cure/Reflow
- Solder Splatter and Foreign Objects, Cracks, Contamination and Edge Quality
- Single and Multiple Die

Wire-bond, Lead-frame Inspection
- Wire Tracing Conformity, Bent and Broken Wires
- Distance to Adjacent Wire, Straightness Tolerance
- Ball/Wedge Geometry
- Contamination
- SMT Assembly Defects

3D BGA, Bump and Paste Inspection
- In-line High Speed Inspection of 3D Heights
  - Coplanarity
  - Positional Accuracy
  - Volume
  - Height

Epoxy and Underfill Inspection
- Epoxy Boundary (Flow and Spread)
- Epoxy Fillet (Quality and Defects)
- Excess Epoxy (Anywhere in the Inspection Area)
- Pre and Post Epoxy Cure
- Bond Layer

Additional Inspection Capabilities
- Full SMT Inspection Capabilities
- Part Routing
- 2D Flux Inspection without Florescent Additives
- Flux Boundary and Coverage (Flow and Spread)
- Part Height and Dimensions
- Part Markings, OCV and 2D Barcodes
MVP Microelectronics and Semiconductor Systems

CORE ENGINEERING

- Custom Designs
- Co-engineering
- Product Definition
- Unique Handling Designs
- Development Support
- Optics Experts
- Software Design
- Mechanical Design
- Mechanical Design
- Project Management
- Standards

SYSTEM MANUFACTURING

- Part Manufacturing
- CNC Capability
- System Manufacturing
- Custom Systems
- Skilled Engineering
- System Integration
- Copy Exact
- Documentation Control
- Shipping
- Electronic and Mechanical Assembly
- 100% Testing

APPLICATIONS

- Full Metrology
- Die Placement
- Wire Bonding
- Bump Inspection
- BGA Measurement
- Wafer Surface
- Particle Inspection
- Underfill
- 3D Measurements
- Solder Measurements
- Bump Inspection
- Clean Room
- SMD placement

CUSTOMER FOCUS

- Co-Development
- Meet Your Requirements
- Local Support
- Installation
- Project Management
- Field repairs
- After-Sales Service
- On-Site Applications

CORE ENGINEERING

High quality products start with good design. Machine Vision Products (MVP) brings added value to the customer by providing design and engineering services to meet your custom Microelectronics and Semiconductor inspection requirements.

SYSTEM MANUFACTURING

Based in Carlsbad, California, MVP provides full design and manufacturing services for all their optics, hardware and custom handling solutions. Our skilled machine operators, assembly and test engineers provide the highest quality system solutions. In addition MVP provides software for all of the platforms from a core team of algorithm experts based in our Carlsbad location.

APPLICATIONS

MVP’s proprietary algorithm suite provides the highest level of inspection for integrated automatic production lines; built around a series of high resolution 2D and 3D optics packages, to provide rapid, cost-efficient measurement of microelectronics and semiconductor components.

CUSTOMER FOCUS

Once a solution has been deployed, MVP continue customer and applications support through a class-leading team of field based engineers. System installation, training, applications development, project management and system enhancements are all services provided by MVP to any location world-wide.
The 850G is the latest in a series of flexible, powerful and innovation driven solutions introduced by MVP, the leader in performance based AOI. With the flexibility to inspect a variety of micro-electronics processes, the modular nature of the 850G is an ideal fit for performance driven production environments.

### 850G Technical Specifications

<table>
<thead>
<tr>
<th>Inspection Speed</th>
<th>System Hardware</th>
<th>System Software</th>
<th>Material Handling</th>
<th>Physical Specification</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>- Acquisition Speed of 75 Megapixels per Second with a Single 5MP Camera</td>
<td>- Granite-based Stage for High Measurement Accuracy</td>
<td>- CAD-driven, Library-based Programming Software</td>
<td>- Custom Handling Options</td>
<td>- Inspection Envelope 355 x 355mm (14 x 14”)</td>
<td>- SECS/GEM Interface</td>
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<tr>
<td>- High UPH, 4-10 x process UPH’s</td>
<td>- State-of-the-art Large Format Color Camera</td>
<td>- Proven High Performance, Adaptable Algorithms with Highest Detectability and Lowest PPM False Accept and False Reject Rates</td>
<td>- SMEMA Interface</td>
<td>- Footprint 844 x 1066mm (33.25 x 42”)</td>
<td>- CAD Translation Software</td>
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<td>- High-Speed 3D Laser for Height Measurements</td>
<td>- Proprietary “On-the-fly” Camera Acquisition</td>
<td>- Full Network Integration (TCP/IP, NFS Protocol)</td>
<td>- Auto Board Clamp for Precision Registration</td>
<td>- Height 1473mm (58”)</td>
<td>- Offline Programming Capability</td>
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<tr>
<td>- Highest Speed, 3 Channel 3D Camera Technology Available</td>
<td>- Programmable Variable LED Strobe Lighting</td>
<td>- Off-line or In-line Defect Review Capability</td>
<td>- Single and Dual Lane In-line Options</td>
<td>- Conveyor Length 850mm (33.46”)</td>
<td>- MVP Dynamic Process Control</td>
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<td>- Proprietary Multi-color Illumination</td>
<td>- Defect Image Archive Capability</td>
<td>- Support for Metal Carriers and JEDEC Standard Trays</td>
<td>- Power 220-240VAC 50/60Hz, 10 Amperes</td>
<td>- Ceramic Process Material Handling</td>
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<td>- Patented 3D Technology, 2 or 4 Micron</td>
<td>- Real-time SPC Package and XML Reports</td>
<td>- Air 60 PSI, 1CFM</td>
<td>- Weight 680kgs (1500 lbs)</td>
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<td></td>
<td>- Field of View, Resolution, 1 - 25 Micron/Pixel</td>
<td>- Report Generation Utilities for Production</td>
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<td>- Copy-exact, Inter-machine Capability</td>
<td>- Inspection Measurements</td>
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<td>- Inspection Program Change Tracking</td>
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<td>- On-the-fly Unit Level and Carrier Tracking with</td>
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<td>2D Matrix Reader</td>
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<td>- 5th Generation Proven Inspection Software</td>
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<td>- Multi-pass Technology, Adjustable Lighting</td>
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<td>Intensity</td>
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<td>- Multi-substrate Step and Repeat Programming and Inspection Capability</td>
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