YAMAHA

TRUSTED TECHNOLOGY

YSi-SP NEW

SMT Innovation

3D Solder Paste Inspection Machine

1-head solution for various inspections

High accuracy-high speed inspections

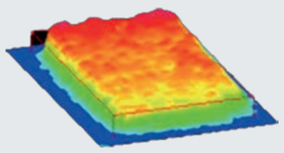
Extensive M2M solution to complete Yamaha True Total Line Solution

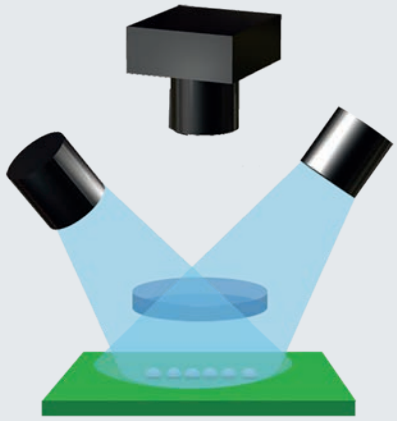
SPI function supports vast range of analyses

FEATURE 1 “1-head solution” to perform various inspections

One head type supports all types of inspections. Eliminate cycle time and configuration costs and increase your productivity.

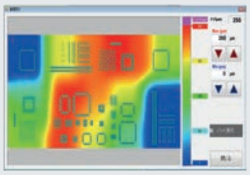
3D solder printing inspection



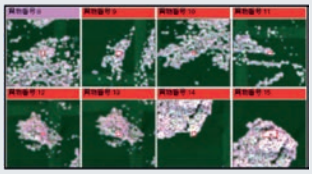


Resolution selector

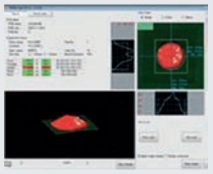
PCB warpage display



Foreign matter inspection (option)



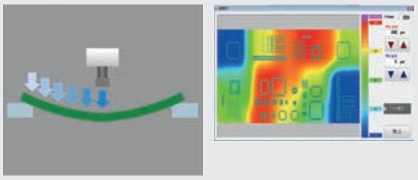
3D bond coating inspection (option)



FEATURE 2 Achieves high-accuracy high-speed inspections using 3D + 2D inspection, image resolution switch-over and more

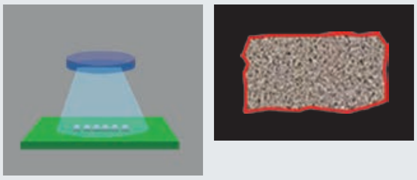
Highly accurate 3D inspections by applying unique 3-step algorithm

- Focus adjustment



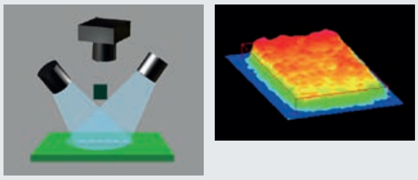
The camera height corrects by automatic focus adjustment to follow up on any PCB warpage down to ±5 mm.

- Focus adjustment



Measure the surface area by accurately extracting the contour of the solder paste by 2D ring lighting.

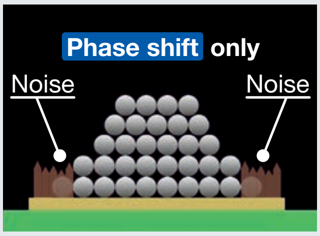
- Focus adjustment



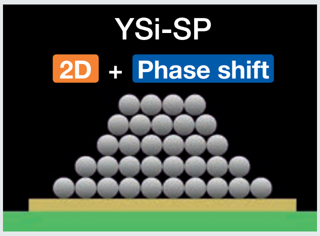
Measure height of solder paste by phase shift method and extract volume value.

High precision 2D contour extraction

Reproduces accurate shapes by combining with phase shift method.



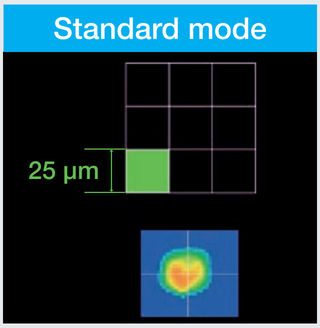
Accurately reproducing shapes is difficult due to noise.

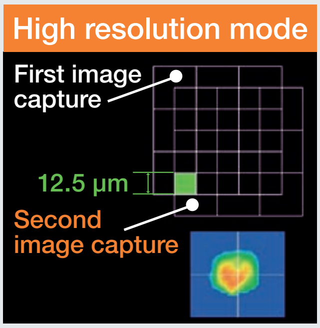


Gives high reproducibility for extracting contours by 2D inspection.

Supports high-speed and high-resolution inspections on just 1 unit!

Super high resolution technology delivers switchable resolution for each visual field.





FEATURE 3
A thorough and extensive machine-to-machine (M2M) solution

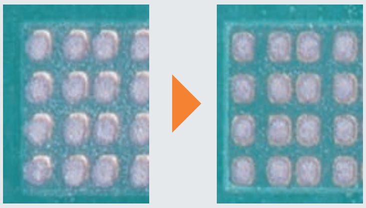
The Yamaha brand can provide all main equipment needed for component mounting in one package and by linking SPI with each piece of equipment creates a production line having boosted quality and productivity.

- **Automatic setup changes**

  Settings such as production line PCB data and conveyor width are sequentially sent from upstream units by scanning ID such as for barcodes listed on PCB and instruction sheets to automatically to shorten the time needed to switch setups and make changeovers.

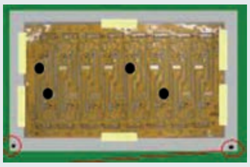
- **Feed back print information**

  Feed back printing information and cleaning instructions acquired by SPI to the downstream printer to give high print quality.



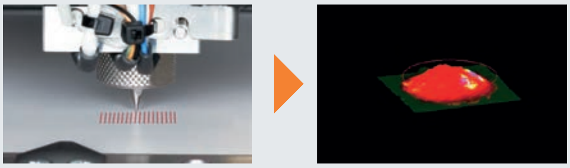
- **Bad mark data feed forward**

  Once the YSi-SP recognizes a bad mark on the PCB, it sends that information to the downstream mounter to avoid redundant recognition and shorten cycle time.



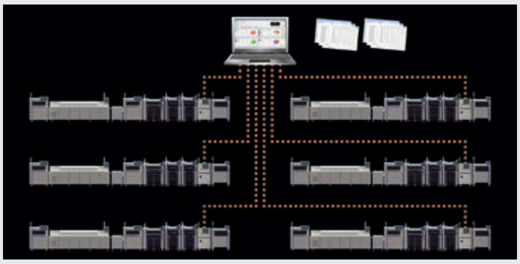
- **Automatically converts coating inspection data**

  Create coating data from the dispenser and send to SPI in just one click!



FEATURE 4
Statistical Process Control (SPC) for diverse statistical processing

Saves all pad images and measurement data, performs statistics and analysis of holes and slits by multiple methods, software from 1 PC connects to up to 6 SPI units.

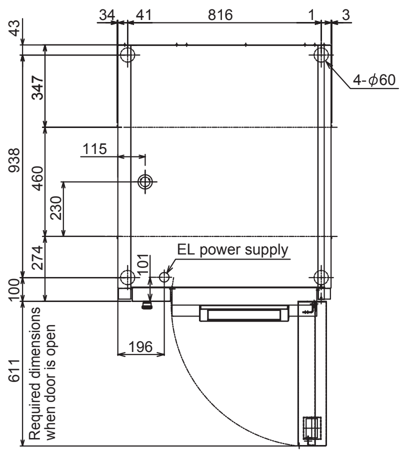


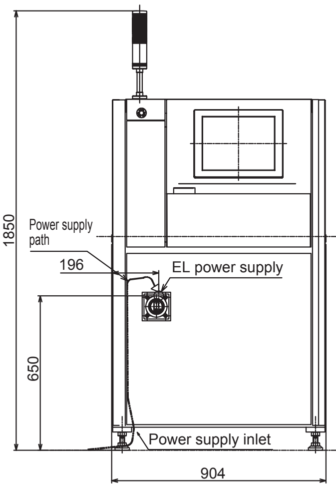
FEATURE 5
Optional features to enable handling various products

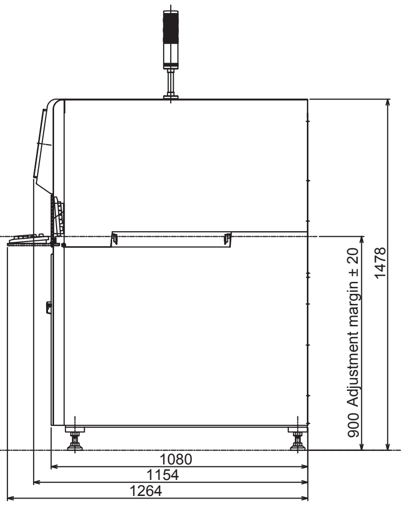
Full range of options support for a wide range of production lines via ultra-high resolution capable of printing inspection of ultra-small parts such as 0201 (0.25 mm × 0.125 mm) to 03015 (0.3 mm × 0.15 mm) chips; bonding inspections capable of inspecting the adhesive coating state of dispensers; and foreign matter inspections capable of detecting foreign substances adhering to the PCB, and other options that are adaptable to various production lines.

Specifications	YSi-SP	
Applicable PCB	L 510 mm × W 460 mm to L 50 mm × W 50 mm (single lane spec) Thickness 0.3 ~ 5.0 mm	
Horizontal resolution (FOV size)	1) 25 µm / 12.5 µm (approx. 50 × 50 mm) 2) 20 µm / 10 µm (approx. 40 × 40 mm) 3) 15 µm / 7.5 µm (approx. 30 × 30 mm) * All are standard selection type.	
	Twin Projector	Single Projector
Inspection speed	Standard (High Resolution)	Standard (High Resolution)
Resolution 25 (12.5) µm	8,900 (5,600) mm^2/s	9,400 (6,000) mm^2/s
Resolution 20 (10) µm	5,700 (3,500) mm^2/s	6,000 (3,700) mm^2/s
Resolution 15 (7.5) µm	3,200 (1,900) mm^2/s	3,300 (2,000) mm^2/s
Accuracy Volume 3 σ	With in 2%	With in 3%
Height resolution	1 µm	
Inspection items	Solder paste printing quality (volume, height, area and misalignment)	
Power supply	Single-phase AC 200/208/220/230/240 V ±10%	
Air supply source	Airless specification	
External dimension	L 904 mm x W 1,080 mm x H 1,478 mm	
Weight	Approx. 550 kg	

* Specifications and appearance are subject to change without prior notice.







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