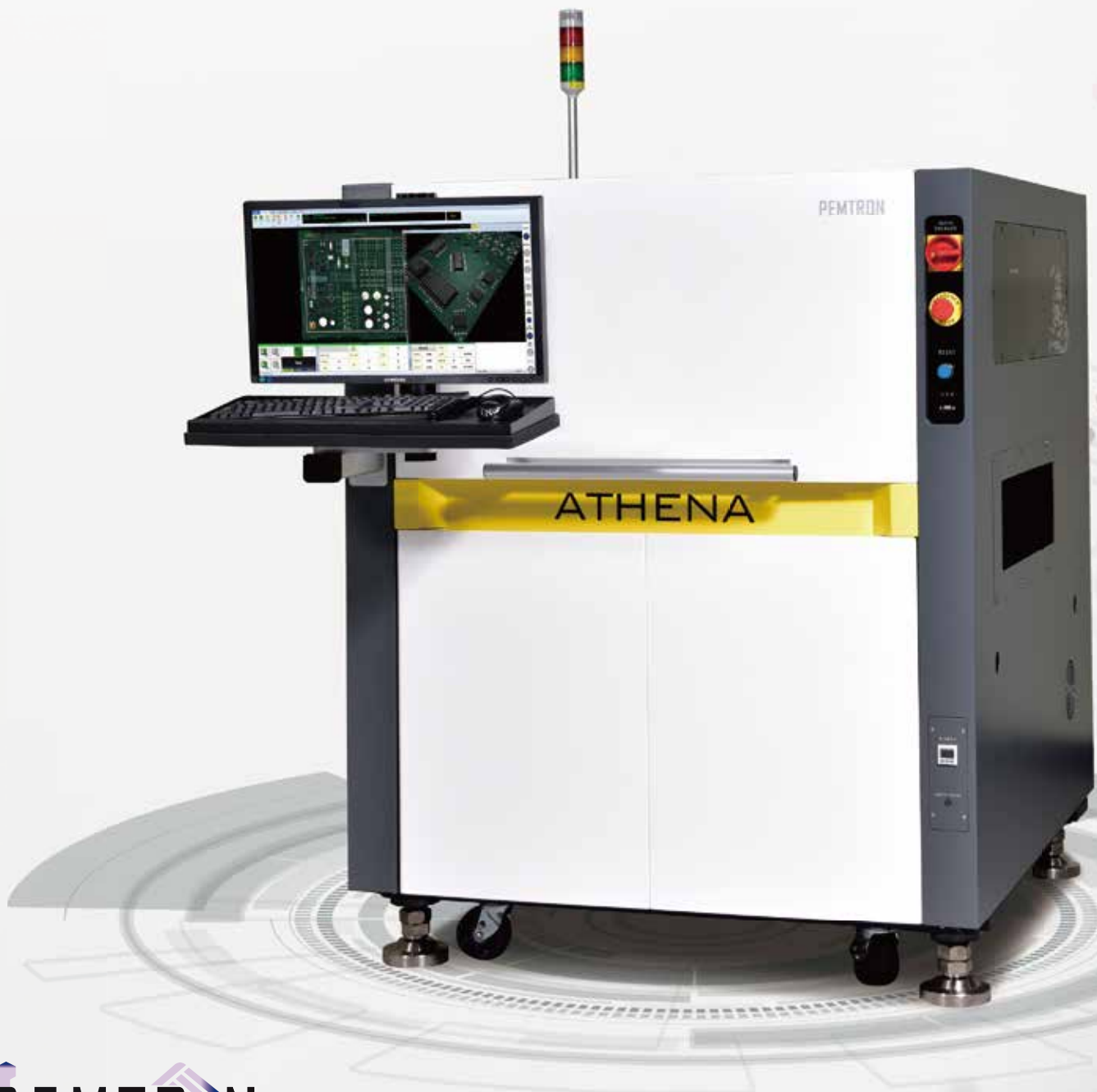


ATHENA

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 new head type has been upgraded from the existing 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

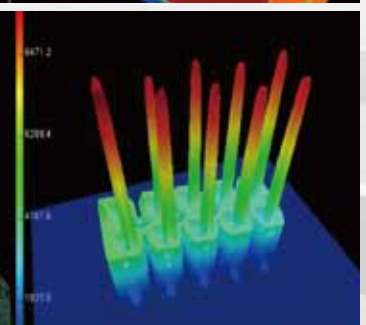
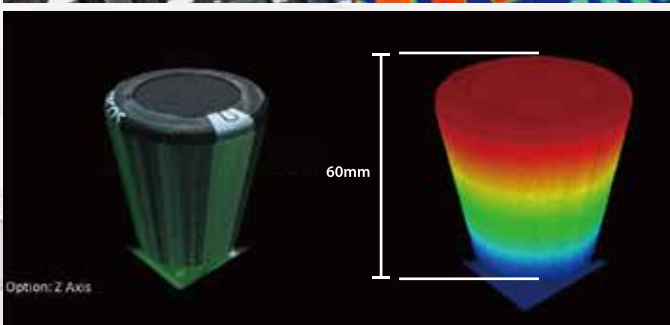
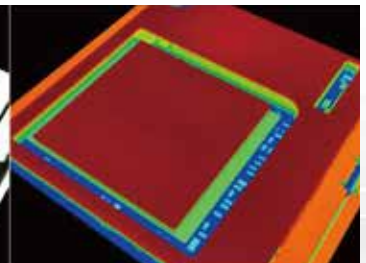
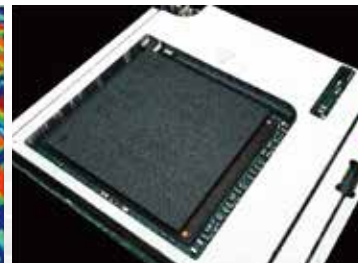
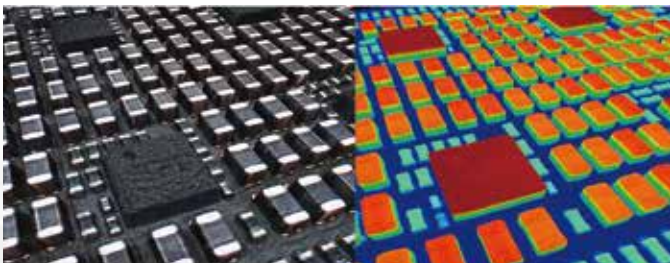
More stable and accurate 3D realization by installing additional projectors

8way(option 12way) / 12way(option 16way)

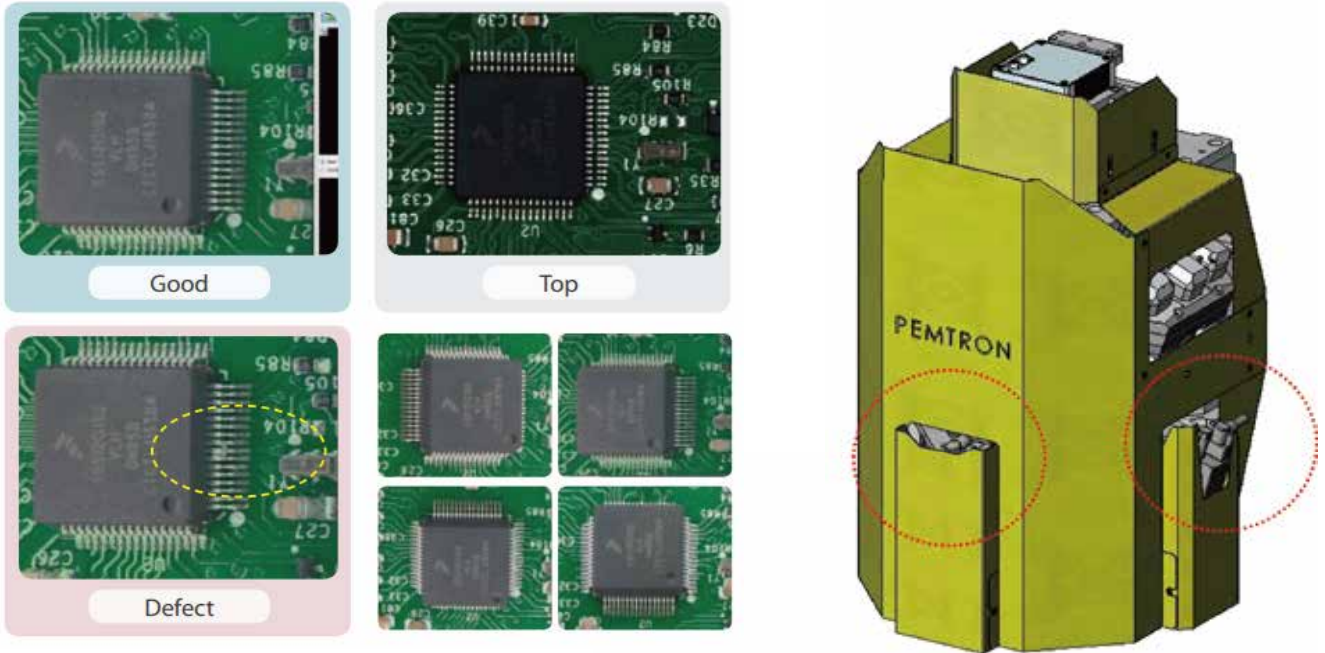
- ▶ Formation of Chip 3D among Dense Components and Narrow Parts
- ▶ 3D Formation Same as Real Image

■ Improved Repeatability

- ▶ Accurate 3D makes repeatability more reliable.



An accurate and convenient Inspection by using Side Camera

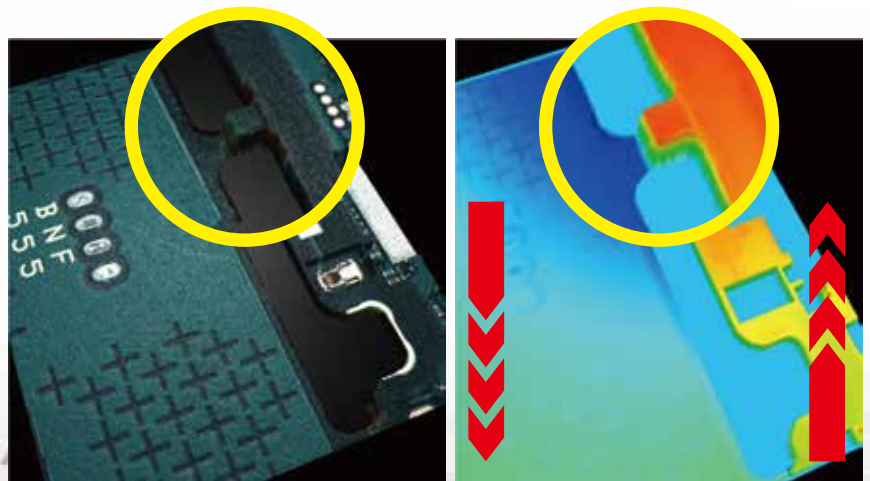


- 4-Way Side Camera (Option)
- Possible to detect inside bridge which it cannot detect with Top camera
- Possible to detect Connector inside area
- Convenient Teaching by using existing Algorithm.
- Real time inspection algorithm for Side Camera

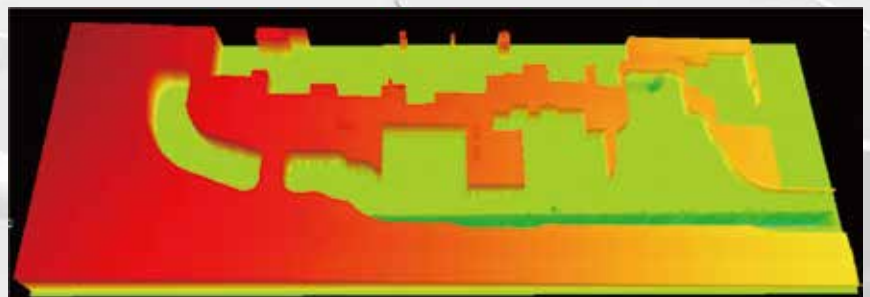
Moiré Warpage

PEMTRON can use the moiré technology to inspect the moiré 3D Warpage for the entire board not the existing spot method.

- Improved Warpage inspection accuracy.
- Easy operation
- Board Full 3D warpage



Height Difference Due to Damage

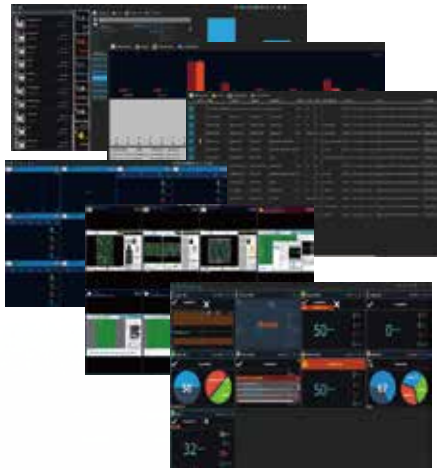


PCB surface is implemented normal as it makes higher to the left side same with actual PCB surface.

SMARTRON (remote control and WEB control)

RMS(Remote Monitoring System) Menu

- Statistic Chart, Process Chart, Alarm History
- Remote View function PC remote control function

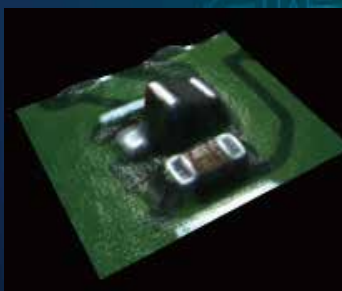


- ✓ Provide basic information of registered systems
- ✓ Provide all registered systems Yield, Worst, False calls, Product, Runtime.
- ✓ Provide the Remote in feature to clear alarm with RMS
- ✓ Real Time monitoring
- ✓ Provide remote in feature for multiple systems
- ✓ Possible to monitoring 36 systems
- ✓ Link-SPI-MOI-AOI Linkage
- ✓ Review-SPC Confirm
- ✓ Provide basic information such as Production amount, Model, Passrate of registered systems

Smart Factory with AI

Operation Management of More Accurate and Convenient Program with Basis of Accumulated Technology and Data Last 10 Years

- Auto confirm feature decrease False Call by clearly distinguishing OK and NG.
- Auto judgment for especially OCR algorithm and Part
- based on Above, auto debugging feature with continuous Deep Learning.



- Lift
- Chip
- missing



Real-Time Process Management Quality Management Solutions

Inspection Result Information Auto Sync.

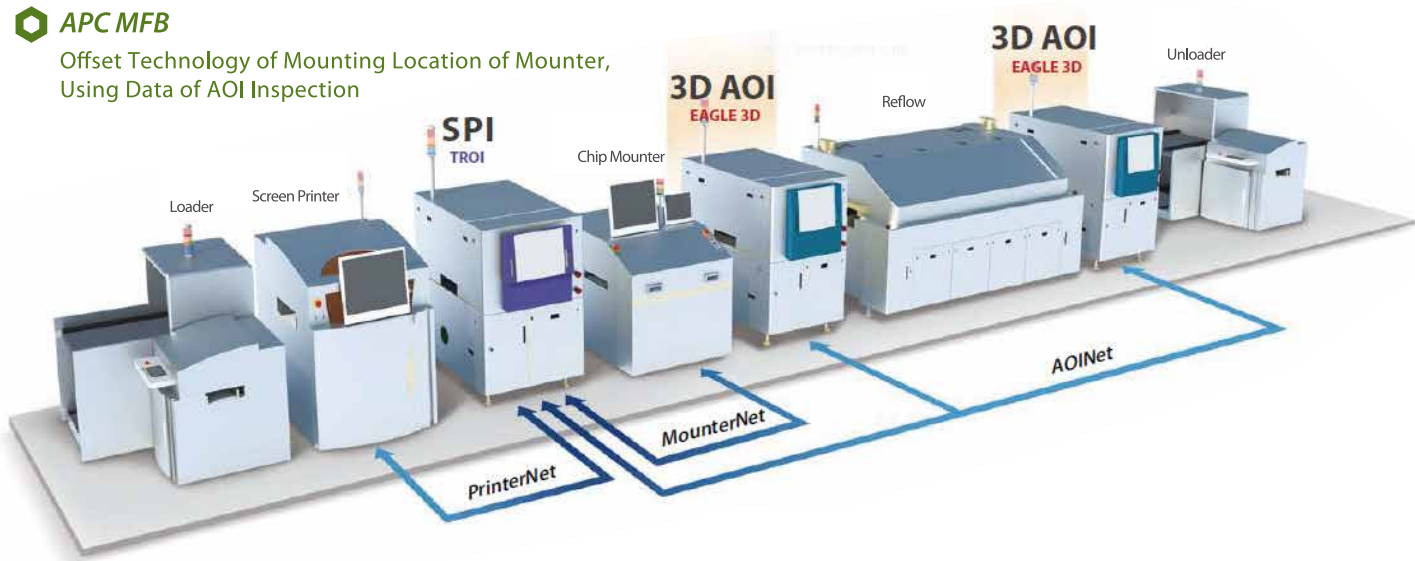
Printer Net
- Closed Loop Solution with Screen Printer

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 confirm

i-Monitor
- Control a maximum of twelve on 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

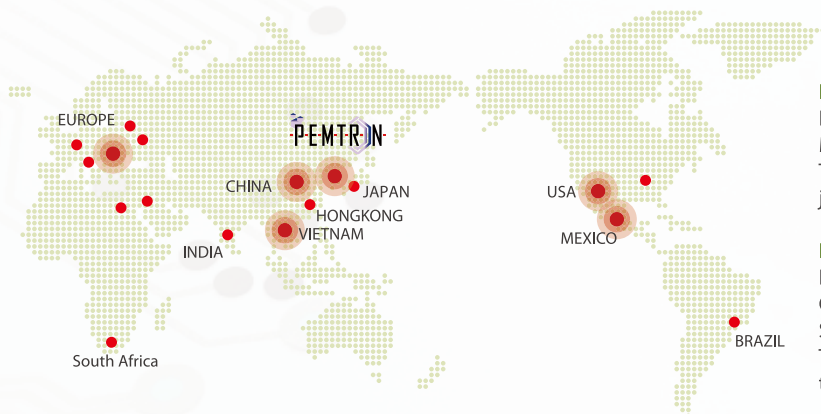
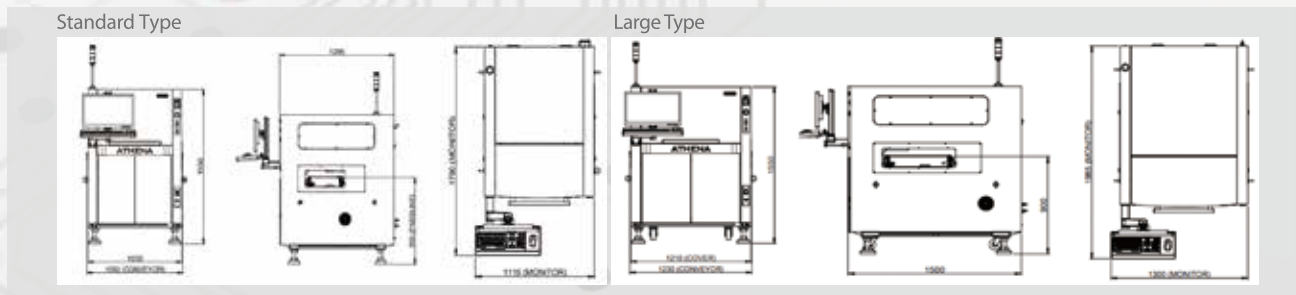


ATHENA 3D Automated Optical Inspection system

SPECIFICATIONS

Model		ATHENA			
Camera		10MP		12MP	
Resolution		10um	15um	18 um	10um 15um
Inspect Speed		19 crñ/ sec	41 crñ/ sec	59 crñ/ sec	28.34 crñ/ sec 57.31 crñ/ sec
FOV (Field Of View)		33x30mm	49x45mm	59x54mm	41x30mm 61x46mm
Height Range		0 – 5.5mm (option 27mm)			
Height Accuracy		± 3%			
PCB Specification	Inspection Size	Standard	Min. 50 × 50mm (2 × 2 inch) Max. 330 × 330mm (13 × 13 inch)		
		Large	Min. 50 × 50mm (2 × 2 inch) Max. 510 × 510mm (20 × 20 inch)		
	Thickness		0.4 ~ 7mm		
	Top 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)	1050x1295x1550mm (41x 51 × 61inch) / About 900kg (1984lb)			
	W x D X H / Weight (Large Type)	1230x1500x1550mm (48 × 59 × 61inch) / About 1050kg (2315lb)			

* Specifications subject to change without notice.



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