PCB Inspection System
VT-S730 Series

Omron's 3D-SJI (Solder Joint Inspection) Ensuring High-quality Products in an Efficient Manufacturing Environment

VT-S730 **Advanced Model**

VT-S730-H **Advanced & High-speed Model**

3D Oblique View

VT-S730

High-Speed 3D Oblique View

VT-S730-H

PCB Inspection System (AOI) Lineup

2D Implement-ation Inspection

Support for Post Placement
VT-S500

3D Dual Lane High Resolution

Optimal for Automated Flow Soldering Inspection and Minimum Component Inspection
VT-S530

Omron's 3D-SJI (Solder Joint Inspection)

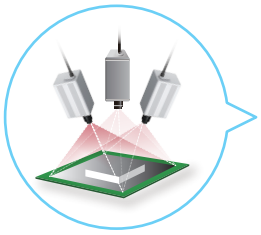
Materializing quantitative solder joint inspection, whilst minimizing the risks of overlooked defects defined by the quality criteria, and contributing to a vertical startup.

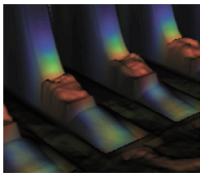
POINT 1 3D reconstruction of solder and components

Hybrid 3D-SJI

Conducts optimal inspection to suit items to be inspected by combining 3D and 2D technologies.

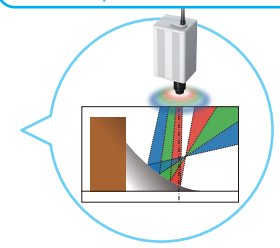
Phase-shift principle
suitable for height measurement





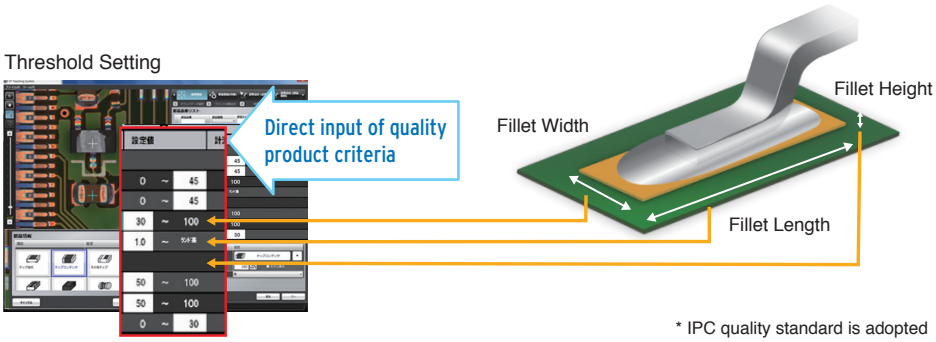
Hybrid

Color highlight
to capture the shape without being affected by the solder surface state



POINT 2 Quantitative inspection utilizes quality criteria based on International Standards*

Contributing to quality control that conforms to International Standards, including IATF (ISO/TS) 16949.

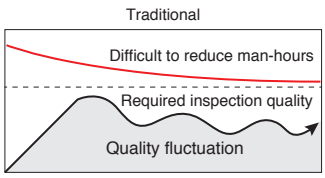


* IPC quality standard is adopted

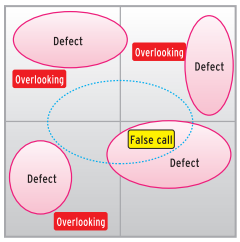
POINT 3 Maximizing inspection quality while minimizing man-hours

Traditional models

Continuous adjustment is required with each lot fluctuation or new defect occurrence. This model requires continuous debugging.

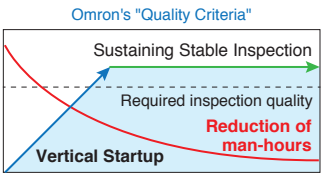


Defects may be overlooked if all defect conditions are not specified. The number of false calls will not decrease if there is a setting defect.

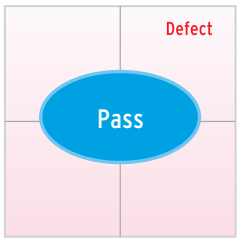


Omron's 3D-SJI S Series

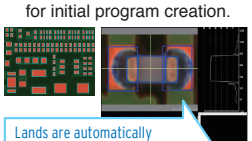
Automation has reduced man hours required for initial program creation time. Quantitative "quality criteria" based on 3D reconstruction has substantially reduced man hours required for debugging.



Only inspected items that meet or exceed the Quality Criteria are passed. The rest are rejected as defects.

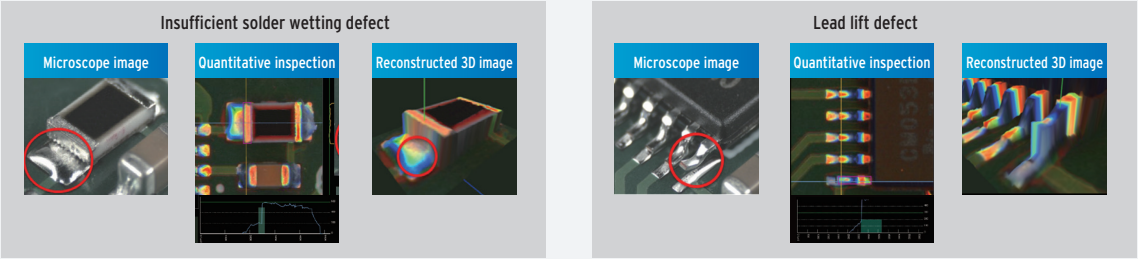


Reduction of man-hours required for initial program creation.



Lands are automatically extracted from a bare board and Component Windows are auto-generated based on the height information.

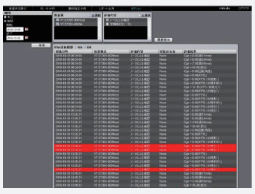
Example Defects



Support for statistical inspection required by IATF (ISO/TS) 16949

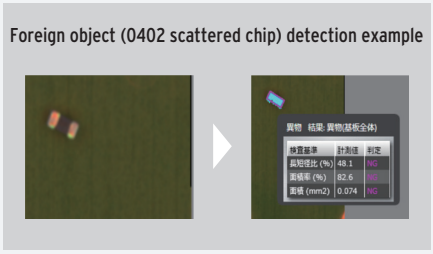
Support to quantitatively evaluate measurement for MSA (Measurement System Analysis).
Maintain inspection accuracy by continuously measuring and evaluating accuracy automatically while recording history.


GR&R logging output


MSA result history

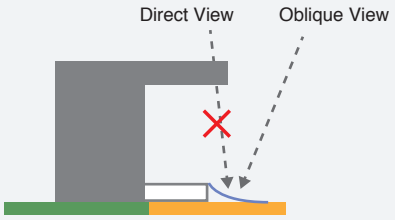
Whole PCB surface inspection

Detecting foreign objects accurately is achieved through combining 3D (height) and 2D (area) measurements on the entire PCB surface. (Lands without solder can be excluded from the inspection)



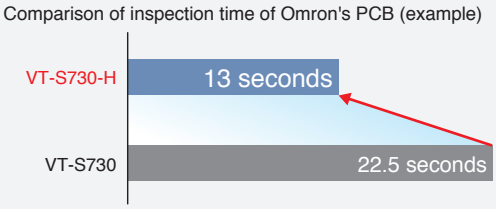
Oblique viewing camera incorporated

Oblique view inspections can be performed on solder joints that are hidden from the direct view camera.

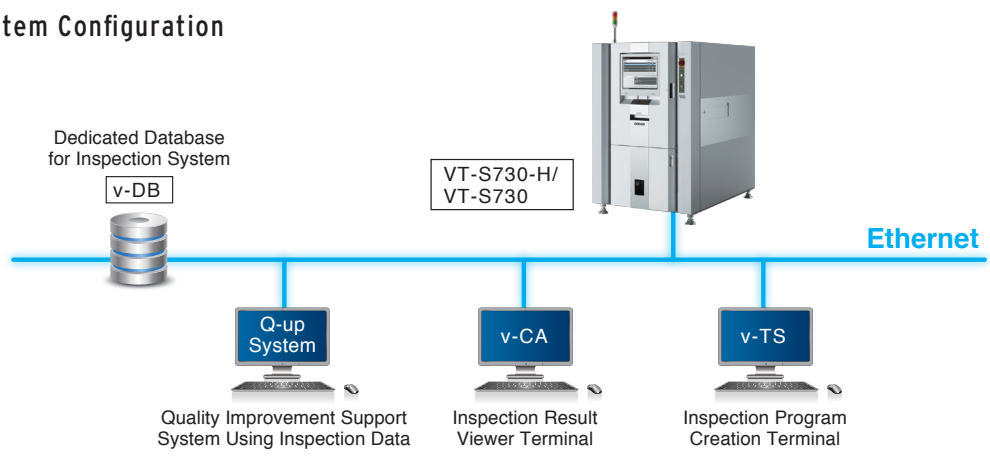


Various Lineup of High-Speed Models

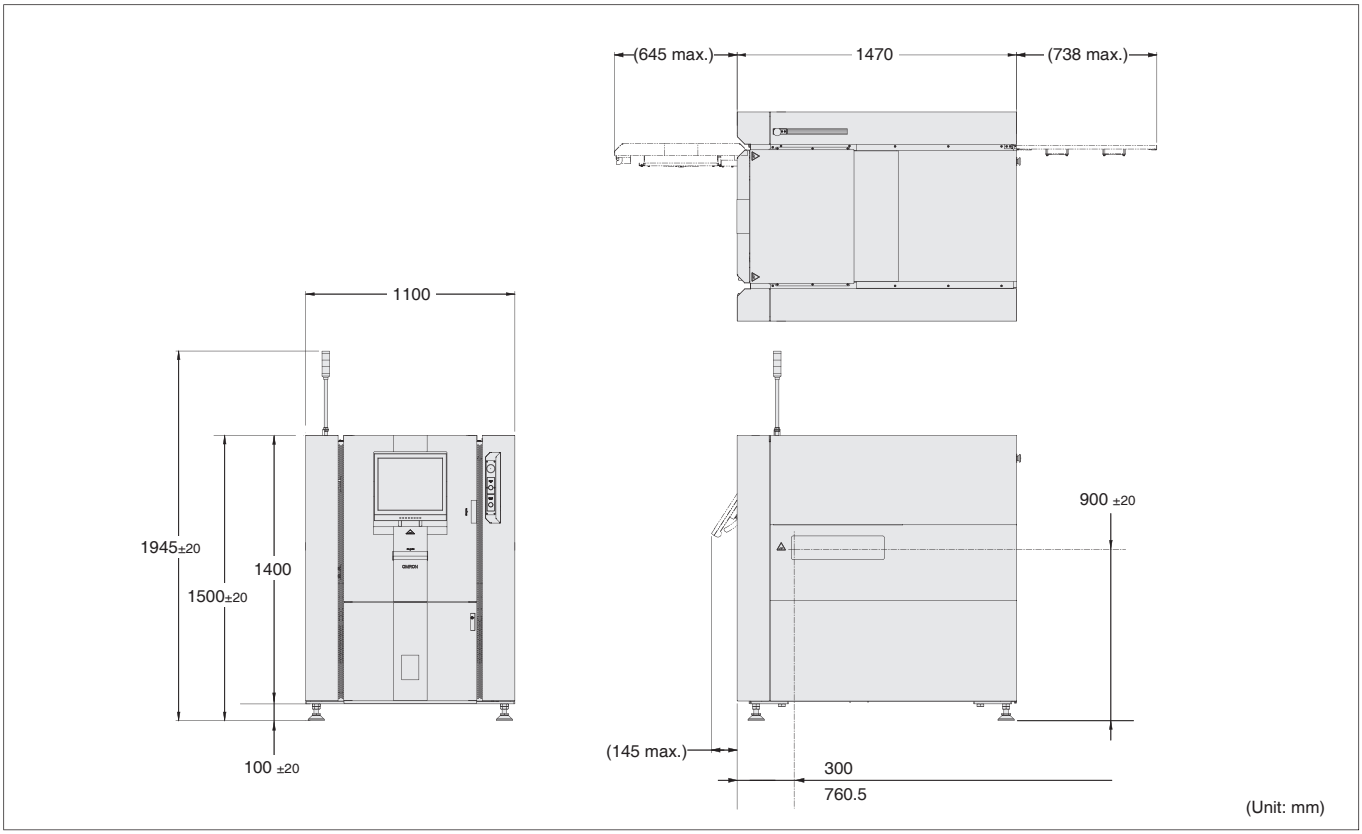
The VT-S730-H incorporates a high-speed image capturing module to substantially reduce the inspection time compared to standard models of the same series.



System Configuration



Dimensions



Hardware configuration

Model		S730	S730-H
Dimensions		1100(W)×1470(D)×1500(H) mm	
Weight		Approx. 800kg	
Power supply	Voltage	200 - 240VAC (single phase), voltage fluctuation range ±10%	
	Normal rated power	2.8kVA	2.4kVA
Line height		900±20mm	
Air supply pressure		0.3 - 0.6MPa	
Operating temperature range		10 - 35°C	
Operating humidity range		35 - 80%RH (Non-condensing)	
Image signal input block	Imaging system	4M pixel camera	12M pixel camera
	Inspection principle	3D reconstruction through color highlight and phase shift technology	
	Image resolution	15μm	
	FOV	30.00×30.72mm	61.44×46.08mm

Functional specifications

Model	S730	S730-H
Supported PCB size	50(W)×50(D) - 510(W)×460(D) mm	
Thickness	0.4 - 4mm	
Clearance	Above: 40mm; Below: 40mm	
Height measurement range	25mm	
Inspection item	Component height, lift, tilt, missing/wrong component, wrong polarity, flipped component, OCR inspection, 2D code, component offset (X/Y/rotation), fillet (height/length, end joint width, wetting angle, side joint length), exposed land, foreign material, land error, lead offset, lead posture, lead presence, solder ball, solder bridge	

- **The information provided in this document is mainly for selecting a suitable model. Please read the Instruction Sheet carefully as it contains information regarding warranty, limitations of liability, and precautions. Before purchasing, the user must understand and accept the information presented in the Instruction Sheet.**
- **This product may cause interference if used in residential areas.**

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