



YRM20DL

Ultra-High-Efficiency Dual-Lane Modular Mounter

The 1-head solution has reached an ultimate stage. A dual-lane surface mounter delivering great productivity, flexibility and ability to take on PCBs.

Highest output dual RM heads – up to
120,000 cph

**Flexible dual-lane
production modes**

Deliver highest mounting quality due to new
Low-impact nozzle

High-accuracy placement
 $\pm 15 \mu\text{m}$

FEATURE 1 1-head solution provides broad-range production capability

Super-high-speed rotary RM head achieves 120,000 cph

Rotary head boosts mountability of tiny components. This maintains high-speed production since head replacements are no longer needed. This technology helps carry on the 1-head solution concept. This head can handle components ranging from super-tiny 0201 mm components up to medium-sized odd-shaped components of 12 x 12 mm dimensions with heights of 6.5 mm.



High-speed multi-purpose inline HM head

The flexible “all-round” head not only has high-speed, but also has the versatility essential for mounting super-tiny 0201 mm components all the way up to large-size components of 55 x 100 mm and heights up to 15 mm.

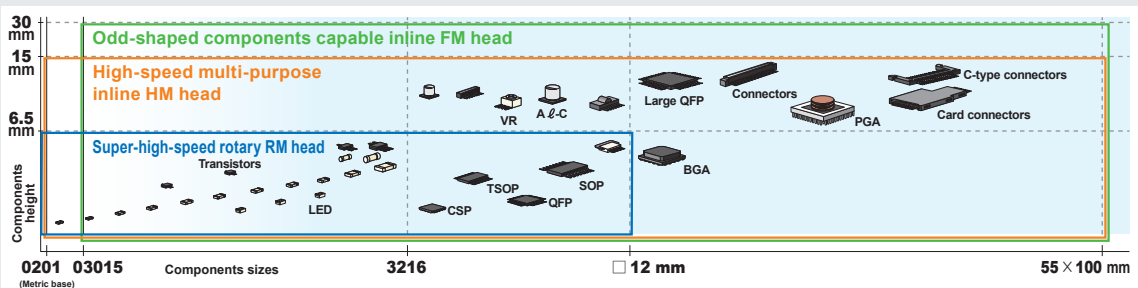


Odd-shaped components capable inline FM head

The ultra-wide-range head fully handles components ranging from super-tiny 03015 mm chips on up to ultra-large components of 55 x 100 mm and heights of 30 mm. Force control is also available.



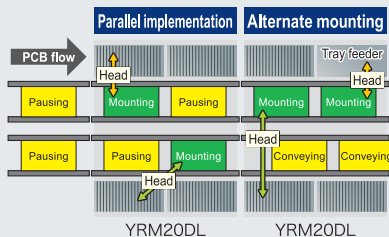
**RM head/
HM head/
FM head**



FEATURE 2 Solution for variable-mix, variable-volume production

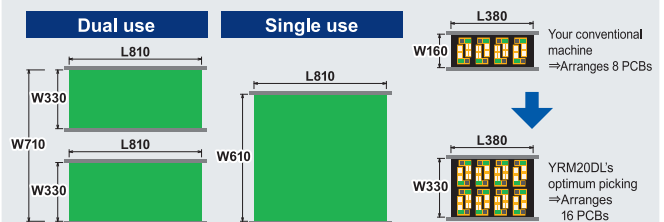
Takes on various types of production with super-high efficiency

Ensures super-high efficiency for production of various types, by combining parallel mounting and alternate mounting, and 4-stage mounting with the newly developed dual-lane conveyor. Achieves high productivity even when production type varies by lane.



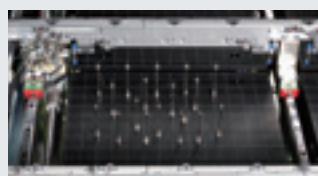
W330 mm dual-lane

Produces large size PCBs of up to L810 x W330 mm in dual-lane. Can increase PCBs to be picked up and carriers transported, raising production efficiency.



Automatic push-up pin exchange system

This automatically positions the push-up pins. Using along with the automatic program change-over function drastically reduces the workload during production changeovers.



Auto nozzle station

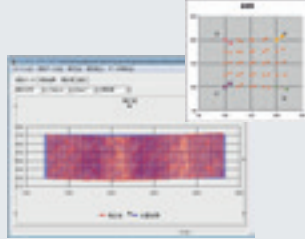
The nozzle is automatically exchanged for efficient production. The nozzle holder can be exchanged with a single touch, which makes setup and maintenance easy.



FEATURE 3 High-accuracy mounting and steady production of micro components

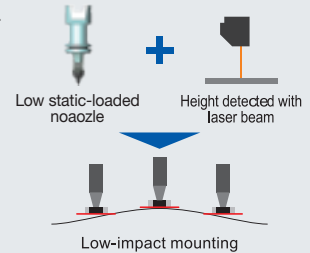
High-accuracy mounting level of $\pm 15 \mu\text{m}$ ($Cpk \geq 1.0$)

Machine vibration controlled with a very rigid base and adjustment accuracy improved with Head Code Max, achieving a high-accuracy mounting level of $\pm 15 \mu\text{m}$.



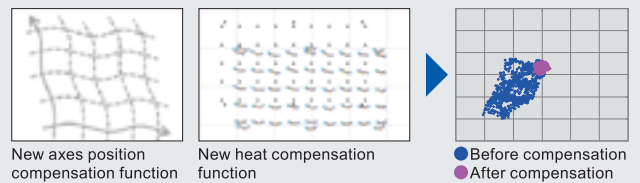
Low-impact mounting

Relative height of the mounting surface and component bottom controlled by measuring PCB height to control mounting height, which minimizes impact on micro components together with a low static-loaded nozzle.



Steady pick-up and mounting

Multiple Accuracy Compensation System "MACS" realises stable pick-up and mounting by recognizing correction marks in the machine during production.



FEATURE 4 High-efficiency production with various features

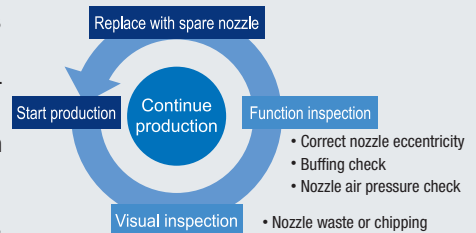
Non-stop tray feeder eATS30

High-capacity tray feeder that can store up to 30 pallets. Provides a non-stop supply of tray components, achieving non-stop production. The lineup also includes a 10-stage tray component feeder "cATS10R", with excellent space savings and cost performance.



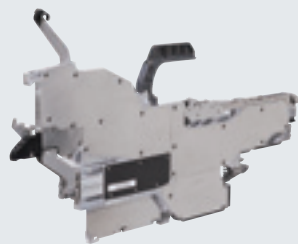
Nozzle and feeder maintenance warnings

Self-diagnosis and self-recovery functions continuously maintain nozzles and feeders in a clean state for continuous high-quality production.



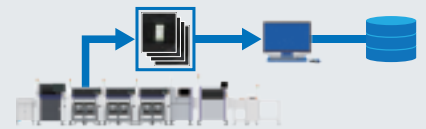
Auto-loading feeder

A simple task of cutting and inserting a tape reduces the load in the component supply work. Setting two reels makes it possible to level off the component supply timing, minimizing the risk of line stoppage due to failure of component supply.



Vision system further enhancing component mounting quality

The side-view camera improves quality for mounting of tiny components. Coplanarity checker can also be installed as an option. All ImageTracer (option) saves every component recognition image, providing strong support for analysis of the mounting quality.



FEATURE 5 Enhanced PCB transfer capacity

Stopper-less enhances odd-shaped PCB clamp

without changing stopper position. No damage to the PCB and changing conveyor direction on site is available.

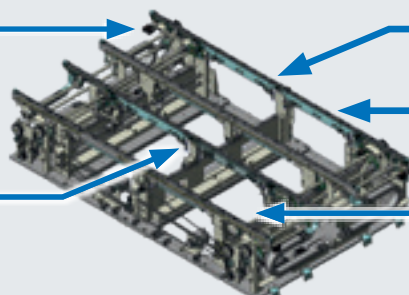
Transfer capability
Weight: 3 kg (1 board)
Thickness 0.4–4.0 mm

Stopper-less
Improves odd-shaped PCBs. No damage to the PCBs.

PCB edge 3 mm
Minimizes clamping area.

PU-linked type clamp
Reduces transfer time with PU and clamping done simultaneously.

ESD compliant
Compliant with ESD standards. Anti-static belts are used.



Specifications	YRM20DL	Super-high-speed rotary RM head	High-speed general-purpose inline HM head	Odd-shaped components inline FM (flexible-multi) head
Nozzles (per 1-head unit)	18	10	5	
Applicable components	0201 mm to W 12 x L 12 mm, Height 6.5 mm or less	0201 mm to W 55 x L 100 mm, Height 15 mm or less	03015 mm to W 55 x L 100 mm, Height 30 mm or less	
Mounting capability (under optimum conditions)	120,000 cph*	100,000 cph*	35,000 cph	
Mounting accuracy (under optimum conditions)	±0.015 mm Cpk ≥ 1.0**		±0.035 mm Cpk ≥ 1.0	
Number of component types	Feeder carriage exchange: Max. 128 types = 32 feeders x 4 (conversion for 8 mm tape feeder) Fixed plate: Max. 128 types (conversion for 8 mm tape feeder) Trays: 60 types (maximum when equipped with eATS30 x 2)			
PCB dimensions	Single use: L 50 x W 50 mm to L 810 x W 610 mm Dual use: L 50 x W 50 mm to L 810 x W 330 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			
External dimension (excluding projections)	L 1,374 x W 2,102 x H 1,445 mm			
Weight	Approx. 2,550 kg (main unit only)			

*High-production mode ** High-accuracy mode

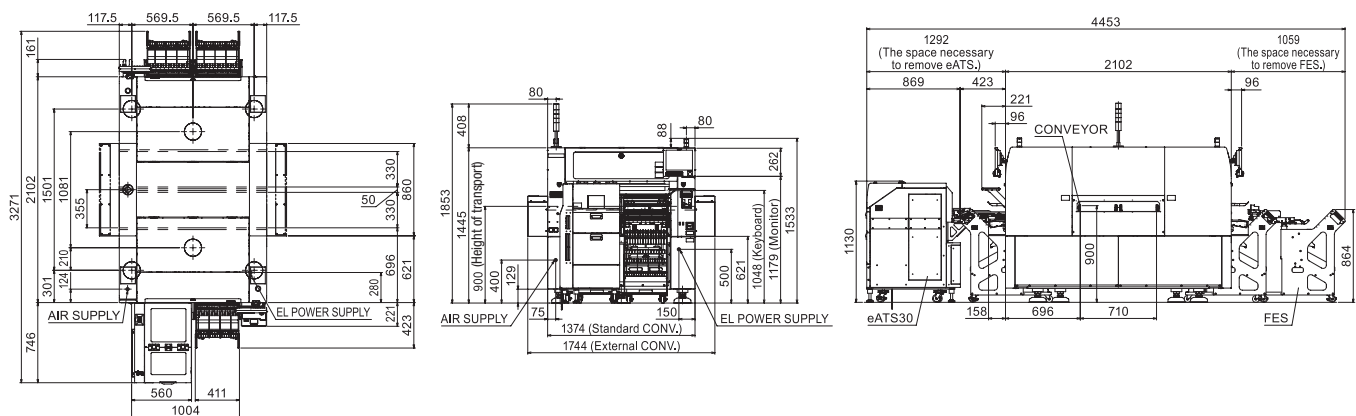
SEMI SMT-ELS Capable

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

Advanced Safety Package

- Independently controlled front-and-rear signal tower
- Automatic Push-up Pin Exchange System
- Overflow prevention sensor for chip dump box
- Supports safety category 3 and other safety items

YRM20DL external dimension (with eATS30)



Yamaha Motor Europe N.V.
Niederlassung Deutschland, Geschäftsbereich Robotik
German Branch Office, Robotics Business
Hansemanstrasse 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, Guanguang 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 Srissa 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.