Color 3D SPI
TROI-7700E Series

3D Inline Solder Paste Inspection System

PEMTRON

Technology and Features

Dual Projection

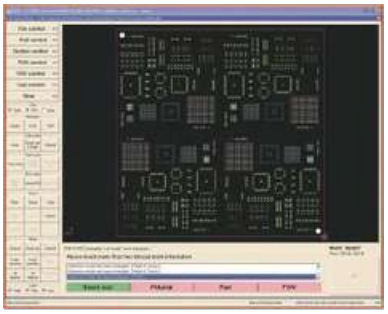
Combination of 2D & 3D inspection eliminates common shadow problem with SPI systems.

64 bit Windows 7 Operation System

Fast & Stable Operating System for high density PCB.

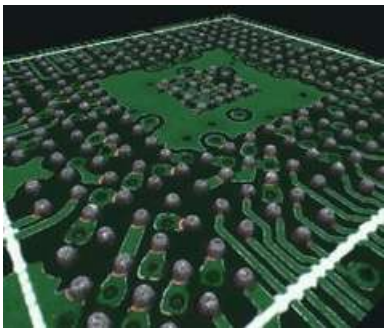
User Friendly Graphical Interface

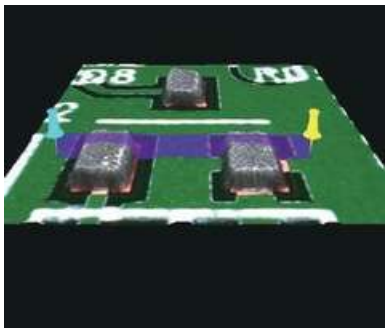
Self-developed Gerber Editor controls the main functions on one page which means it's eliminating the effort of switching between multiple screens. It is also possible to register or edit the data quickly and easily by any users.



Color 3D SPI

Conventional SPI methods could only calculate heights above silk print levels, but by using patented color enhancing algorithm TROI™ could overcome these problems. In addition, a fully rotational 3D view of the solder form is displayed. This enables users to view a "life like' image of the pad eliminating the need to extract the board from the line to view the defect under a microscope.

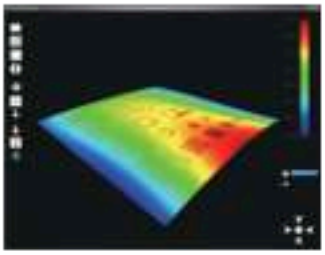




Warpage compensation

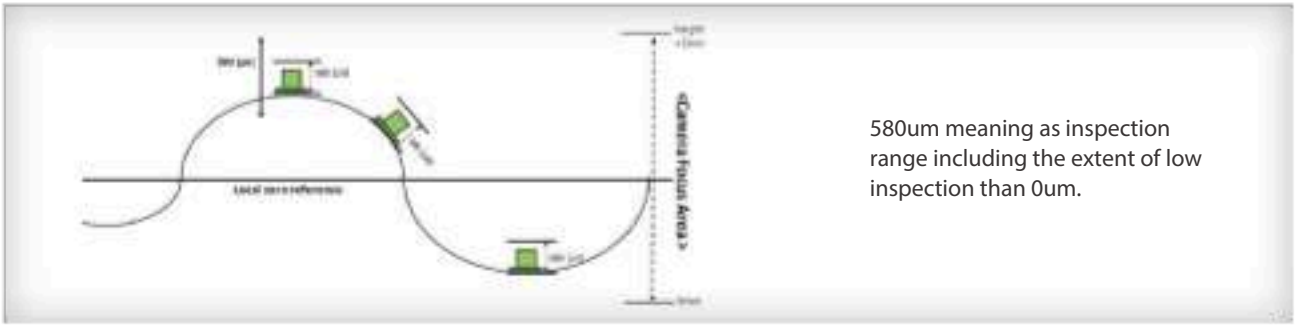
Wider range of reference point search area prevents less deviation of recognizing a zero reference point.

- Accurate height calculation
- Compare other pads within ROI
- Better repeatability

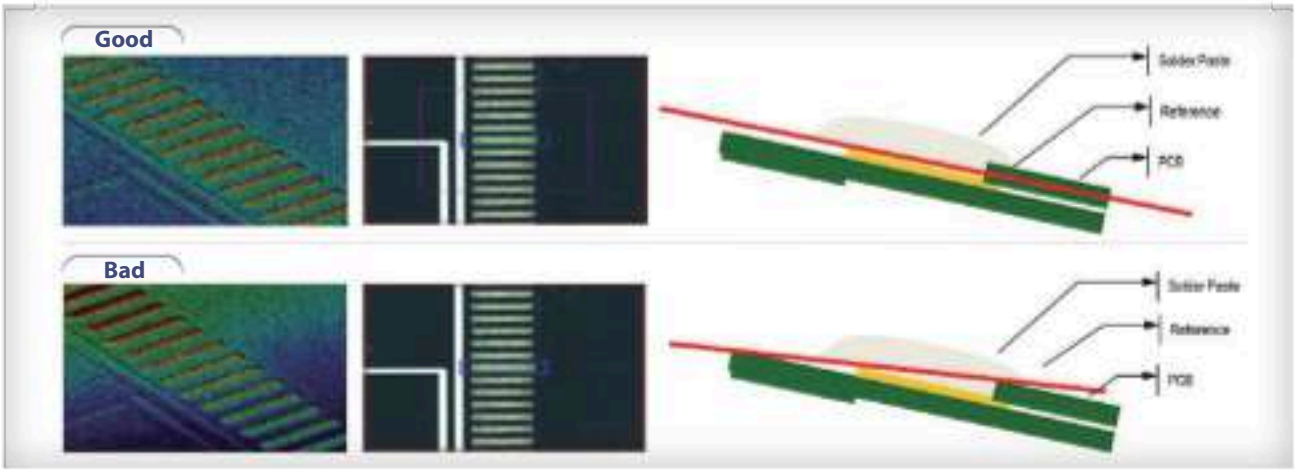


2D Full Color Inspection → Warpage Calculation (Laser) → 3D Inspection → Coordinate & Warpage Compensation

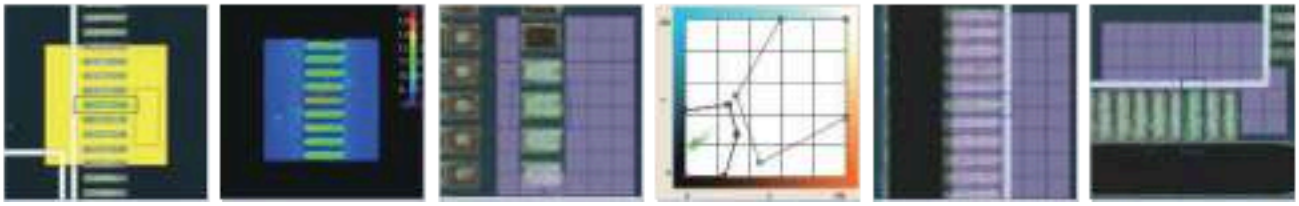
Inspection Sequence



580um meaning as inspection range including the extent of low inspection than 0um.



The exact floor measurement and automation capabilities



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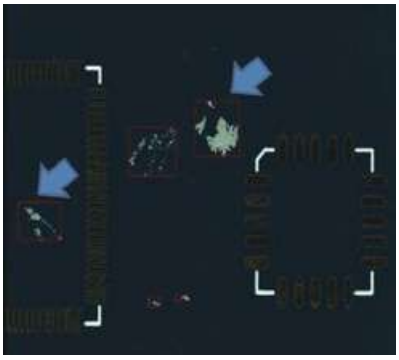
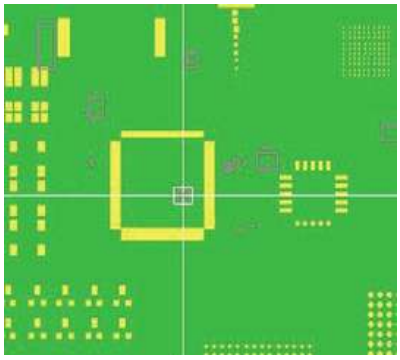
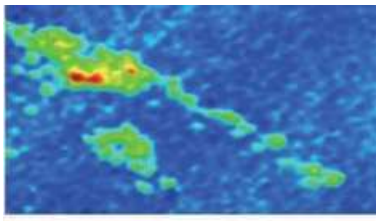
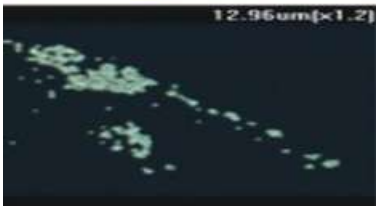
Foreign Object Inspection

Regardless of any PCB color, PEMTRON color X&Y is able to distinguish accurately between the foreign object and PCB



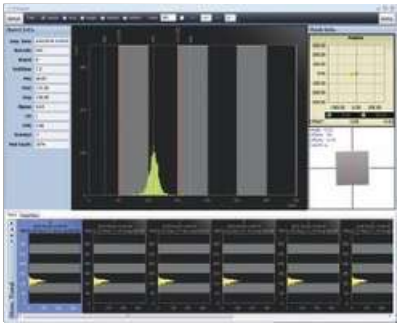


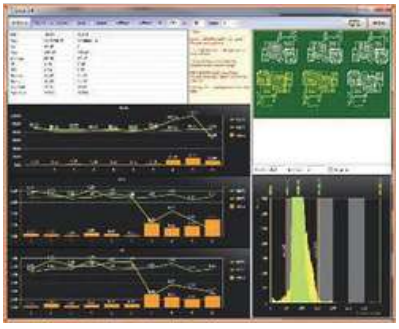


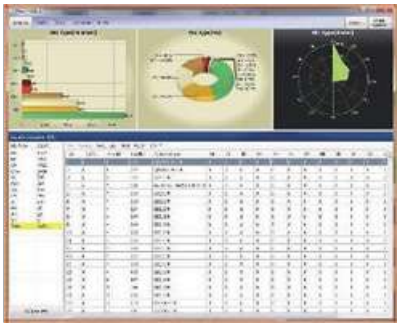


Enhanced SPC System

SPC system analyses the defective data and controls the process problems or the production rate at a look. SPC data can be saved in a various file format such as HTML, Excel, Image and etc as users like. Also with the enhanced SPC server function, data from multiple lanes can be controlled together or individually.

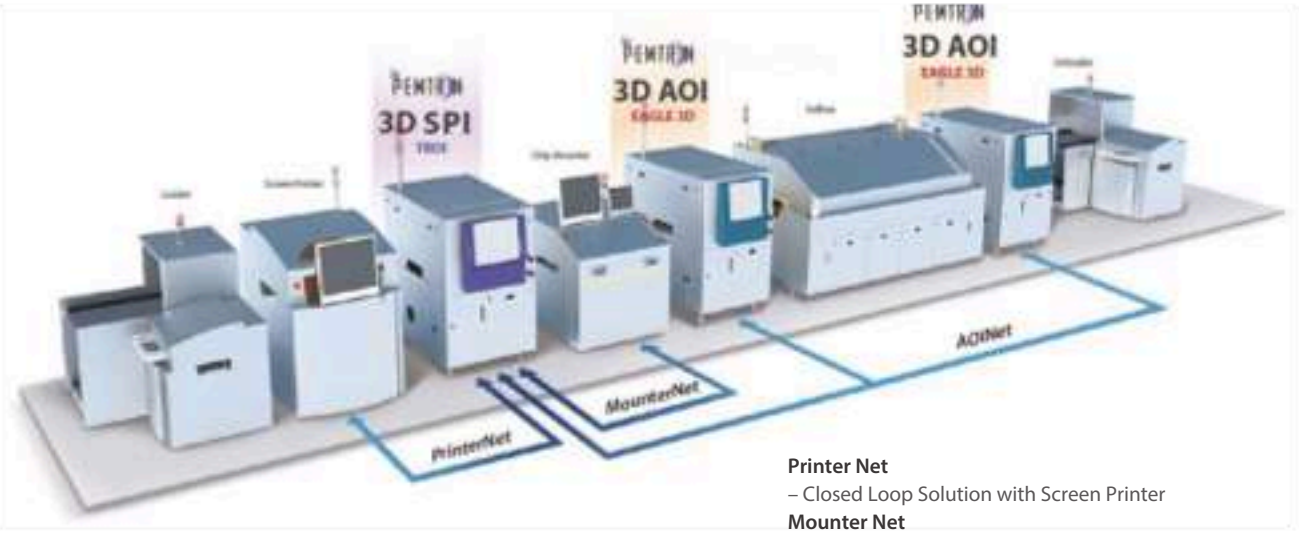






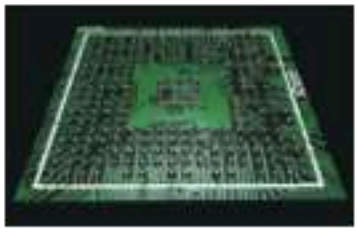
Real Time Process and Quality Control Solution

Inspection Result Information Auto Sync.

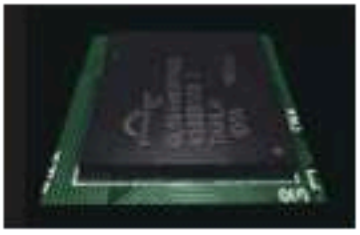


Printer Net
– Closed Loop Solution with Screen Printer
Mounter Net
– Closed Loop Solution with Mounter
* Bad Mark Mounter Sync and Adaptive Process Control
TROI SPI & EAGLE 3D AOI closed loop function
- Real time defect confirm

Printer
Auto Sync
Printing QC



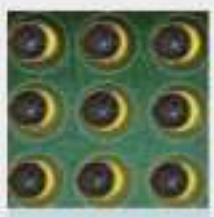
SPI Pad



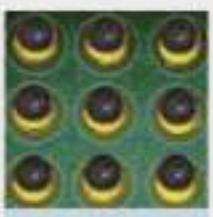
AOI Part

Repair
Station
Production QC

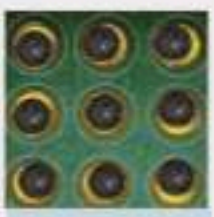
Inspection Result Information Auto Sync.



X-Axis



Y-Axis



θ -Axis

Adjust the
coordinates

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TROI™ Series (Solder Paste Inspection System)

SPECIFICATIONS

Model			TROI-7700E	TROI-7700EL	
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			10 μm	15 μm	18μm
Inspection Speed			12.8 ㎠/sec	30.7 ㎠/sec	42.8 ㎠/sec
FOV (Field of View)			20.5 x 20.5 mm	30.7 x 30.7 mm	36 x 36 mm
Height Range / Resolution			0 ~ 450 μm / 0.4 μm		
Height Repeatability			±1% (3σ)*		
Volume Repeatability			±1% (3σ)*		
Height Accuracy			2 μm*		
Max. PCB Warp			±5 mm		
Gage R&R			< 10%*		
Ball screw	Accuracy		±10μm		
PCB Specification	Working Area		Min. 50x50mm (2x2inch) Max. 330x330mm (13x13inch)	Min.50x50mm (2x2inch) Max. 510x510mm (20x20inch)	
	PCB Thickness		0.4 – 7.0 mm		
	Bottom Clearance		27mm		
Installation Requirement	Electrical Requirements		200 – 240 VAC, 50/60 Hz		
	Air Requirement		5 Kgf/㎠		
	Power Consumption	Standard Type	3kW (14.0A Max @ 220V AC)	6.5kW (23.0A Max @ 220V AC)	
		Large Type	4.5kW (30.0A Max @ 220V AC)	7kW (25.0A Max @ 220V AC)	
Control Unit Operating	Control Method		PC Based Control (Windows 7, 64bit)		
	Monitor		24" LED Panel		
	Operating Temperature		20 - 30 ℃ (68 – 86 ℉)		
Machine Dimension	W x D X H / Weight		990 x 1660 x 1550mm (39 x 65 x 61 inch) / About 700kg (1543 lbs)	1190X1800X1550mm (47X71X61 inch) / About 850kg (1873 lbs)	
Options			Barcode Reader (1D&2D) / Touch Panel / UPS (uninterrupted power supply) / Close Loop / Bad Mark Sync		

* Specifications subject to change without notice.

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EAGLE 3D 8800

Compact

3D Automated Optical Inspection system

PEMTRON

Technology and Features

Advanced High Speed Inspection and Measurement Technology

Shadowless Phase Measuring Profilometry

EAGLES 4MP 8 Projector 3D AOI inspects 100% of the PCB in 2D and 3D. Combining the 2 technologies gives a complete optical inspection of a PCB shadow free and low false calls maintaining a high flexibility in system functionality.

Moiré Technology

Over 10 years of integrating Phase Measuring Profilometry Technology into our TROI Solder Paste Inspection Systems has proven the most advanced 3D technology available.

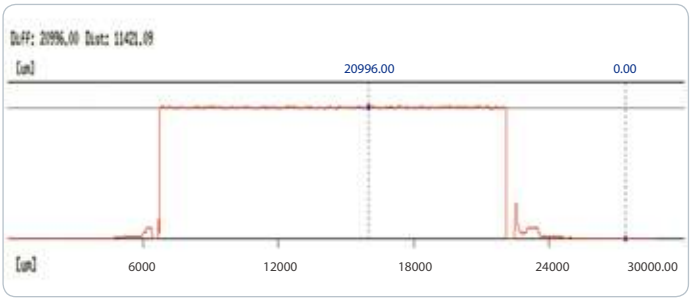
8 Projection + Three stage lighting
2D and 3D simultaneous inspection algorithms
Telecentric Lens offers higher accuracy and detection
High Speed CPU and Image Processing
User Friendly Graphical Interface
Built in Library Management System
Offline Real Time Debug Station (Optional)

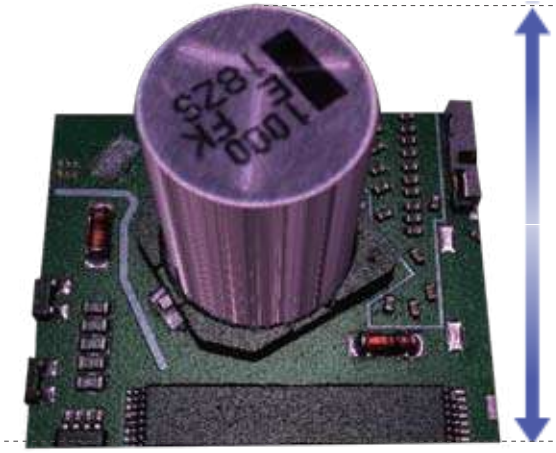
High Speed Inspection Technology

EAGLES High Speed Option inspects in 40.5cm sq. per sec. by utilizing an advanced network of more robust CPU, controller boards and our proprietary developed 9MP 15um 150fps camera with telecentric lens.

High Component Inspection Technology

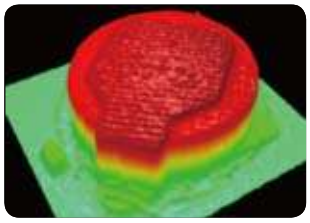
EAGLES optional new 10-Way Projection Technology offers an industry first 27mm component height inspection in 100% 3D.





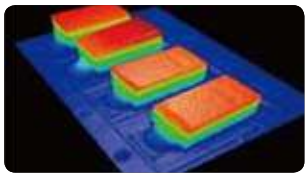
Shadow Free 3D Technology

Eliminates shadow issues on highly populated PCBs and tall components



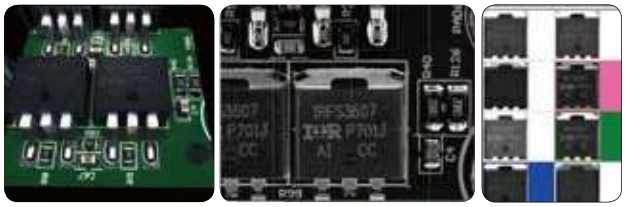

3D Solder & Height Measurement

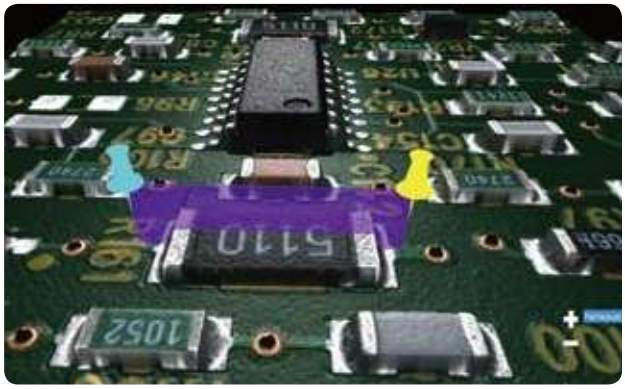
Using our advanced 3D technology, the EAGLE is able to take inspection to levels that are limited by conventional 2D systems. Adding solder height, volume and part co-planarity inspection provides enhanced defect detection capabilities.




Optical Character Recognition

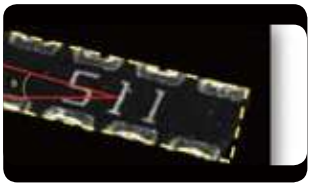
Recognizes component part characteers by using color and pattern algorithms. Ability to add & modify OCR font to optimize inspection condition.





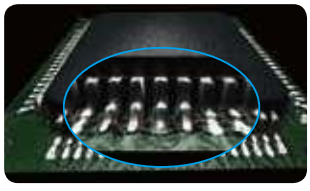
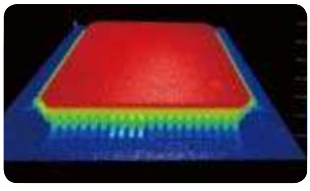
Tilt & Rotate Measurement

Advanced algorithms can extract, detect and differentiate diverse component body patterns automatically.

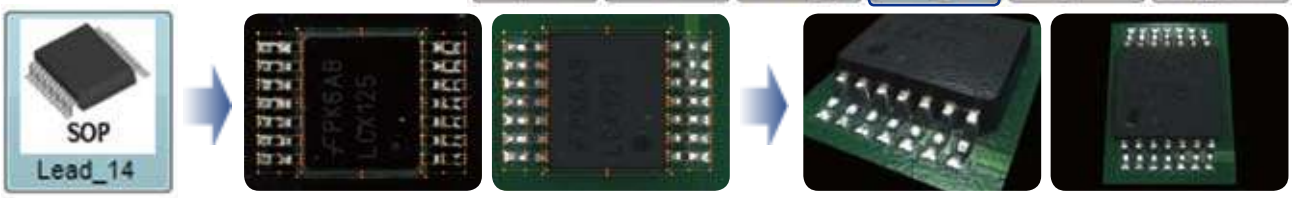
3D Lead Inspection

3D measurement algorithms enable the EAGLE to measure lead height and volume of solder proving full-high quality 3D images.

Ease of programming (Auto Teach Function)

Advanced 3D imaging technology allows us to measure and recognize the geometric shapes of PCB components and automatically link them to our built in parts library.



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EAGLE 3D 8800 Compact

SPECIFICATIONS

Model			Eagle3D 8800 Compact			EAGLE 3D – 8800HS Compact			EAGLE 3D – 8800PRO Compact
Camera			4MP			10MP			12MP
X/Y Pixel Resolution			10um	15um	18 um	10um	15um	18um	15um
Inspect Speed			9.12cm²/ sec	20.5cm²/ sec	29.5 cm²/ sec	19.8 cm²/sec	44.55 cm²/ sec	64.15 cm/ sec	52.652cm/ sec
FOV (Field Of View)			20 x 20mm	30 x 30mm	36 x 36mm	33 x 30mm	49.5 x 45mm	59.4 x 54mm	45 x 60mm
Height Range			0 – 5.5mm (option 27mm)						
Height Accuracy			± 3%						
Max. PCB Warpage			± 3mm						
Motor Type			Ball screw						
PCB Specification	Inspection Size	Standard	Min. 50 x 50mm (2 x 2 inch) Max. 330 x 250mm (13 x 10 inch)						
		Large	Min. 50 x 50mm (2 x 2 inch) Max. 510 x 460mm (20 x 18 inch)						
	Thickness		0.4 ~ 7.0mm						
	Top Clearance		50mm						
	Bottom Clearance		50mm						
Electrical requirements			200 ~ 240Vac, 1Phase, 50/60Hz						
Power Consumption			3.5KW (16.0A Max @ 220 AC)						
Machine Dimension	W x D X H / Weight (Standard)		840x1085x1550mm (40 x 47 x 63inch) / About 550kg						
	W x D X H / Weight (Large Type)		1020x1085x1550mm (47 x 54 x 63inch) / About 850kg						

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Website: www.osdemsindustrial.com

PEMTRON

ATHENA

3D Automated Optical Inspection system

ATHENA

3D Automated Optical Inspection system

TECHNOLOGY AND FEATURES

World's Best High Speed Measurement and Inspection Capability

As applying 12-way and 16-way projectors including the existing 8-way projectors with the basis of advanced technology, ATHENA minimizes errors caused by shadow effects for 3D measurement of all models and simultaneously performs 100% 2D & 3D inspection in all FOV areas. This makes it possible to achieve a near-perfect detection while significantly reducing false calls.

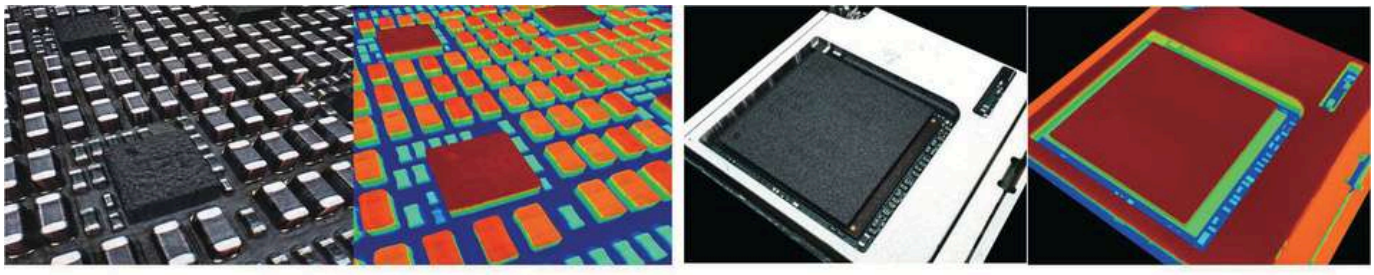
PEMTRON's existing head type has been upgraded to New head for 3D formation that is identical to the real image and more stable based on the accumulated technology for decades.

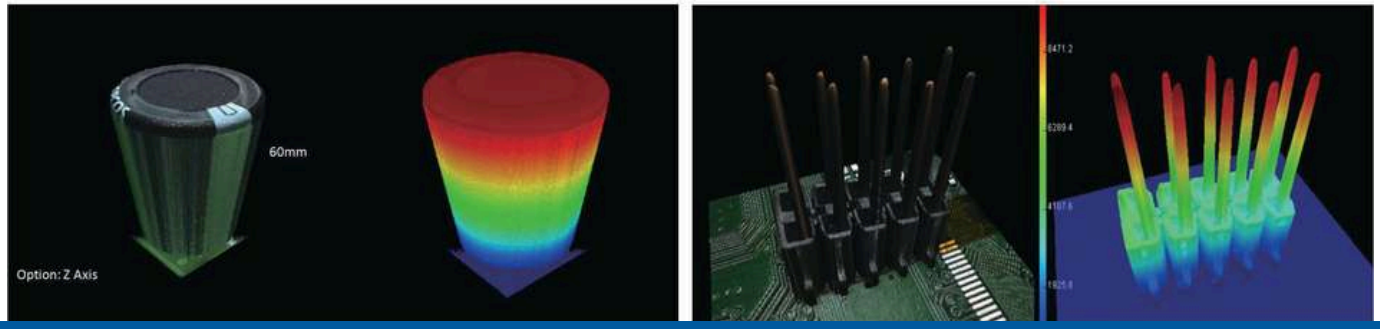
Simple Head Composition

More space, convenient maintenance, concise assembly and setting

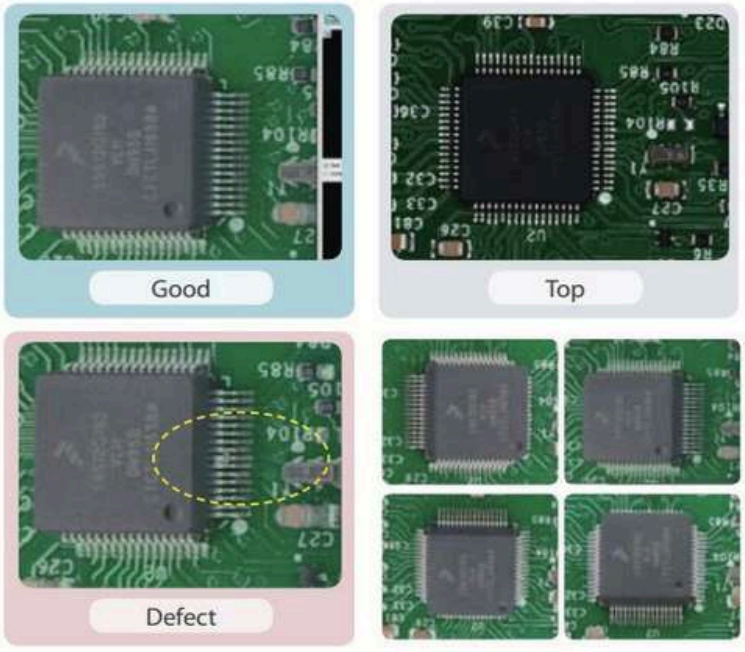
More Advanced 3D Technology

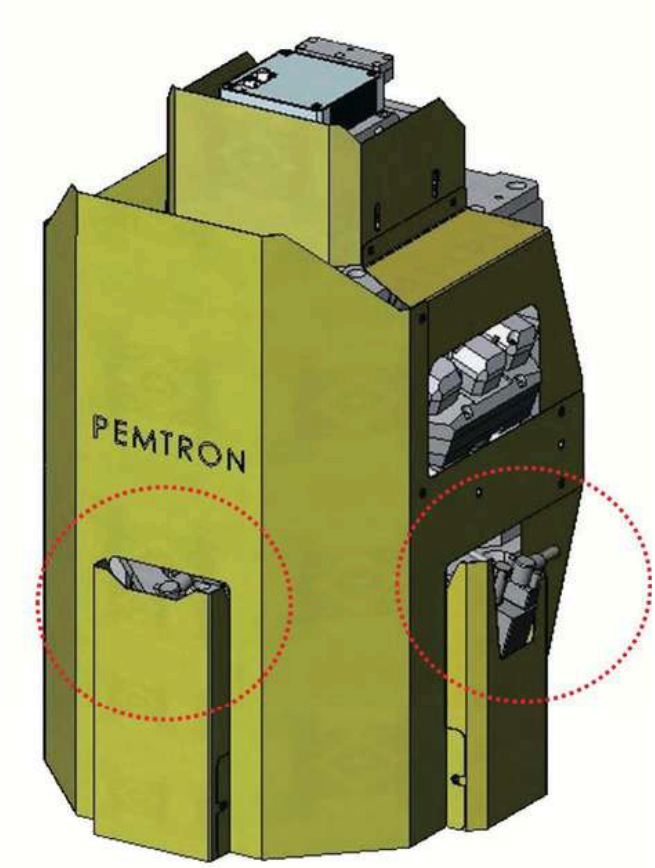
- ▶ More stable and accurate 3D realization by installing additional projectors
- ▶ 8-way(option 12-way) / 12-way(option 16-way)
- ▶ Formation of chip 3D among dense components and narrow parts
- ▶ Improved repeatability
- ▶ 3D formation same as real image





An Accurate and Convenient Inspection by Using Side Camera



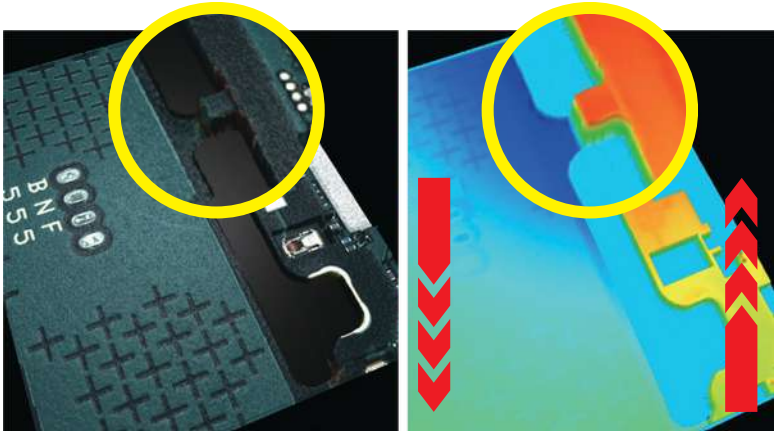


- 4-way side camera (Optional)
- Possible to detect inside bridge which can't be detected with top camera
- Possible to detect inside of the connector
- Convenient teaching by using the existing algorithm
- Real time inspection algorithm for side camera

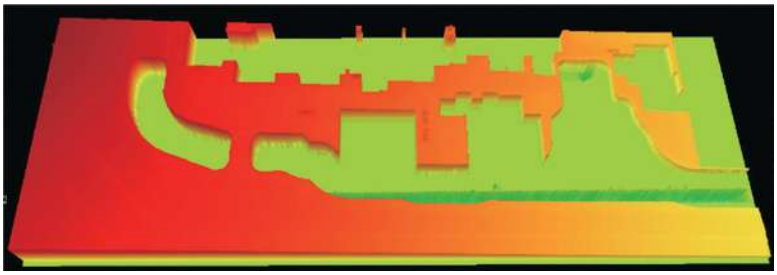
Moiŕe Warpage

PEMTRON can use the Moir technology to inspect the moir 3D warpage for the entire board not through the existing spot method

- Improved warpage inspection accuracy
- Easy operation
- Full board 3D warpage



Height Difference Due to Damage



PCB surface is implemented normal as it makes higher to the left

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SMARTRON

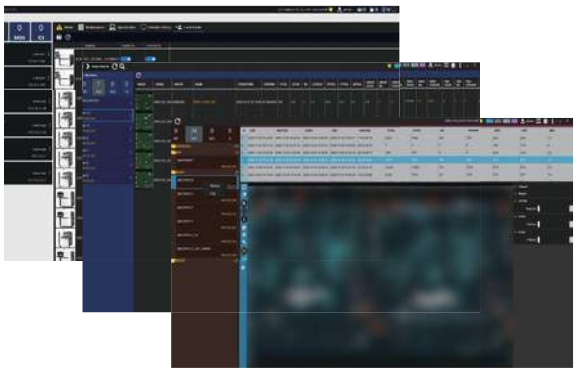
Factory Optimization Solution
System RMS / Alarm / SPC / Job & Library management

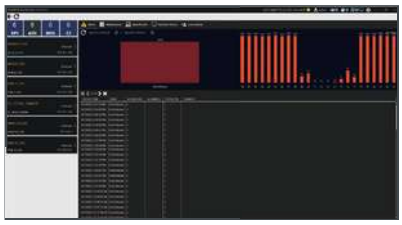
Real-time Line Monitoring and Control
- RMS(Remote Monitoring System)
- Registered System status

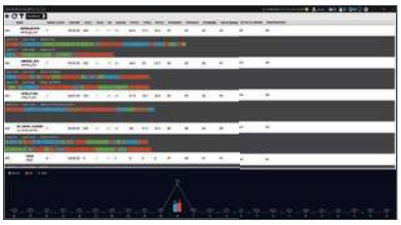
Data Analytics and Reporting
- Yield / CpCpk / Job & Part analysis etc.
- Statistical Chart / Process Chart / Alarm History

Quality Management Solution
- Multiple line & systems maintenance management

Job & Library management
- Optimizing based on classified result data







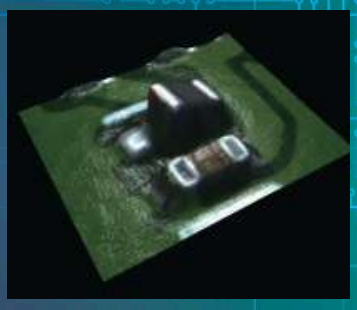
AI SMART FACTORY

Operation management of more accuracy and convenience based on the accumulated data and technology for the last 20 years

-Auto confirmation feature decreased false call by clearly distinguishing OK and NG.

-Auto judgment especially for OCR algorithm and part

-Auto debugging feature with continuous deep learning.



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Real Time Process Management Quality Management Solutions

Inspection Result Information Auto Sync.

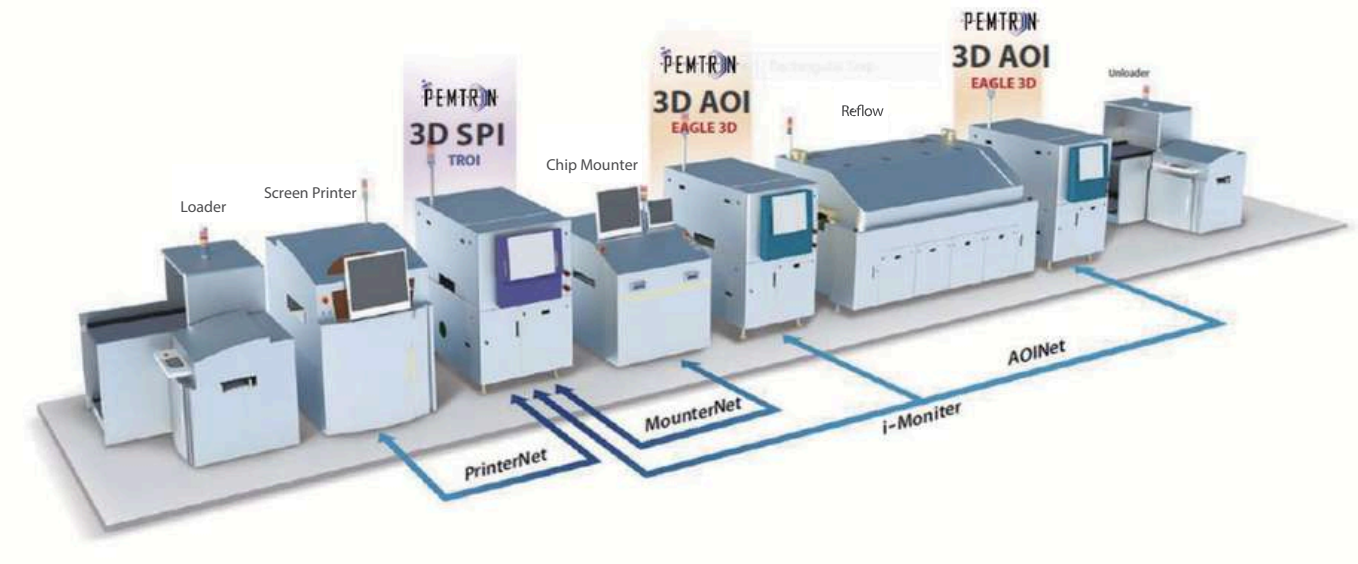
◆ Printer Net
- Closed Loop Solution with Screen Printer

◆ 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



Accurate SPC Process Management System

- Capable of management of various statistical process data with basis of accurate measurement result extracted by SPC (Statistical Program Control)
- At-a-glance interface for operator
- Data collection in real time
- Capable of stable process management with basis of accurate data : Increasing production yield rate, Checking process status check, Identifying cause of defect, Cost Reduction, Product quality improvement, Prevention in advance

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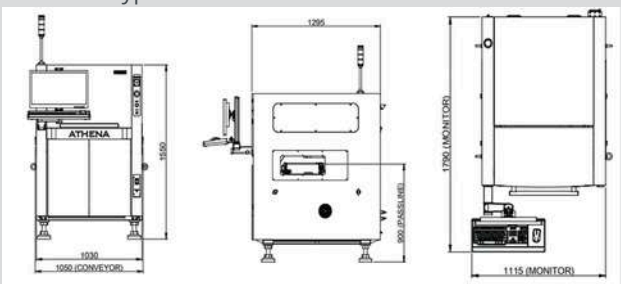
SPECIFICATIONS

Model	ATHENA				
Camera	10MP			12MP	
Resolution	10um	15um	18 um	10um	15um
Inspect Speed	20 ㎠/ sec	45 ㎠/ sec	64 ㎠/ sec	28.34 ㎠/ sec	57.31 ㎠/ sec
FOV (Field Of View)	33×30mm	49×45mm	59×54mm	41×30mm	61×46mm
Height Range	0 – 5.5mm (option 27mm)				
Height Accuracy	± 3%				

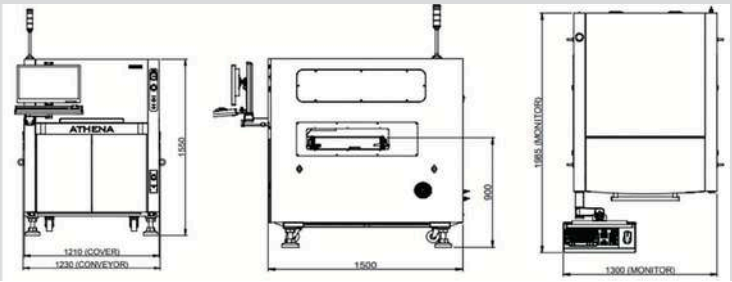
Model			ATHENA	ATHENA L	ATHENA D	ATHENA DL
PCB Specification	Inspection Size	Max. PCB Size	330 x 330mm (13 x 13 inch)	510 x 510mm (20 x 20 inch)	Dual : 330 x280mm(13 x 11 inch)	Dual : 510 x 300 mm(20 x 12 inch)
					Single : 330 x 500mm(13 x 20 inch)	Single : 510 x 600mm(20 x 24 inch)
		Min. PCB Size	50 x 50mm (2 x 2 inch)			
	Thickness		0.4 ~ 7mm			
	Top Clearance		50mm			
	Bottom Clearance		50mm			
Electrical requirements			200 ~ 240Vac, 1Phase, 50/60Hz			
Power Consumption			3.7kW (16A Max @ 220V AC)			
Dimension (W x D x H)			1050 x 1345 x 1550mm (41 x 53 x 61 inch)	1230 x 1535 x 1550mm (48 x 60 x 61 inch)	1050 x 1780 x 156 5mm (41 x 70 x 62 inch)	1230 x 1825 x 1565mm (48 x 72 x 62 inch)
Weight			1050kg (2315lb)	1200kg (2646lb)	1200kg (2646lb)	1330kg (2932lb)

* Specifications subject to change without notice.

Standard Type



Large Type



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PEMTRON

EAGLE 3D 8800 TWIN

3D Automated Optical Inspection system
Top/Bottom Double Sided Simultaneous Inspection

EAGLE 3D 8800 TWIN

Top/Bottom Double Sided Simultaneous Inspection

TECHNOLOGY AND FEATURES

Based on advanced technology, EAGLE 3D 8800 TWIN minimizes errors caused by shadow effects by applying 12-way and 16- way projection including 8-way projection for 3D measurement to all models and simultaneously performs 100% 2D & 3D inspection in all FOV areas. Thus makes it possible to achieve a near-perfect detection while significantly reducing false calls.

PEMTRON's new head type has been upgraded to express real images based on the Phase Measuring Profilometry Technology accumulated over decades in the existing head.

Simple Head Configuration

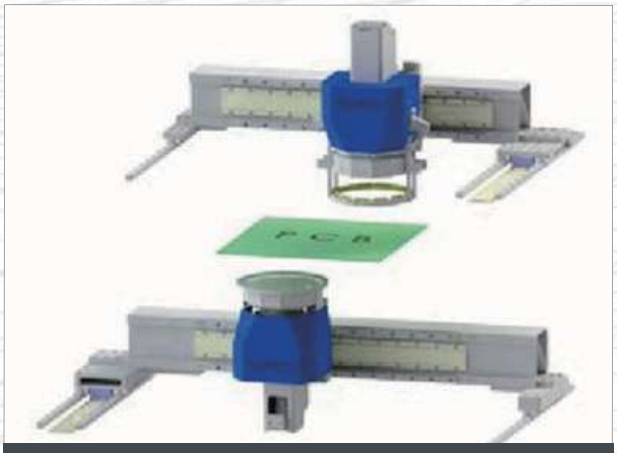
▶ Large space and convenient maintenance, simple assembly and setup

Advanced 3D Technology

▶ Stable and accurate 3D realization by installing additional projectors
▶ 3D formation of high-density components and narrow space parts
▶ 3D image formation identical to a real image
▶ Inspect even tall parts clearly using top side Z-axis

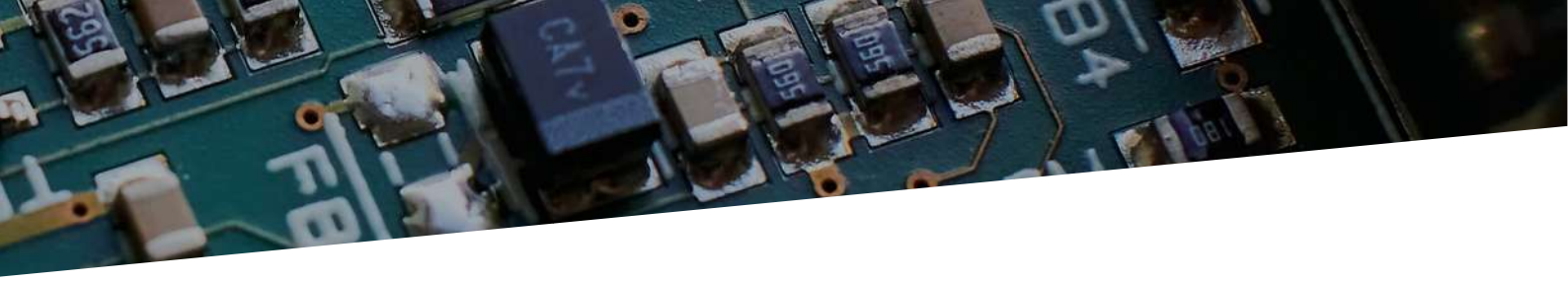
Improved Repeatability

▶ Accurate 3D makes repeat accuracy more reliable



Top & Bottom Double Sided Driving System

▶ Top/Bottom Double Sided Simultaneous Inspection
▶ Reduction Of Time Loss
▶ Full Performance, Full Speed
▶ Multi Configuration
  - AOI + AOI / AOI + THT /
    THT + AOI / THT + THT



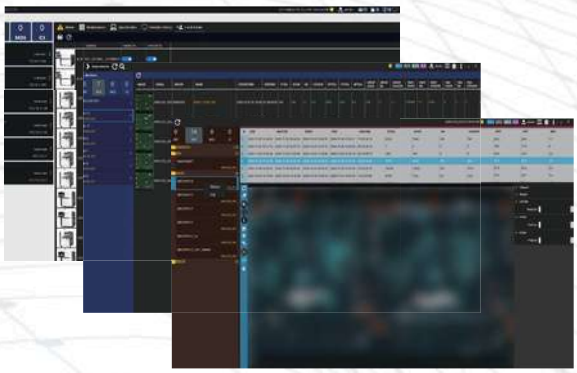
ACCURATE DEFECT JUDGEMENT & CLEAR IMAGE

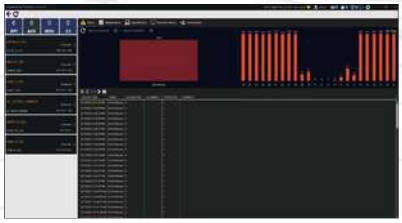
"Best detection capability" for the best 3D images
1µm resolution height detection - always clear and best accuracy
Component size X. Unlimited Y input – uninterrupted high-speed image acquisition

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





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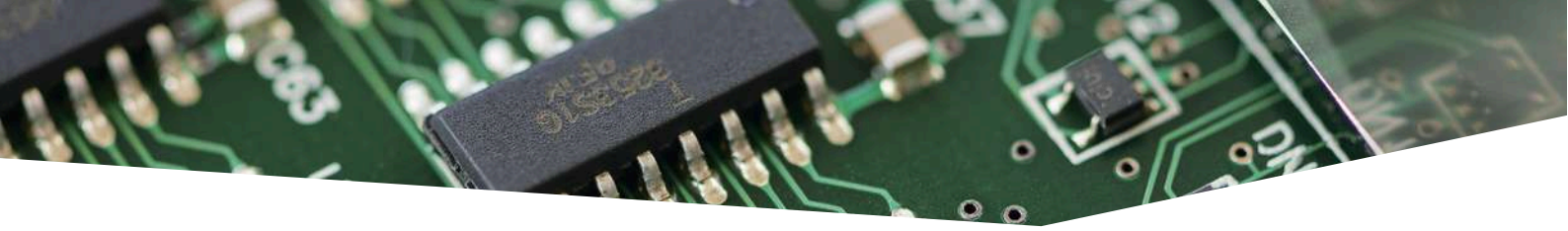

SPECIFICATIONS

Model			EAGLE 3D-8800 TWIN		
Camera			10MP		12MP
Resolution			10um	15um	15um
Inspection Speed			19.2 ㎠/sec	43.2 ㎠/sec	52.65 ㎠/sec
FOV (Field Of View)			30 x 30 mm	45 x 45 mm	45 x 60 mm
Height Range			0 – 5.5mm(option 27mm)15um		
Motor Type			XY Linear Servo Motor		
Model			EAGLE 3D-8800 TWIN		EAGLE 3D-8800 TWIN L
PCB Specification	Inspection Size	Max. PCB Size	330 x 330mm(13 x 13 inch)		510 x 510mm(20 x 20 inch)
		Min. PCB Size	50 x 50mm (2 x 2 inch)		
	Thickness		0.4 ~ 7.0mm		
	Top Clearance		50mm		
	Bottom Clearance		50mm		
Electrical Requirements			200~240Vac, 1Phase, 50/60Hz		
Power Consumption			7kW (20A Max @ 220V AC)		
Dimension (W x D x H)			1610 x 1835 x 1550mm (63 x 72 x 61inch)		
Weight			1940kg (4277lb)		

* Specifications subject to change without notice.

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PEMTRON

SATURN

3D Inline Solder Paste Inspection System

SATURN

3D Inline Solder Paste Inspection System

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.

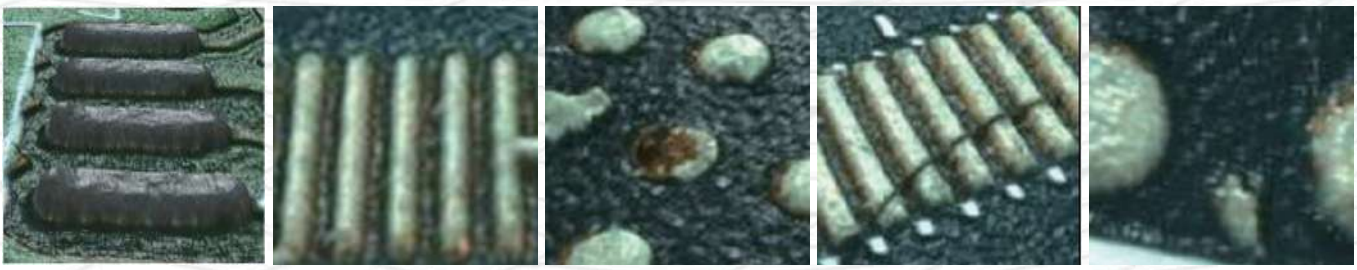
Dual & Quad Projection

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.

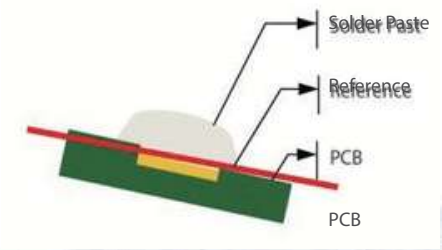


Warpage Compensation

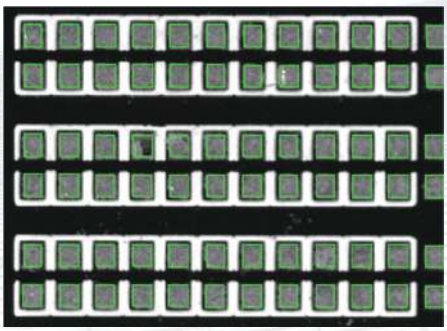
Wider range of reference point search area prevents less deviation of recognizing a zero reference point.

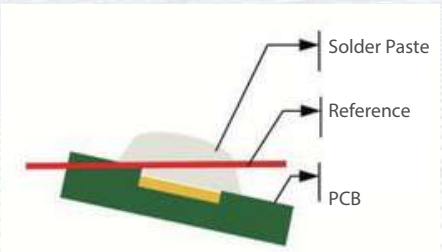
- Accurate height calculation
- Able to compare pads within ROI
- Better repeatability

◆ Bad

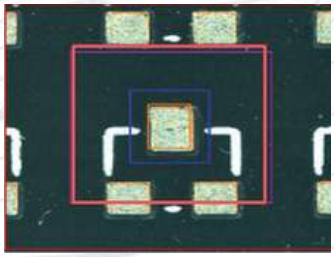


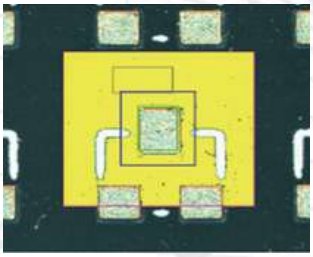
◆ Good

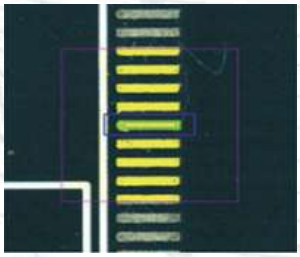


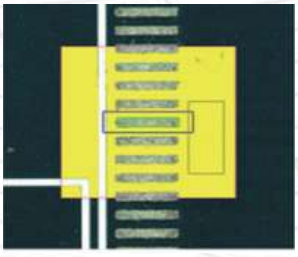


The Exact Floor Measurement and Automation Capabilities









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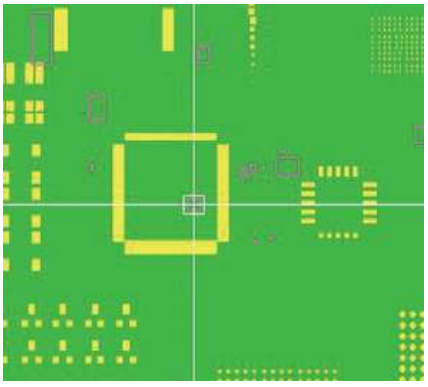
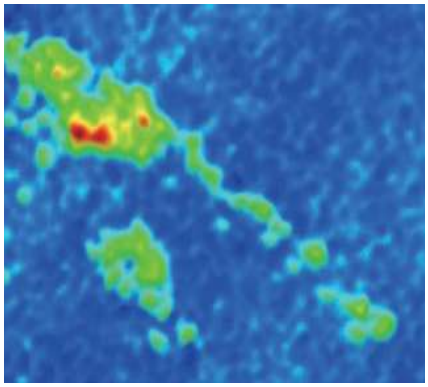
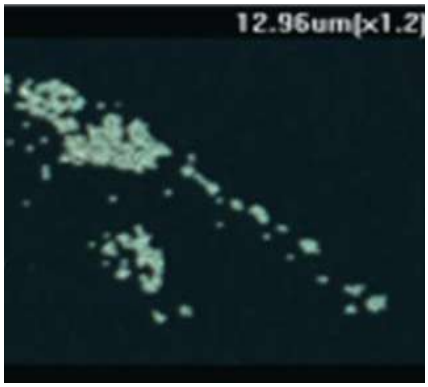
Foreign Material Inspection

No matter how diverse the PCB color is, PEMTRON color X&Y is able 10 distinguish accurately between the foreign material and PCB







SMARTRON

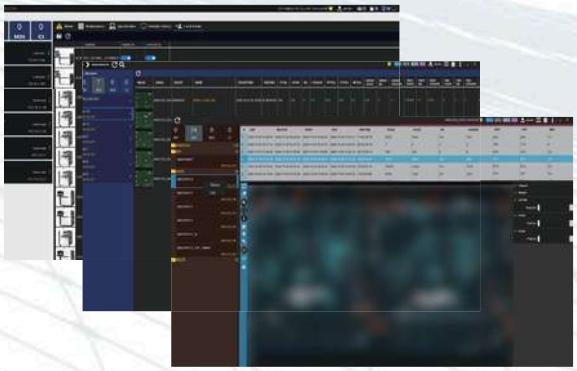
Factory Optimization Solution
System RMS / Alarm / SPC / Job & Library management

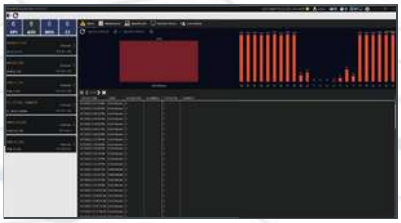
Real-time Line Monitoring and Control
- RMS(Remote Monitoring System)
- Registered System status

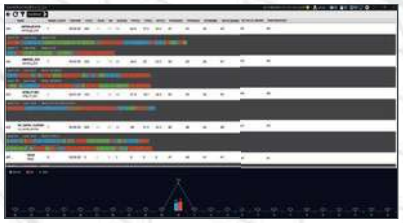
Data Analytics and Reporting
- Yield / CpCpk / Job & Part analysis etc.
- Statistical Chart / Process Chart / Alarm History

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.

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- Closed Loop Solution with Screen Printer

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- Bad Mark Mounter Sync and Adaptive Process Control

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- Control a Maximum of Twelve Machines with One Monitor

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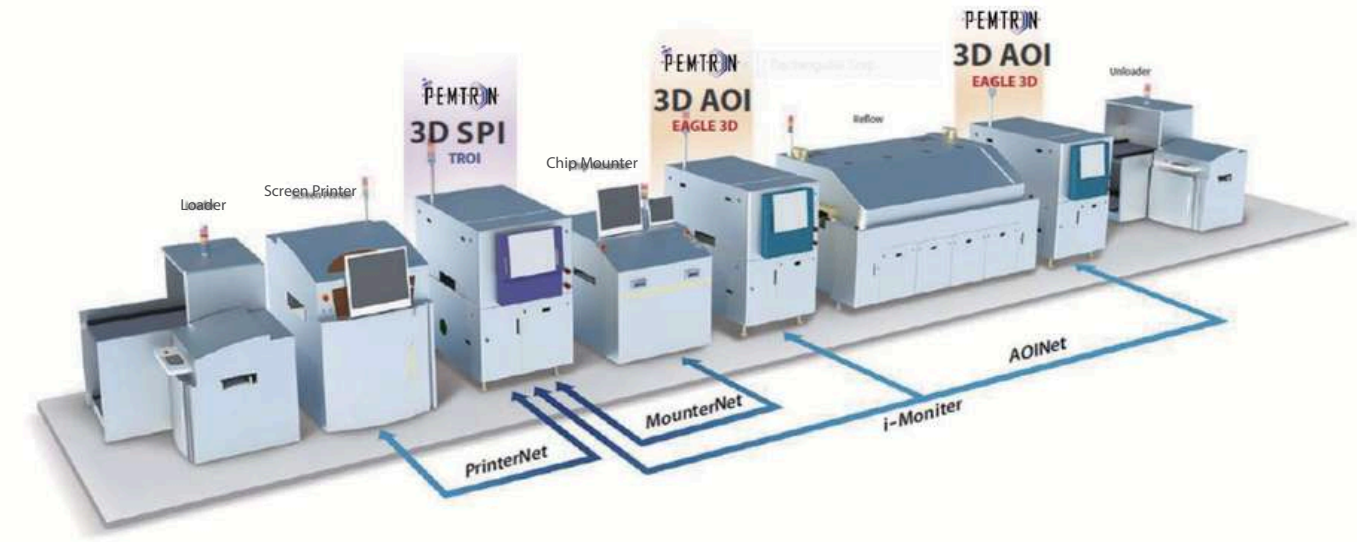
- Offset Technology of Mounting Location of Mounter, Using Data of AOI Inspection

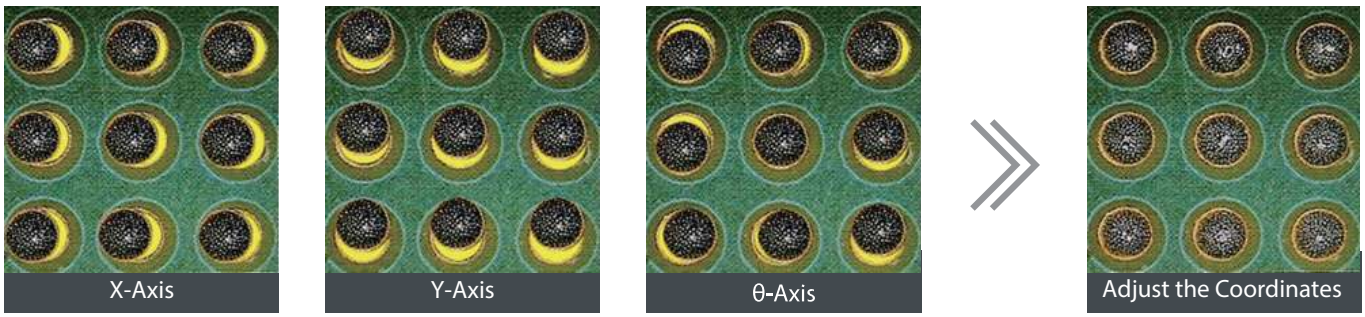


SPI & AOI Linkage

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

Inspection Result Information Auto Sync

Closed loop solution with screen printer



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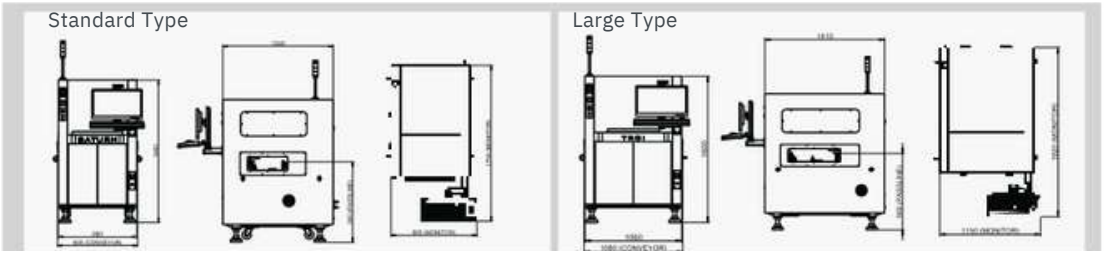
SPECIFICATIONS

Model	SATURN				
2D/3D Vision Algorithm	2D : Vision Inspection Algorithm 3D : PMP (Phase Measuring Profilometry) Algorithm				
Measurements	Volume, Height, XY Position, Area				
Detection Types	Insuff icient Paste, Excessive Paste, Shape Deformity No Paste, Bridge 2D&3D, Paste Displacement				
X/Y Pixel Resolution	4MP			10MP	
	10μm	15μm	18μm	10μm	15μm
Inspection Speed	16 ㎠/sec	36 ㎠/sec	52 ㎠/sec	38.4 ㎠/sec	86.4 ㎠/sec
FOV (Field of View)	20 x 20 mm	30 x 30 mm	36 x 36 mm	32 x 30 mm	48 x 45 mm
Height Accuracy	2 μm*				
Gantry Type	Linear Motors				

Model			SATURN	SATURN L	SATURN D	SATURN DL
PCB Specification	Inspection Size	Max. PCB Size	330 x 330mm (13 x 13 inch)	510 x 510mm (20 x 20 inch)	Dual : 330 x280mm (13 x 11 inch) Single : 330 X 500mm (13 x 20 inch)	Dual : 510 x 330mm (20 x 13 inch) Single : 510 x 600mm (20 x 24 inch)
		Min. PCB Size	50 x 50mm (2 x 2 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 (36 x 49 x 63inch)	1080x1410x1600mm (43 x 56 x 63inch)	940x1700x1565mm (37 x 67 x 62inch)	1120x1750x1565mm (44 x 69 x 62inch)
Weight			760kg (1676lb)	930kg (2050lb)	1100kg (2425lb)	1170kg (2580lb)

* Specifications subject to change without notice.



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PEMTRON

X-Ray Automatic Counter

MERCURY6

X-Ray Automatic Counter

MERCURY6

TECHNOLOGY AND FEATURES

Artificial Intelligence (AI) Inspection Method

- Inspection method through artificial intelligence (AI) learning
- Use immediately after installation without a separate parameter input process

User-Friendliness

- Applied intuitive and easy GUI configuration and multi-touch monitor
- Hand scanner and label printer interface
- MES/ERP support
- User label editing function

Accurate and High-Speed Inspection

- Available from 0201 small components to large components such as connectors
- Simultaneous inspection by automatically recognizing 1 to 4 7-inch reels
- Inspection proceeds by automatically recognizing up to 17-inch reel
- Realize high-speed inspection by applying high-end GPU (1~4 seconds depending on the type and quantity of components)

Automatic Barcode Recognition Function (Option)

- A system that automatically recognizes the barcodes attached to products
- Provides a feature to distinguish and recognize only the pre-specified types of barcodes

Operation Error Prevention Function (Patent)

- Automatically detects the reel in and out positions through the reel detection sensor
- When the code is scanned, the position of the reel is automatically linked with the label printer and MES

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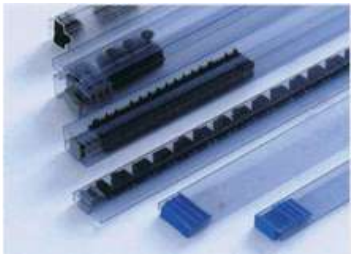
Reliable Inspection of Various Components

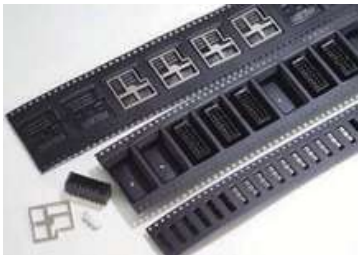
- Reel vacuum-packed (with desiccant)
- Tube packing, Tray packing component
- High height component
- Component in bulk (individual) state

Vacuum-Packed Reel with Desiccant

Tray Packing

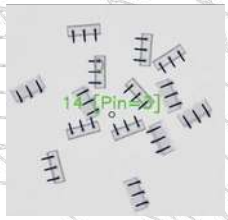


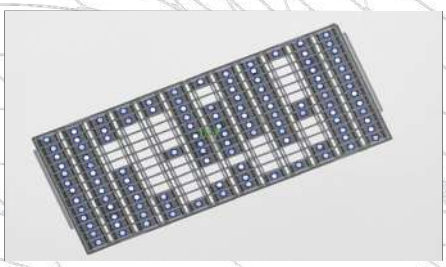
Tube Packing



High Height Component

Examples of Actual Test Results





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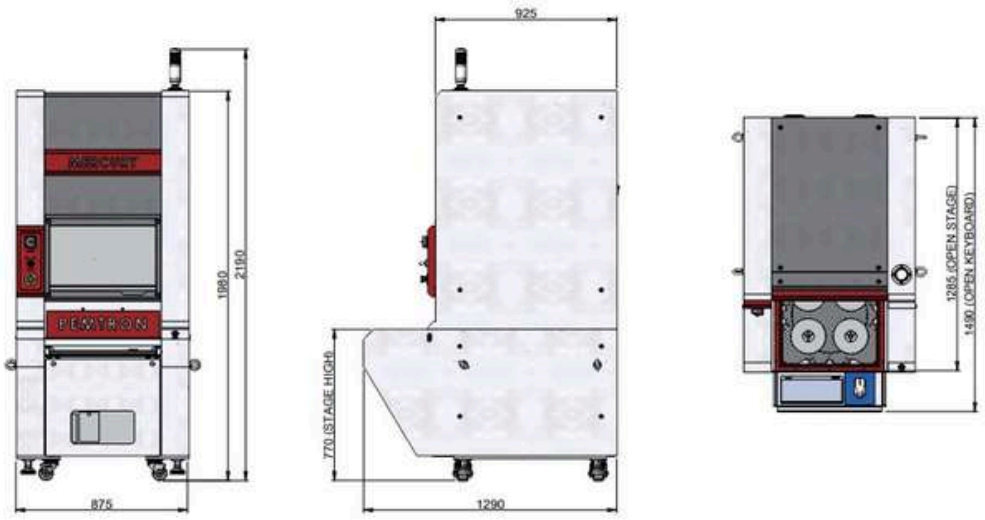
SPECIFICATIONS

Model	MERCURY6
Reel Size	Single Reel : up to 17" / Four Reel : 4 x 7" Height : 100mm Weight : 10kg
Accurac y	>99.9%
X-ray	65kV/45.5W
Detector	17"x17" FPD
PC	Windows 10 Professional / Touch Monitor
Power	220V 50/60Hz Single Phase
Etc.	Hand-Held Scanner
Option	Label Printer, Auto Scanner

* Specifications subject to change without notice.



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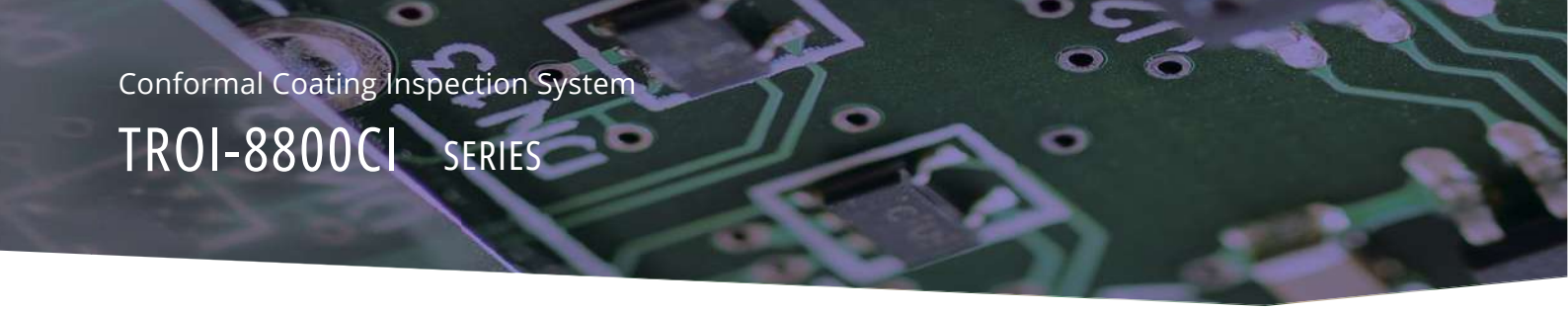
PEMTRON

TROI-8800 CI SERIES

Conformal Coating Inspection System
Coating Inline Inspection & Thickness Inspection



Conformal Coating Inspection System

TROI-8800CI SERIES

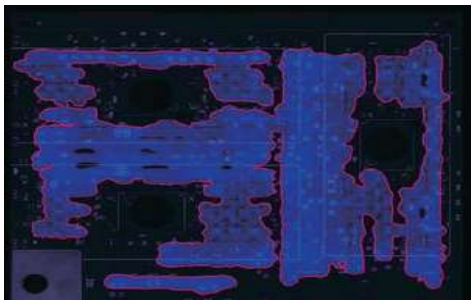
TECHNOLOGY AND FEATURES

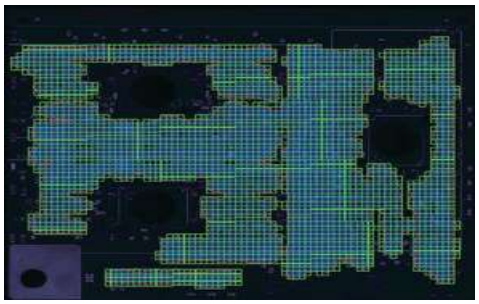
Advanced High Speed Inspection and Measurement Technology

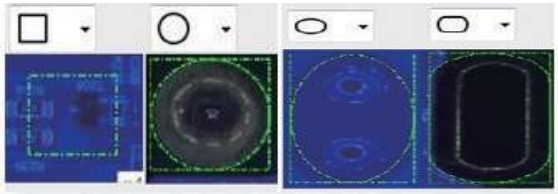
COATING INLINE INSPECTION

Auto Teaching & Debug & Multi Part Registration Available

- Automatically create programs using Pemtron's specialized Auto Teaching capabilities.
- Debug Mode automatically provides user convenience with inspection criteria.
- Manual Mode provides user intuitive UI screen which can easily set detailed setting.



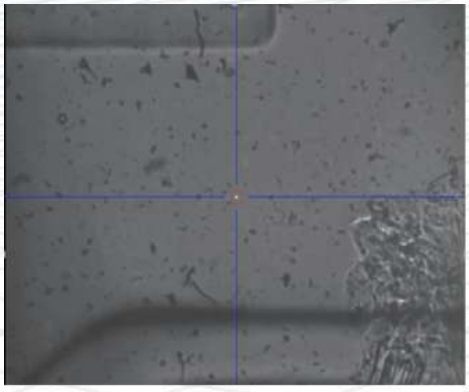


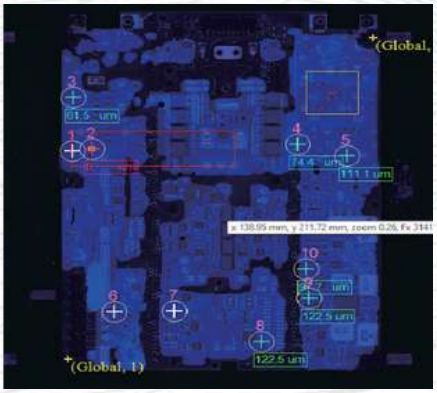


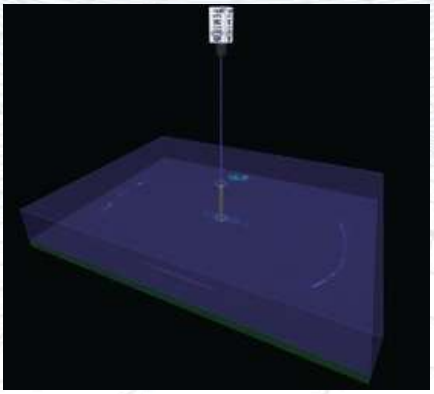
Using the Gerber area, Coating, Non-Coating, Ignore, etc. can be easily set.
* Create and edit zones freely without Gerber)

THICKNESS INSPECTION

Can measure coating thickness of submicron unit precision using light wavelength spectroscopy.





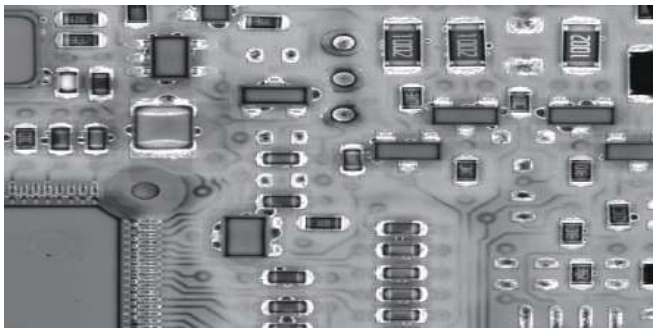


SIDE CAMERA INSPECTION

- 4-Way Side Camera
- Side inspection not visible on Top side camera.

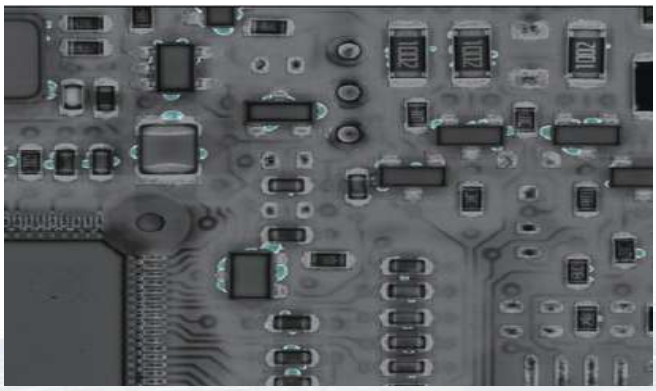
BUBBLE INSPECTION (AI DEEP LEARNING)

Applied Pemtron's self-developed AI engine Pembrain.
Inspection of Bubble inside the coating.

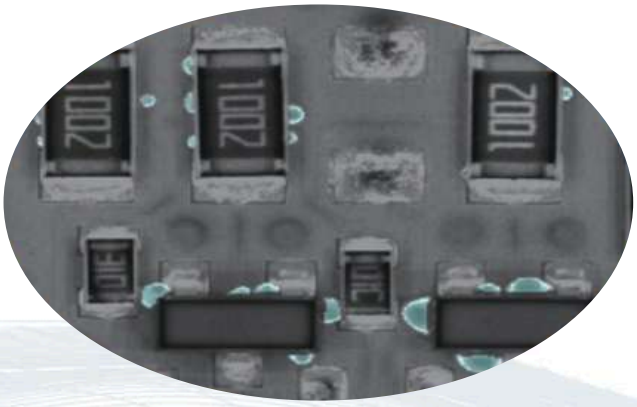


Bubble Inspection

Binary Processing



Inspection Result



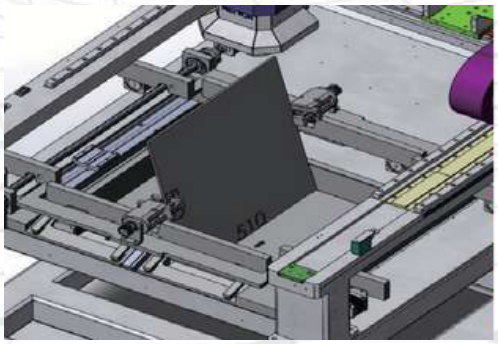
*Bubbles are displayed in separate colors

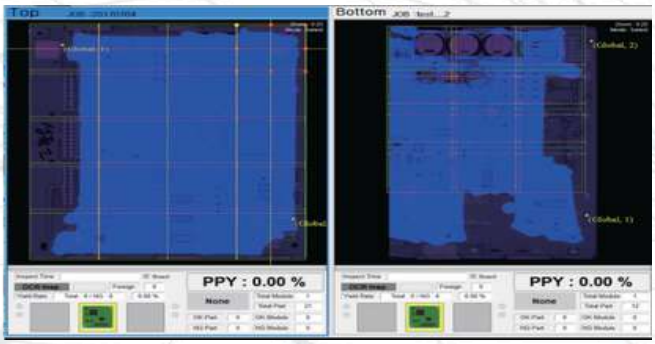
LINKAGE

Linkage among Pemtron SPI - AOI – CI, ETC
Remote control and real-time history verification through SMARTRON™ function.

BOTH SIDES INSPECTION USING REVERSE MODULE

Automatically and quickly check both sides of the PCB by providing a reverse option inside the facility.





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SPECIFICATIONS

Model		TROI-8800 CI					
Camera		4MP			10MP		
X/Y Pixel Resolution		10um	15um	18um	10um	15um	18um
FOV (Field Of View)		20×20mm	30×30mm	36×36m	32×30mm	49×45mm	59×54mm
Inspect Speed		16㎠/s	36㎠/s	53.5㎠/s	32㎠/s	72㎠/s	102.6㎠/s
Lens Type		Telecentric					
Board Dimension							
PCB Specification	Working Area	Min. 50 x 50mm (2 x 2inch) | Max. 470 x 510mm (19 x 20inch)					
	Coating Thickness Measure (Option)	Min. 50 x 50mm (2 x 2inch) | Max. 400 x 380mm (16 x 15inch)					
	Thickness	0.4 ~ 7.0mm					
	Top Clearance	80mm					
	Bottom Clearance	80mm					
System							
Installation Requirement	Electrical Requirements	200-240VAC, 50/60Hz					
	Air Requirement	5 Kgf/ ㎠					
	Power Consumption Standard type	2.4kW (10A Max @ 220V AC)					
Control Unit	Control Method	PC Based Control (Windows 10, 64bit)					
	Monitor	24” LED Panel					
Operating	Operating Temperature	20 - 30 ℃ (68 – 86 ℉)					
Dimension (W x D x H)		1100 × 1290 × 1550mm (43 x 51 x 61inch)					
Weight		850kg (1874lb)					

* Specifications subject to change without notice.

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