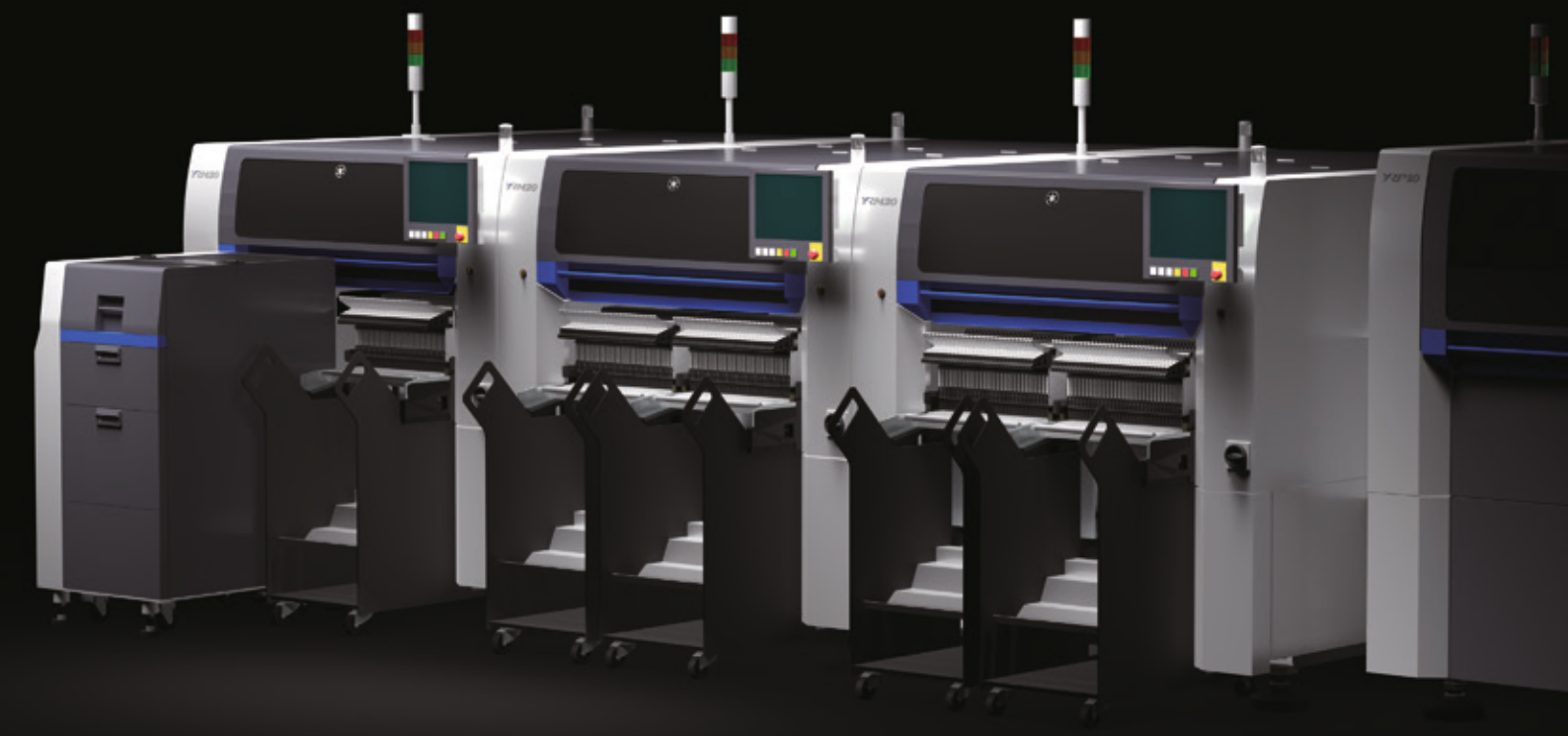
YAMAHA
Revs Your Heart

PCB ASSEMBLY SYSTEM

Premium High Efficiency Modular

YRM20



Achieved 115,000CPH — world's fastest speed in its class

Outstanding, high-efficiency production technologies all in one machine

A multi-purpose mounter with outstanding productivity thanks to its impressive speed and flexibility

Premium High Efficiency Modular

YRM20

High-efficiency mounting	Maximizing line operability with a "high-speed" and "flexible" head
High-quality production	Wide-ranging features reduce the factors that cause line stoppage, achieving value-added production
Automation and labor-saving	Non-stop supply of components and automatic program change over function boosts productivity and cuts operator workload

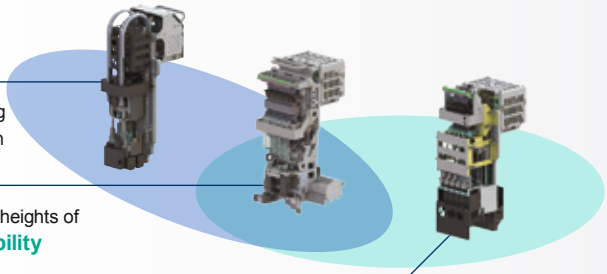
Watch a video on the official site

Feature 1 High-efficiency mounting

Versatile three-head design fits diverse production styles

Adapts flexibly to multi-item production without head replacement, saving changeover downtime and operator workload.

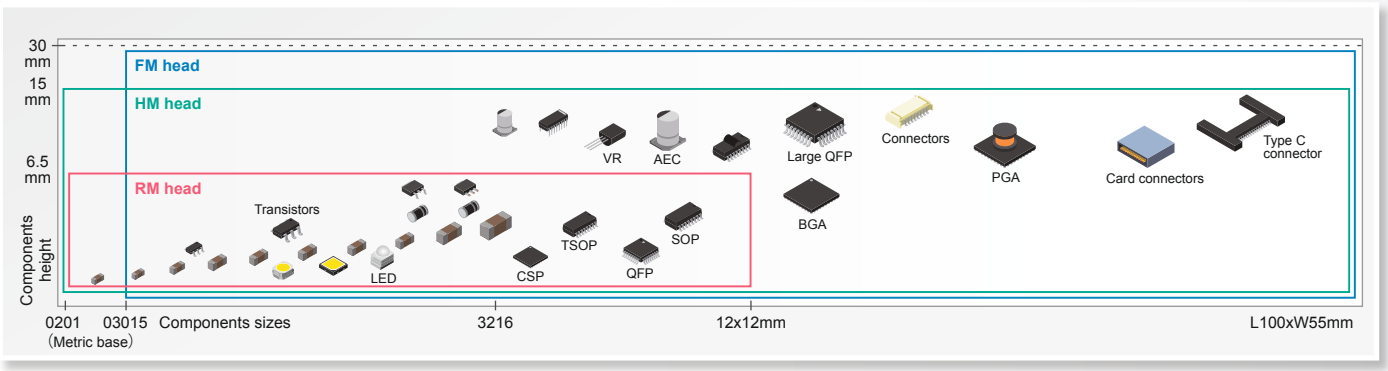
Ideal system for producing automotive/device PCBs with copious amounts of mounted chip.



RM head
Super high-speed at 115,000CPH, supporting components ranging from 0201mm to 12 x 12mm

HM head
98,000CPH, 0201mm to 100 x 55mm, heights of 15mm. **For both speed and flexibility**

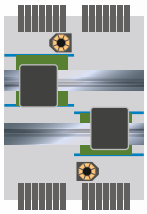
FM head
Handles large components up to 100 x 55mm and heights of 30mm. Force control is also available.



Maximizing head capacity for high production

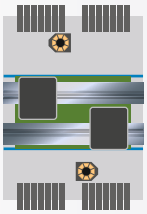
Yamaha's own technology cuts head waiting time and travel time when mounting.
Maximizes the ability of two heads to match what two one-head mounters can do — all in a single unit.

For 2-PCB conveyance
The conveyor is split down the middle and one side moves toward the rear. Reducing the distance between the PCBs and the feeder minimizes loss from head movement. Eliminating head interference means you get constant and simultaneous mounting.



Dual-stage conveyor

For 1-PCB conveyance
Yamaha's proprietary technology keeps the heads as close together as possible to minimize head interference area, and simultaneous mounting by two heads eliminates head waiting time.



Overdrive motion

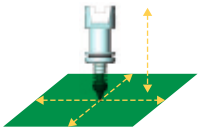
YR Series SMT ASSEMBLY SYSTEM

Feature

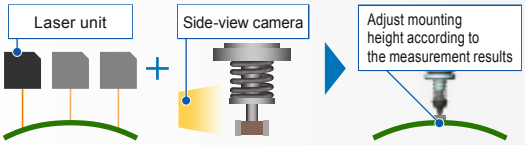
2 High-quality production

Good quality with high-accuracy mounting

Can mount at the high accuracy of ±25 µm (Cpk≧1.0) regardless of PCB state, for high-quality production.



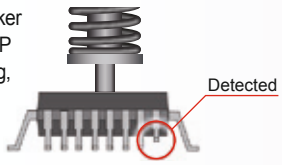
To set the height for mounting components, the PCB surface is measured with lasers and component thickness with a side-view camera. This prevents dents on components, component scattering, and crushed solders.



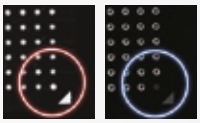
Prevents mounting failure in advance

The side-view camera checks the posture of the component before mounting to reject any factors that may cause defects, delivering defect-free production.

The coplanarity checker detects deformed QFP leads before mounting, preventing defects in advance.

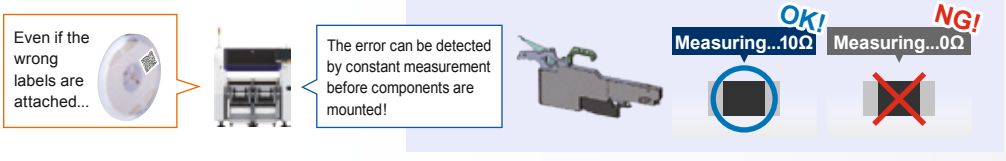


Side lighting reliably detects missing BGA balls, which can't be detected with lighting from below.



Prevents component misuse

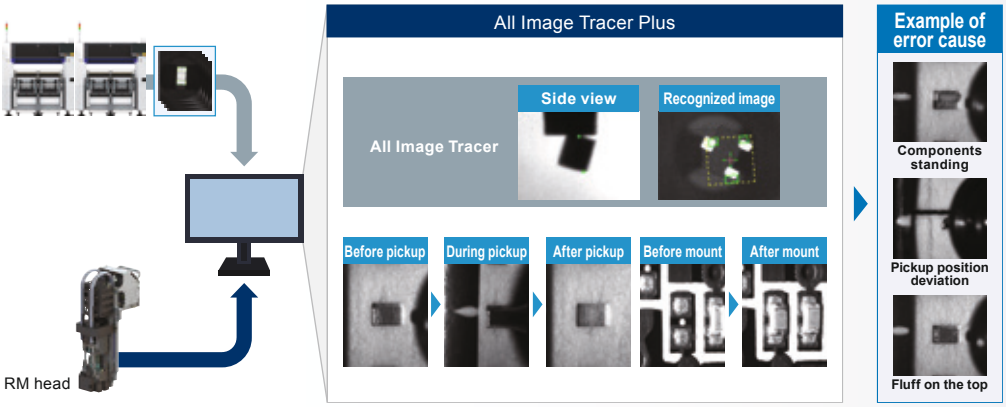
Constant is measured before component mounting. This detects entry of incorrect components that cannot be prevented by comparing component barcodes or checking component appearance. This ensures defects are not leaked to the market.



Promotes quick and steady improvements

All Image Tracer saves all images of the moments of component pickup. This system's feature of allowing you to search and view pickup images makes it easy to identify the causes of defects. That saves time spent on improving such processes and reduces operator workload.

All Image Tracer Plus comes with a designated camera that takes and saves images of not just the moment of pickup, but mounting too. That enables you to clarify what caused errors and defects, thereby speeding up the improvement process.

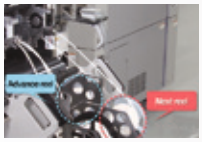


Feature

3 Automation and labor-saving

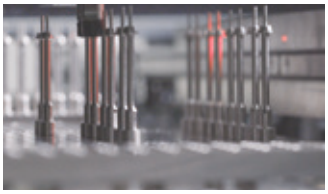
Supplying components non-stop, any time

Remaining components monitor, Auto Loading Feeder, and non-stop tray feeder can be combined to feed components efficiently at any desired timing. Automatic supply and batch supply evens out supplies and minimizes the risk of machine stoppage. They also improve operating efficiency and line operability.

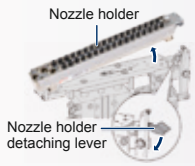

Automatic replacement means no setup required

Nozzles and push-up pins are automatically replaced. Combined with batch automatic line setup, this simultaneously cuts time and operator workload when changing products.



Nozzles are managed by their ID and can be kept in any part of the nozzle holder. Yamaha designed the nozzles with attention to easy maintenance and setup, so they can be detached effortlessly with a single touch.



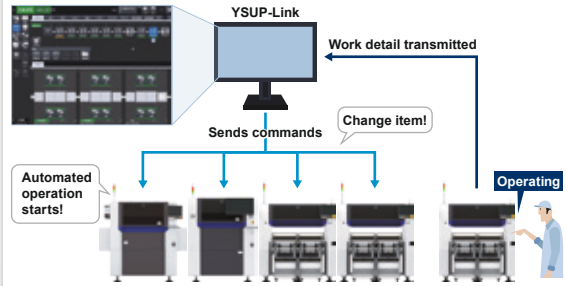


1 STOP SMART SOLUTION

High-efficiency, defect-free production, made possible as Yamaha is a manufacturer of inspection system, solder-paste printer and surface mounter.

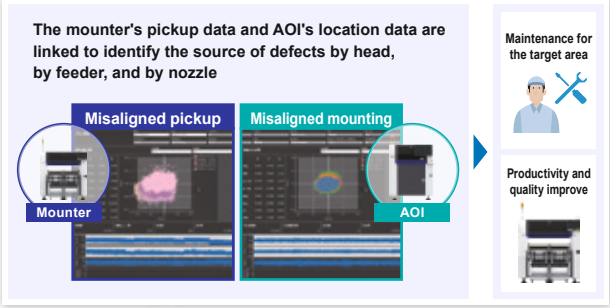
Central operation cuts travel time and labor

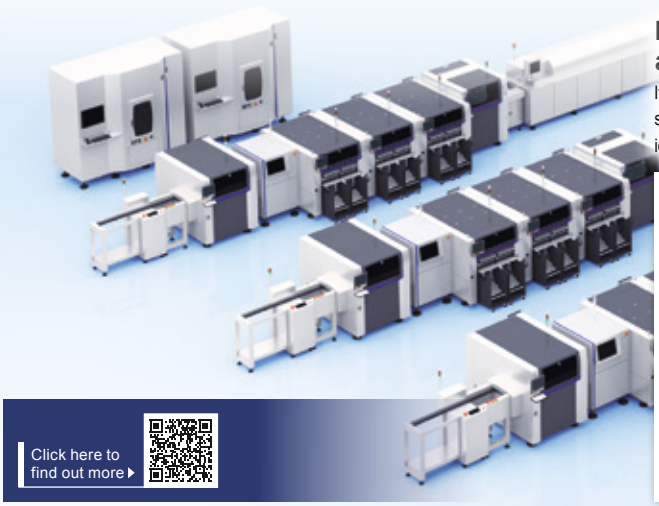
All mounters are linked by YSUP-Link, enabling one machine to operate all other machines on the line. This minimizes product changeover time, travel time when automatic operation begins, and the number of human operators needed.



Mounting analysis improves in-process quality

Mounting analysis can easily identify points that need improvement and significantly saves operating time and workload. The results are input and the effects of improvements are visually presented, which improves worker motivation.

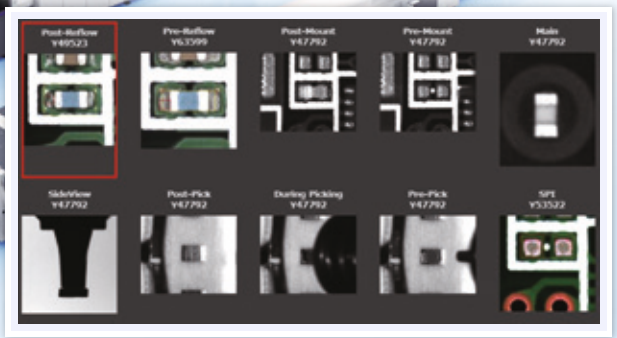




Click here to find out more

Image comparison within processes accelerates defect elimination

If a defect is detected, images from every process are displayed together on the screen so you can instantly identify which process caused the defect. This cuts cause identification time, accelerates the improvement cycle, and results in consistent quality.



PERFECT FIT AUTOMATION

Yamaha's product development concept — production process automation that fits a wide range of floor layouts
Achieve a non-stop, defect-free, operator-free high-efficiency mounting system for your factory

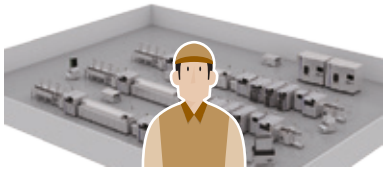
User A
(high-mix, low volume production)

Wants to introduce Yamaha along with its systems

User B
(variable-mix, variable volume production)

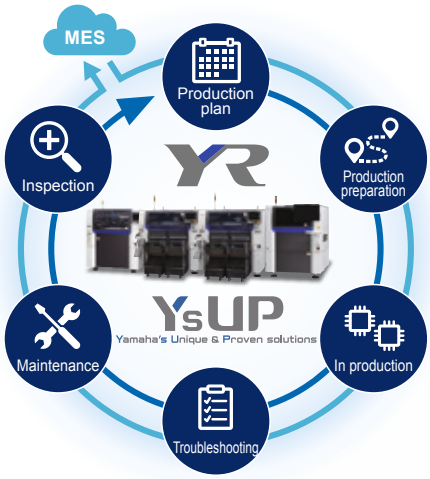
Wants to link the system to other companies' systems

User C
(mass production)



Wants to fit Yamaha's systems with own company's systems

Automating the entire production process, from **IN** to **OUT**



1 Optimal
Optimal solution for the six processes

2 Linked
Seamlessly links the six processes

3 Connected
Flexibly connects to external systems too

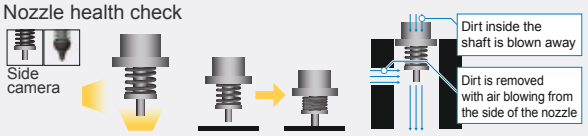
The Ideal "Intelligent Factory" for Your Plant

- Solves the labor shortage problem
- Visualizes the operating status
- Boosts operating efficiency
- Optimizes manufacturing processes
- Reduces maintenance processes

Easy maintenance

Nozzle is automatically cleaned and its condition is checked.

Blow station automatically cleans air channel. Nozzle vibration and exterior are automatically checked to see if there are any abnormalities. Enables production under consistently good equipment conditions.



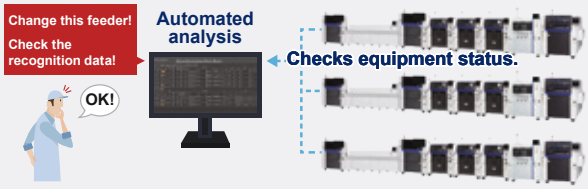
External inspection
Camera checks nozzle abnormality

Functionality inspection
Nozzle vibration is checked

Automatic cleaning
Factors that cause defects are detected and eliminated in advance

Automatically identifies the cause of pickup errors and instructs improvements

Dashboard performs automatic analysis of what caused pickup errors. It suggests replacing problematic feeders and checking the nozzle to support maintenance and improvement for operators.



SEMI SMT-ELS Capable

Compatible with SEMI SMT-ELS Communication Standards (option).
Achieves seamless connection for, for example, Auto Program Change-Over, with other companies' machines.

Specifications

Note: Specifications and appearance are subject to change without prior notice.

Model		YRM20 RM head	HM head	FM head
Applicable components		0201mm to L12 x W12mm Height 6.5mm or less	0201mm to L100 x W55mm Height 15mm or less	03015mm to L100 x W55mm Height 30mm or less
Mounting capability[Note 1]	2 head units	115,000CPH	98,000CPH	35,000CPH
	1 head units	57,500CPH	49,000CPH	17,500CPH
Mounting accuracy[Note 1]		±0.025mm Cpk≧1.0		±0.035mm Cpk≧1.0
Number of component types		Component tape: Max. 128 types, Tray components: 60 types		
Applicable PCB	2 head units	1-PCB conveyance: L50 x W50mm to L810 x W510mm 2-PCB conveyance: L50 x W50mm to L380 x W510mm		
	1 head units	Standard specification: L50 x W50mm to L510 x W510mm[Note 2]		
Power supply		3-Phase AC 200/208/220/240/380/400/416V ±10% 50/60Hz		
Air supply source		Over 0.45 MPa, clean and dry state		
External dimension		L1,374 x W1,948 x H1,445mm		
Weight	2 head units	Approx. 2,250kg (Main unit only)		
	1 head units	Approx. 2,150kg (Main unit only)		
Laser Class		Class 1 Laser Product (IEC60825-1,FDA (CDRH) Part 1040.10)		

Note 1: Under our optimized conditions
Note 2: Optionally able to support lengths up to 810 mm

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