

SATURN

3D Inline Solder Paste Inspection System



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TECHNOLOGY AND FEATURES

PEMTRON SATURN machine's existing head type has been upgraded to new head for 3D formation that is identical to the real image and more stable based on the accumulated technology for decades.

Dual & Quad Projection

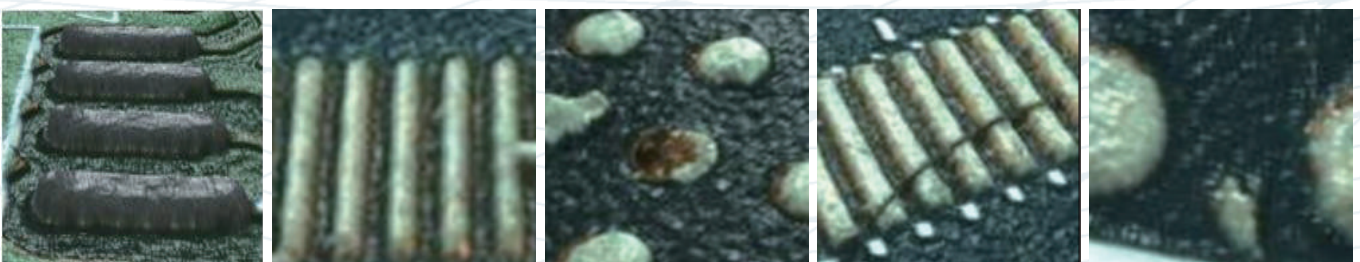
By combining 2D&3D and adding dual & quad projection, it can eliminate more shadow effect with SPI systems.

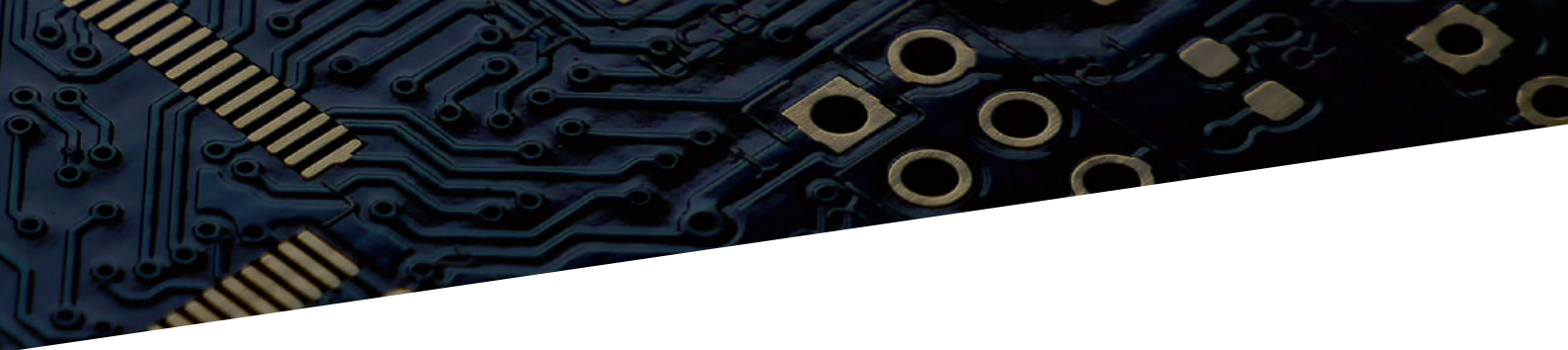
1. Convenient Maintenance, Concise Assembly and Setting
2. More Precise 3D
Existing projection : 2-way-> Upgraded : 4-way, Additional Projection
=>3D Formation Same as Real Image
3. Improved Repeatability
> Accurate 3D makes repeatability more reliable.
4. More stable and accurate 3D realization by installing additional projectors
SPI: 2-way -> 4-way
5. The new head is also possible to inspect 2mm height for glue inspection
6. Change to Module Format
- Easy and Fast Replacement and Maintenance.



Real Color 3D

By combining 2D color images with 3D measurement data, 3D color images are implemented to provide convenience to the operator and dramatically improve accuracy during inspection.

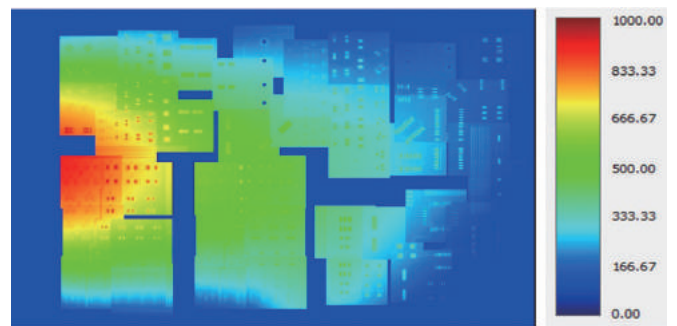




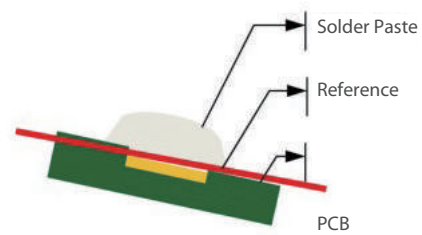
Warpage Compensation

Wider range of reference point search area prevents less deviation of recognizing a zero reference point.

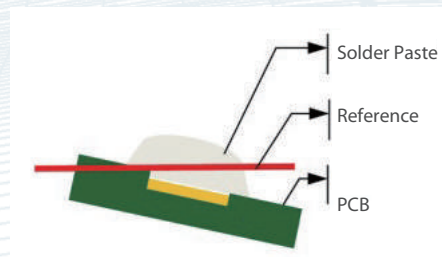
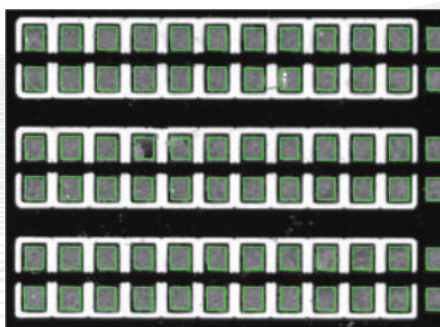
- Accurate height calculation
- Able to compare pads within ROI
- Better repeatability



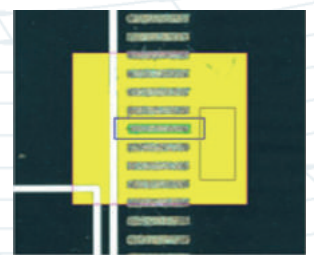
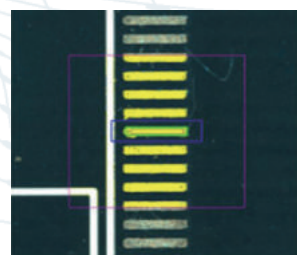
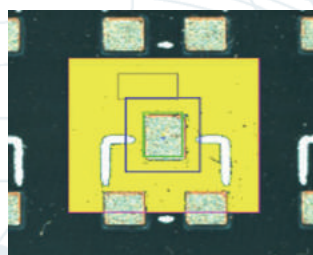
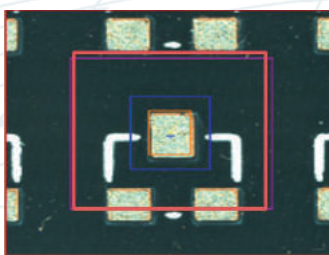
◆ Bad



◆ Good



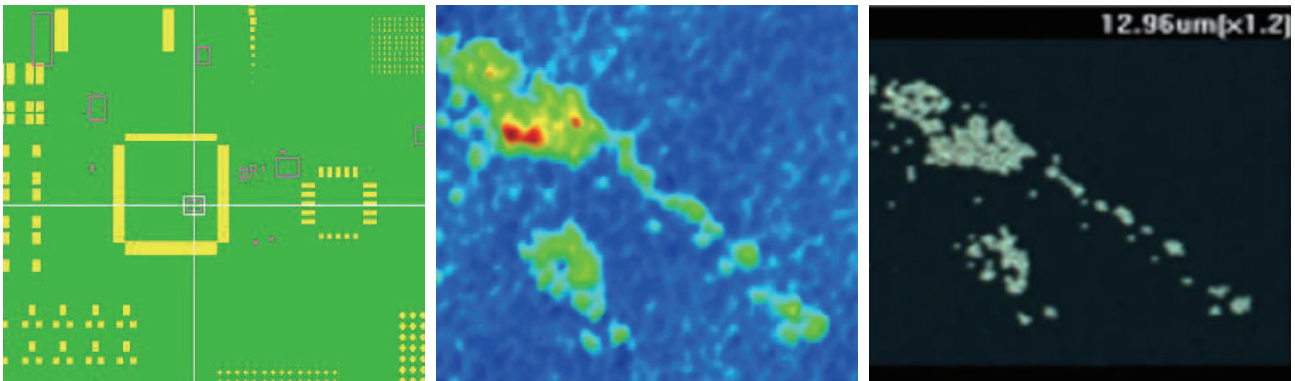
The Exact Floor Measurement and Automation Capabilities





Foreign Material Inspection

No matter how diverse the PCB color is, PEMTRON color X&Y is able to distinguish accurately between the foreign material and PCB



SMARTRON

Factory Optimization Solution
System RMS / Alarm / SPC / Job & Library management

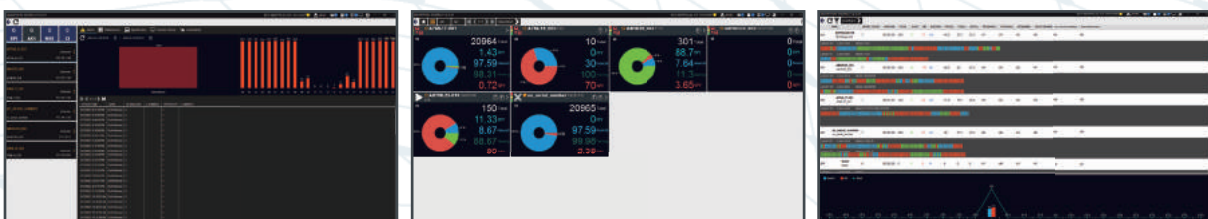
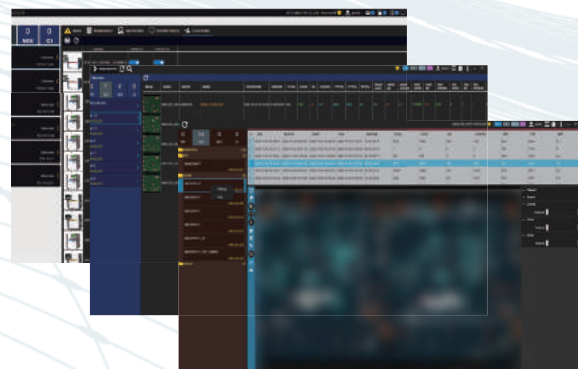


Real-time Line Monitoring and Control
- RMS (Remote Monitoring System)
- Registered System status

Data Analytics and Reporting
- Yield / CpCpk / Job & Part analysis etc.
- Statistical Chart / Process Chart / Alarm History

Quality Management Solution
- Multiple line & systems maintenance management

Job & Library management
- Optimizing based on classified result data



Real Time Process Management Quality Management Solutions

Inspection Result Information Auto Sync.

◆ Printer Net

- Closed Loop Solution with Screen Printer

◆ Mounter Net

- Closed Loop Solution with Mounter
 - Bad Mark Mounter Sync and Adaptive Process Control

◆ APC MFB

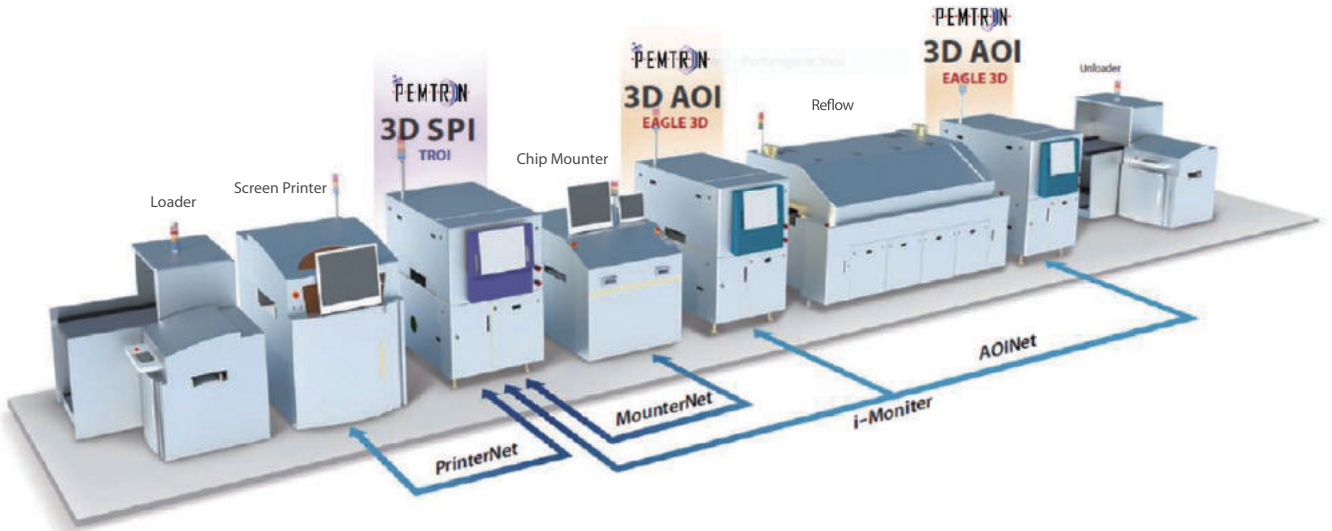
- Offset Technology of Mounting Location of Mounter, Using Data of AOI Inspection

◆ PEMTRON SPI & AOI Closed Loop Function

- Real Time Defect Confirmation

◆ i-Monitor

- Control a Maximum of Twelve Machines with One Monitor



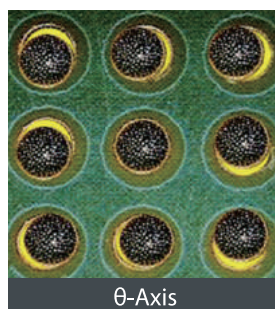
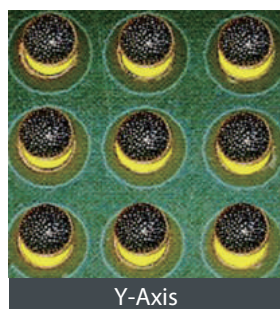
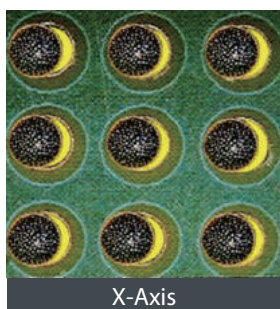
SPI & AOI Linkage

- Repair Station / Production QC
 - Printer Auto Sync / Printing QC



Inspection Result Information Auto Sync

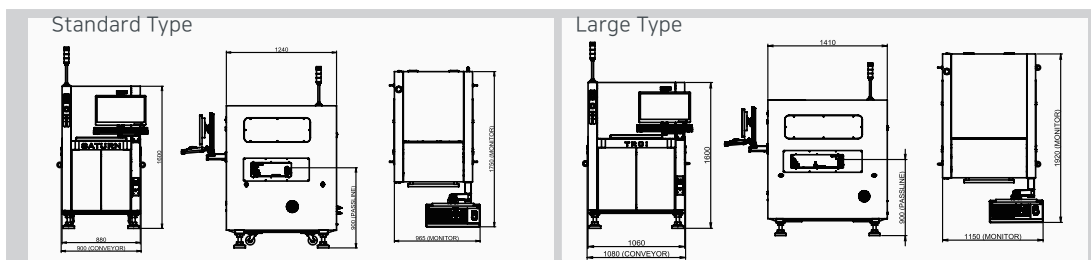
Closed loop solution with screen printer



SPECIFICATIONS

Model		SATURN				
2D/3D Vision Algorithm		2D : Vision Inspection Algorithm 3D : PMP (Phase Measuring Profilometry) Algorithm				
Measurements		Volume, Height, XY Position, Area				
Detection Types		Insufficient Paste, Excessive Paste, Shape Deformity No Paste, Bridge 2D&3D, Paste Displacement				
X/Y Pixel Resolution		4MP 10MP				
		10 μ m	15 μ m	18 μ m	10 μ m	15 μ m
Inspection Speed		16 cm ² /sec	36 cm ² /sec	52 cm ² /sec	38.4 cm ² /sec	86.4 cm ² /sec
FOV (Field of View)		20x20mm	30x30mm	36x36mm	32x30mm	48x45mm
Height Accuracy		2 μ m*				
Gantry Type		Linear Motors				
Model		SATURN	SATURN L	SATURN D	SATURN DL	
PCB Specification	Inspection Size	Max. PCB Size	330x330mm (13x13 inch)	510x510mm (20x20 inch)	Dual:330x280mm (13x11 inch)	Dual:510x330mm (20x13 inch)
		Min. PCB Size	50x50mm(2x2 inch)			
	PCB Thickness	0.4 - 7mm				
	Top Clearance	27mm				
	Bottom Clearance	50mm				
Electrical Requirements		200~240Vac, 1Phase, 50/60Hz				
Power Consumption		2.8kW (16A Max @ 220V AC)				
Dimension (W x D x H)		900x1240x1600mm (36x49x63inch)	1080x1410x1600mm (43x56x63inch)	940x1700x1565mm (37x67x62inch)	1120x1750x1565mm (44x69x62inch)	
Weight		760kg (1676lb)	930kg (2050lb)	1100kg (2425lb)	1170kg (2580lb)	

* Specifications subject to change without notice.



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