

VT-9000™ Series



In-line AOI Systems for Electronics Assembly

The VT-9000 series provides cost-effective inspection of your electronics assemblies at the pre- and post-solder stages.

VT-9000 solutions feature advanced 2-D and 3-D inspection techniques for accurate, consistent detection of paste, component placement and solder joint defects at full line speeds.

With their flexible inspection capabilities and fully integrated process control tools, VT-9000 systems enable you to improve your product quality and reduce your manufacturing costs.

VT-9000 solutions offer you:

- Cost-effective performance for all inspection stages at full line speeds
- Advanced 2-D and 3-D techniques for accurate, consistent defect detection
- Fully-integrated software tools for intelligent process control
- Straightforward program setup and flexible adaptation to product changeovers
- Designed for easy integration into existing SMT lines

VT-9000™ Series

Functional Specifications

	VT-9200™ Pre-Solder AOI System	VT-9300™ Post-Solder AOI System
Boards Inspected	Pre-solder SMT and through-hole	Post-solder SMT, through-hole and mixed technologies
Number of CCD cameras	5	13
Fault Coverage	Placement: Component placement accuracy in X, Y and Q, missing components, OCV, component polarity 2-D paste defects: missing, insufficient, excessive, smear, bridging, alignment voids 2.5-D paste defects: paste deposit height threshold	Component placement accuracy in X, Y and Q, missing components, component polarity, insufficient or excess solder, tombstone and billboard components, dry joints, coplanarity, shorts, lifted leads, blow holes (wave solder)
Camera	Multiple CCD sensors, two different resolutions for high-speed and high-resolution operation.	Advanced 3-D imaging utilizing multiple top and angled CCD sensors and two different resolutions for high-speed and high-resolution operation.
Lighting	Multiple level and directional Xenon flash lighting array; closed loop illumination control.	Multiple level and directional Xenon flash lighting array; closed loop illumination control.
Components Inspected	All chip components (including 0201)*, all leaded devices down to 0.4 mm fine-pitch and below. Many odd-form components including edge connectors, coils etc.	All chip components (including 0201)*, all leaded devices down to 0.4 mm fine-pitch and below. Many odd-form components including edge connectors, coils etc.
High Speed Mode	FOV size 50 x 37 mm (1.97 x 1.46 in.), pixel size 55 x 44 microns	
High Resolution Mode	FOV size 11.0 x 8.0 mm (0.43 x 0.31 in.), pixel size 25 x 20 microns	
Scan Speed	Up to 26.5 cm ² /sec (4.01 in ² /sec)**	

System Specifications

SOFTWARE PLATFORM	
Component Library	Extensive on-line standard and customized component libraries including odd-form components. Library extendable through user-defined components
Vision Algorithms	Statistical modeling-based image processing algorithms. Sub-pixel accuracy
CAD Data Integration	Standard CAD conversion software interface for fast inspection program setup. System compatible with TECNOMATIX-UNICAM eM-Launch package (including FABmaster Gold)
HARDWARE PLATFORM	
Maximum Board Size	508 x 380 mm (20 x 15 in.) Optional 508 x 457 mm (20 x 18 in.)
Maximum Board Height	Top: 50 mm (2 in.); bottom: 80 mm (3in.)
Test Platform	X, Y, Z table with high-resolution glass scale encoders
Control System	High-speed, latest generation Pentium-powered PC with CD-ROM and 3.5 floppy drive, 15" flat screen monitor
Host Communications	Twisted pair Ethernet supporting TCP/IP or Microsoft Network
Image Processing	Video frame-grabber card with multi-bank memory support
Board Handling	Automatic board handling and width control; SMEMA compatible
Design	Conforms to CE and UL safety regulations
Dimensions	W 1115 x D 1180 x H*** 1400 mm (W 43.9 x D 46.4 x H 55.1 in.) With high speed handler option: W 1715 x D 1118 x H*** 1400 mm (W 67.5 x D 44.0 x H 55.1 in.)
Weight	400 Kg (880 lbs)
Options	QPC™ - Real-time SPC software OptiGraf™ Line quality monitoring & reporting software PC ² M™ - Process Control and Calibration Module OCV - Optical Character Verification GFR™ - Gerber Format Reader for offline programming of Gerber-based data Barcode scanner High speed handler unit Off-line programming station In-line, automated repair station

* High-resolution mode ** High-speed mode *** Calculated assuming a board transfer height of 830 mm (32.7").
Specifications are subject to change without notice.

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