Specifications

YSP

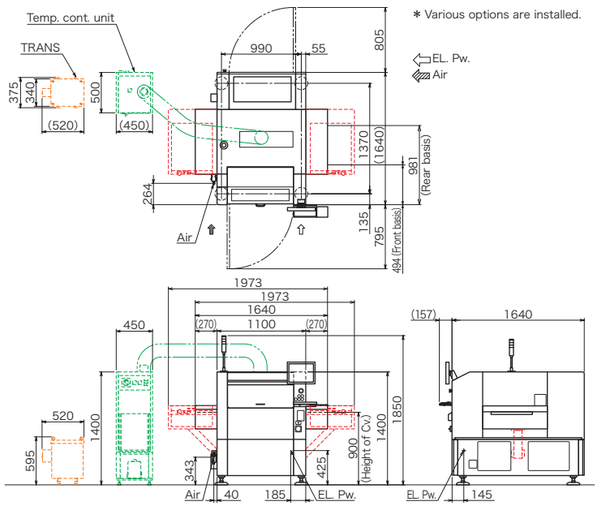
Model	YSP
Applicable PCB	L 50 x W 50 mm (Min) to L 510 x W 460 mm (Max) * Applicable for transporting L610 mm / printing L600 mm area PCB Note 1 Thickness 0.4 mm to 3.0 mm * When 0.4 to 1.0 mm thickness, needed PCB vacuum-suction system should be installed.
Printing head	3S head (3S : Swing Single Squeezee) Squeegee speed : 2 to 200mm/sec, Squeegee pressing force : 5 to 200N +/- 2N (Feedback controll) Squeegee printing attack angle : 45 to 65 degree (Variable control), Squeegee material : Metal or Urethane
Accuracy	Wet Print accuracy (6 σ): +/- 25 µm Positioning repeatability (6 σ): +/- 12.5 µm
Printing line tact	9.5 sec (standard printing: under optimum condition, except for printing time)

Applicable stencil size	L 750 x W 750 mm	L 736 x W 736 mm	L 750 x W 650 mm	L 650 x W 550 mm	L 600 x W 550 mm Note 2	L 550 x W 650 mm Note 2
Max PCB size	L 510 x W 460 mm	L 510 x W 460 mm	L 510 x W 350 mm	L 330 x W 250 mm	L 330 x W 250 mm	L 330 x W 250 mm

Power supply	3-phase AC 200/208/220/240/380/400/416 V +/- 10 % 50/60 Hz
Air supply source	0.45 MPa or more, in clean, dry state
Exernal dimension (excluding projections)	L 1,640 x W 1,640 x H 1,400 mm: Normal conveyor L 1,973 x W 1,640 x H 1,400 mm: Exit extension conveyor
Weight	Approx. 1,500 kg

Note 1: Large board printing machine does not support inspection option.
Note 2: These size stencils need addition of fixing adaptor and replacement of cleaning nozzle.

External dimension



Specifications and appearance are subject to change without prior notice.

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

Yamaha Motor Corporation, U.S.A.
Intelligent Machinery Division
1270 Chastain Road · Kennesaw · Georgia 30144 · U.S.A.
Tel: +1-770-420-5825
info-ymaim@yamaha-motor.com
www.yamaha-motor-im.com

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YAMAHA
TRUSTED TECHNOLOGY

YSP

High-Speed High-Precision Printer

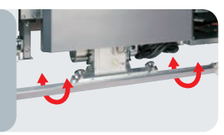
PCB ASSEMBLY SYSTEM

Standard Features:
- 3S Print-head with closed-loop pressure feedback
- Automatic cleaning system
- Triple Track transport system
- Side clamping Board Handing with flaps
- Vacuum Stencil Lock
- Graphical layer-base alignment function

Full range options:
- Large board option (610 x 460)
- 2D inspection system
- Temperature Control Unit
- Exit Conveyor unit
- PCB vacuum and warp prevention
- Stencil Adaptor
- Paste dispenser
- Solder remaining quantity detection
- Closed-loop feedback from inline SPI (consult factory for SPI machine type)
- ITOP: Production changeover verification

9.5 sec/cycle* Line-tact
High-speed printing capability

3S head*
(3S:Swing Single Squeegee)
Variable printing attack angle



6 σ: ± 12.5 µm
Positioning repeatability

L600 mm printing area applicable
* L510×W460mm for standard spec.

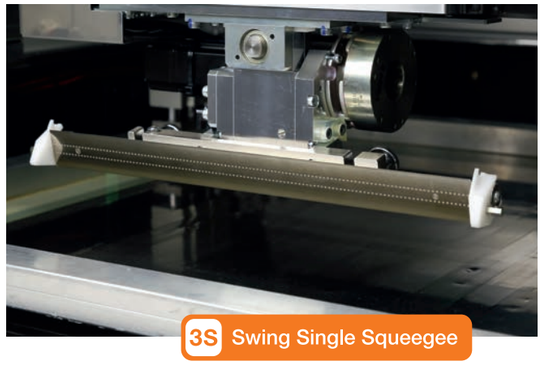
PSC system
(PSC:Print Stability Control)

* The photo shows the state with various options installed.

Built-in high-end features deliver top print accuracy and quality!

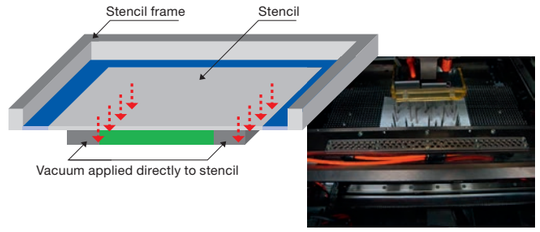
Yamaha's original 3S head

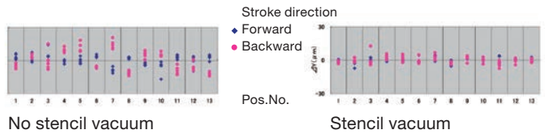
Automatically adjusts squeegee angle (1 degree units between 45 to 65 degrees) and speed to optimize settings for best print results with selected solder-paste type and volume.



Stencil vacuum lock

Stencil to board gasketing enhanced by Stencil Vacuum Lock ensures rock-solid stability for consistent high-accuracy printing. Eliminates Y-directional print offsets due to stencil movement during print stroke.



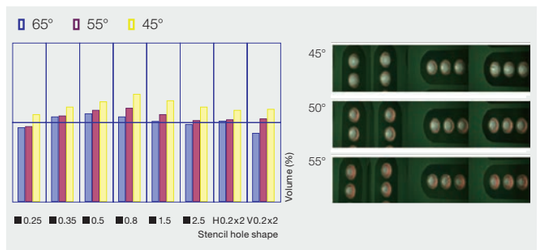


Flexible board handling and transport

The three stage track system is standard for high speed transfer of substrates. Self-adjusting board clamps ensure secure board positioning during print while providing a unobstructed gasketing between the board and stencil for consistent print results across the board.

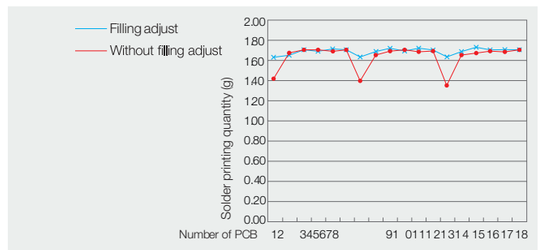
Filling adjust

Convenient function adjusts squeegee angle and speed to improve aperture filling immediately after stencil cleaning or pause in process. This feature eliminates defects for a more consistent printing process.



3S head: adjusts squeegee angle with paste volume

3S head ensures optimum printing for pin-in-paste. (rear side view)



Effects from cleaning and estimated solder printing quantity: Better solder printing via filling adjust function

Multiple functions and extreme versatility – all inside one compact unit!

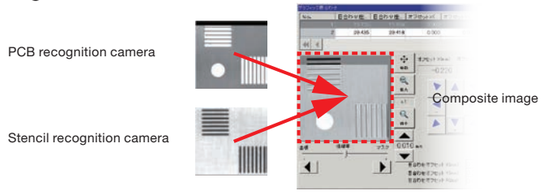
Compact but spacious

YSP handles large PCBs of L 510 × W 460 mm as well as a variety of stencil sizes to boost line productivity to the max!

Applicable stencils	Standard	Option
	• L 750 x W 750 mm	• L 600 x W 550 mm
	• L 736 x W 736 mm	• L 550 x W 650 mm
	• L 750 x W 650 mm	• L 584 x W 584 mm
	• L 650 x W 550 mm	

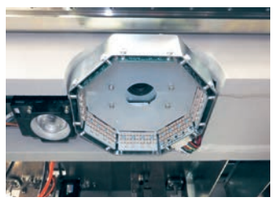
Two-layer graphical base-alignment

Advanced feature, superimposes PCB and stencil images on the monitor, so position alignment can be checked at a glance. Now even a beginner can instantly make fine adjustments for print position alignment.

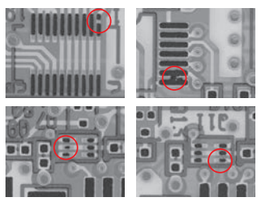


Printing inspection function (option)

Make detailed print inspections with a dedicated inspection camera offering a wide field of view (30 x 22.5 mm) and excellent resolution (18.7 µm /pixel). Inspection of paste presence, bridging and excess paste are all standard with this option.



Optional printing inspection unit



Example NGs

Advanced cleaning features

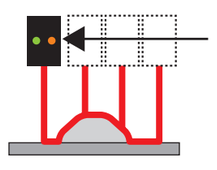
The **auto cleaning system** determines settings such as cleaning mode, speed and suction to suit the working conditions.

Print Stability Control

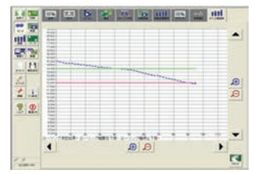
PSC system stabilize printing quality by automatically supply solder paste on stencil to keep the rolling solder paste width constant. PSC is available in syringe type (6 or 12 oz.) or as POT type*.

Remaining solder quantity detection

This optional function periodically measures the solder paste-roll width during the print process. Paste is added via the paste dispenser to ensure correct paste levels are maintained without operator intervention or an alarm will notify the operator that paste needs to be added.



Measures rolling width of solder



Monitoring of the lower limit

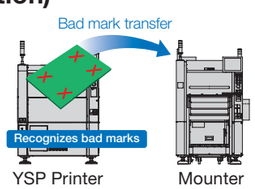
Yamaha SMT Production Line Network for highly efficient production

ID barcode monitoring

Monitoring solder, stencil and squeegee identities via barcodes prevents data-entry errors during setups and changeovers by matching PCB data with actual work task. This also lets the operator check solder expiration dates (humidity, moisture expiry period, service life management).

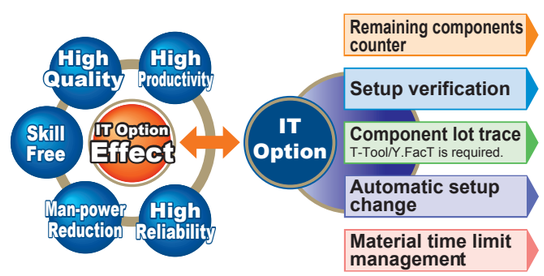
Bad-mark transfer (option)

YSP automatically transfers any bad-mark data to the mounter to drastically cut total line loss and boost productivity.



Highly reliable SMT products

Yamaha delivers the maximum value for customers through its position as a "full-line manufacturer" of mounting equipment including printers, dispensers, surface mounters, and inspectors as well as a complete family of software tools spanning the entire production line to achieve highest efficiency and quality.



* Ask our local sales office for supported POT types