



VP-01G-Y

SMT Innovation

3D Solder Paste Inspection Machine

1-head solution for various inspections

High-accuracy high-speed inspections

Extensive M2M solution to complete the Yamaha True Total Line Solution

SPI function supports a 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.

<p>3D solder printing inspection</p>	<p>Resolution selector</p>	<p>PCB warpage display</p>
<p>Foreign material inspection</p>		<p>3D glue inspection</p>

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

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

<ul style="list-style-type: none"> • Focus adjustment <p>PCB warpage up to ± 5 mm can be measured accurately.</p>	<ul style="list-style-type: none"> • Focus adjustment <p>Measures the surface area by accurately extracting the contour of the solder paste by using 2D ring lighting.</p>	<ul style="list-style-type: none"> • Focus adjustment <p>Measures the height of solder paste by the phase shift method and extracts the volume value.</p>
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High-precision 2D contour extraction

Reproduces accurate shapes by combining with phase shift method.

<p>Phase shift only</p> <p>Accurately reproducing shapes is difficult due to noise.</p>	<p>VP-01G-Y 2D + Phase shift</p> <p>Gives high reproducibility for extracting contours by 2D inspection.</p>
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Supports high-speed and high-resolution inspections on just 1 unit!

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

<p>Standard mode</p> <p>25 μm</p>	<p>High-resolution mode</p> <p>12.5 μm</p> <p>First image capture</p> <p>Second image capture</p>
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FEATURE 3 | A thorough and extensive machine-to-machine (M2M) solution

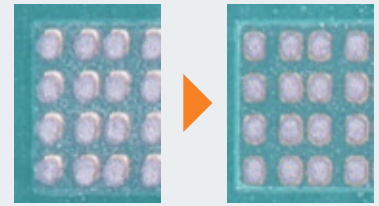
The Yamaha brand can provide all the main equipment needed for component mounting in one package, and by linking SPI with each piece of equipment, it creates a production line that boosts quality and productivity.

- **Automatic setup changes**

Settings such as production line PCB data and conveyor width are sent from upstream units by automatically scanning the barcode ID from the PCBs or instruction sheets, shortening the time needed to switch setups and make changeovers.

- **Feedback print information**

Feedback printing information and cleaning instructions acquired by SPI to the downstream printer to ensure high print quality.



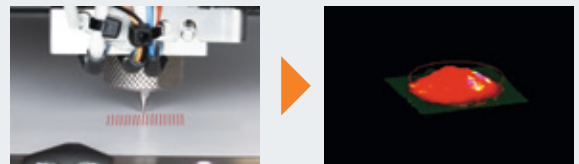
- **Bad mark data feed forward**

Once the VP-01G-Y recognizes a bad mark on the PCB, it sends that information to the downstream mounter to avoid redundant recognition and shorten the cycle time.



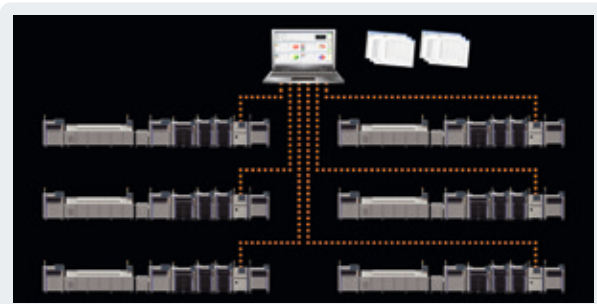
- **Automatically converts coating inspection data**

Creates coating data from the dispenser and sends it 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.



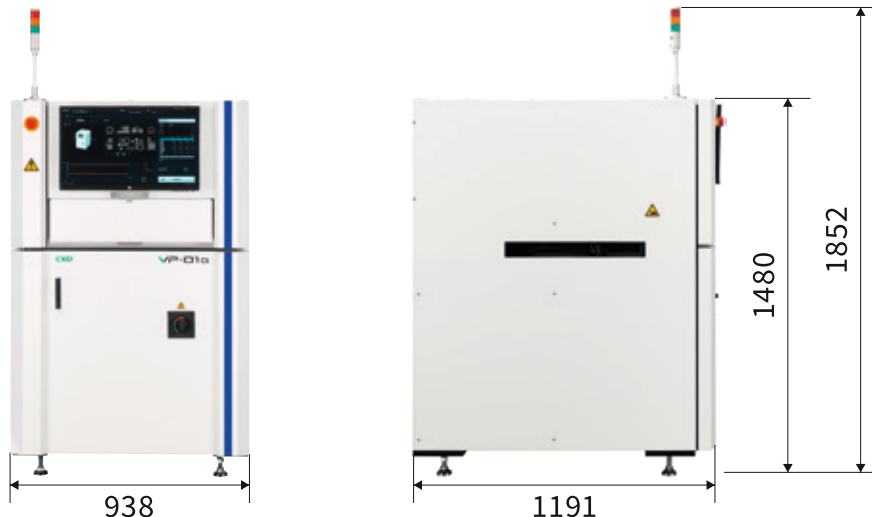
FEATURE 5 | Optional features to enable handling various products

A full range of options supports 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 VP-01G-Y

Applicable PCB	L 510 mm × W 510 mm to L 50 mm × W 50 mm Thickness 0.3 to 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	Pressure: 0.4 Mpa Consumption: 1.0 NL/min	
External dimension	L 938 mm × W 1,191 mm × H 1,480 mm	
Weight	Approx. 600 kg	

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



Yamaha Motor Europe N.V.
Niederlassung Deutschland, Geschäftsbereich Robotik
German Branch Office, Robotics Business
Hansemannstrasse 12 · 41468 Neuss · Germany
Tel: +49-2131-2013520
ymerobotics.info@yamaha-motor.de
www.yamaha-motor-robotics.eu

Yamaha Motor Co. Ltd., Head office Robotics Operation
127 Toyooka, Kita-ku, Hamamatsu, Shizuoka 433-8103, Japan, Tel.: 81-53-525-7061
Yamaha Motor IM (Suzhou) Co. Ltd.
#8 Building No.17 East Suhong Road, Suzhou Industrial Park, China 215026, Tel.: 86-512-6831-7091
Yamaha Motor IM (Suzhou) Co. Ltd., Shenzhen Branch, 1/F, Bd. 1, Yesun Intelligent Community, Guangguang Rd. 1301-70, Guanlan St, Longhua District Shenzhen, Guangdong, P.R.C. China, Tel.: 86-755-2393-9910
Yamaha Motor Corporation, U.S.A., IM Division (USA office)
3065 Chastain Meadows Parkway Marietta, GA 30066, Tel.: 1-770-420-5825
Thai Yamaha Motor Co. Ltd. (Thailand Office), 64 Moo1, Debaratana Rd., Km 21, Tambol Srisa Jorake Yai, Amphur Bangsaothong, Samutprakarn 10570, Thailand, Tel.: 66-96-779-7680
Yamaha Motor Parts Manufacturing Vietnam Co. Ltd. (Vietnam Office)
Lot G1-G2, Thang Long Industrial Park, Vong La Com, Dong Anh Dist, Hanoi, Vietnam, Tel.: 84-24-3951-6456

The models shown in the photographs in this catalog may differ slightly from the standard specifications. Specifications and appearance are subject to change without prior notice.