High-Speed 3D AOI for the Most Reliable Assembly Inspection – Economical and Versatile

3D AOI

S3088 ultra gold
High-speed solder joint inspection

Highest inspection depth

Simple operation

Fast, precise, and virtually shadow-free
3D analyses with high-performance sensor technology for rapid throughputs

Unique analysis of QFN, DFN, and QFP dewetting using angled views

Resolution of up to 8 µm – reliable 03015 inspection

Simple operation, fast inspection program generation

Confirmed zero defect escape thanks to Integrated Verification

Viscom FastFlow Handling – PCB change in up to 2.5 s

Powerful add-on modules: verification, off-line programming, and SPC evaluation

Worldwide, competent service on-site, by hotline, remote maintenance, and customer support area on the Viscom website

In today’s electronics manufacturing environment, reliable and economical quality assurance is demanded. AOI systems must be adaptable to a wide variety of requirements. In addition, the operation must be simple and intuitive while the inspection depth is first-class, reliably covering the most up-to-date component generations in compliance with IPC standards. All of this is combined in the S3088 ultra – and much more: The performance is further increased with the camera module XMplus in the S3088 ultra gold model. The ideal relation of high throughput and high resolution achieved in this system has yet to find its equal. Combination with intelligent software add-ons and the Viscom Quality Uplink results in the optimal solution for electronics assembly and process control.
Versatile configuration possibilities with latest high-performance sensor technology for a first-class throughput

The S3088 ultra combines the flexibility of the Viscom S3088 AOI family with the overall convincing strengths of the high-performance camera modules XM and XMplus. Their sensor technology makes very fast inspections possible, both for high-resolution views as well as for color 3D analyses. The image data rate achieves up to 3.6 gigapixels per second.

The high-performance 3D sensor technology works with an integrated structured light projector. This unique solution provides the possibility to use up to 9 cameras. This guarantees virtually shadow-free 3D inspection and is the only way to uniformly inspect the same component types on an electronics assembly.

In addition to the orthogonal image acquisition, Viscom uses angled camera views. This requires technically fully-developed solutions, as for example maximum sharpness over the entire field of view. This is the only way to reliably detect dewetting on QFPs and typical defects on QFNs and DFNs. Other 3D solutions and pure orthogonal inspections fail here.

With a field of view of 50 mm x 50 mm and an inspection speed of up to 65 cm²/s, the 3088 ultra gold model has been designed to satisfy highest throughput demands.

Every S3088 ultra can be operated through the user software EasyPro and using vVision. This guarantees intuitive control and simple inspection program generation. In connection with intelligent Viscom software add-ons such as Extended Lifted Lead Detection, Integrated Verification or Viscom Quality Uplink, the full potential of the AOI system can be completely utilized.

A further highlight is the Viscom FastFlow Handling. The high-speed transport facilitates interference-free and extremely high throughput, thanks to the synchronous input and output of assemblies, with a transfer time of as little as 2.5 seconds. Together with the high-speed 3D sensor technology, extreme cycle time requirements are met exceptionally well.

As a central feature, the integrated defect verification simplifies the reduction of pseudo defects and offers a convenient tool to ensure a zero defect escape strategy. Thus, the quality of the inspection programs can be confirmed quickly and easily at any time, whether for in-house production needs or documentation during customer audits. If Viscom SPI/AXI/MXI are used in addition to Viscom AOI, the Quality Uplink provides a unique tool to link all inspection results. This avoids wrong defect classifications, facilitates optimization of product-specific inspection strategies and provides an effective process control mechanism. Powerful add-on modules like verification, off-line programming and SPC evaluation round out the offer.
## Technical Specifications

### S3088 ultra | S3088 ultra gold

#### Inspection scope
- Solder joints, placement, solder paste

#### Camera technology
<table>
<thead>
<tr>
<th>XM</th>
<th>XMplus</th>
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<tr>
<td>Total number of megapixels</td>
<td>Up to 65</td>
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#### 3D sensor technology
- **Z-resolution**: 0.5 μm
- **Z-range**: Up to 30 mm (1.2”)

#### Angled view cameras
- **Number of cameras**: 4 (8, optional)

#### Orthogonal camera
- **Resolution**: 8 μm
- **Field of view**: 40 mm x 40 mm (1.6” x 1.6”)

#### Inspection speed
- Up to 50 cm²/s
- Up to 65 cm²/s

#### Software
- **User interface**: Viscom vVision/EasyPro
- **Statistical process control**: Viscom vSPC/SPC, open interface (optional)
- **Verification station**: Viscom vVerify/HARAN
- **Remote diagnosis**: Viscom SRC (optional)
- **Programming station**: Viscom PST34 (optional)

#### System computer
- **Operating system**: Windows®
- **Processor**: Intel® Core™ i7

#### PCB handling
- **PCB dimensions**: 508 mm x 508 mm (20” x 20”)
- **PCB support**: Optional
- **Transport height**: 850 - 950 mm ± 20 mm (33.5” - 37.4” ± 0.8”)
- **Width adjustment**: Automatic
- **Transport concept**: Single track transport
- **PCB clamping**: Pneumatic
- **Upper transport clearance**: 50 mm (2”)
- **Lower transport clearance**: Up to 85 mm (3.4”), 40 mm (1.6”) with PCB support

#### Other system data
- **Positioning/handling unit**: Synchronous linear motors
- **Interfaces**: SMEMA, SV70
- **Power requirements**: 400 V (other voltages on request), 3P/N/PE, 8 A, 4 - 6 bar working pressure
- **System dimensions**: 997 mm x 1600 mm x 1540 mm (39.3” x 63” x 60.6”) (W x H x D)
- **Weight**: Max. 800 kg (1764 lbs)

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### Technical drawing

- **Dimensions in mm**

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