

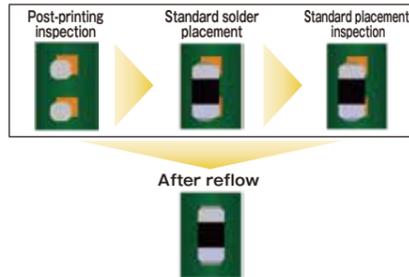


### Quality improvement

#### APC system

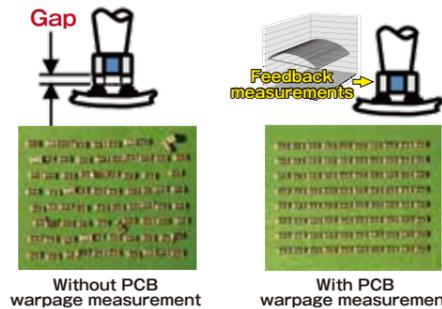
##### Feedforward to placement heads

- Feed forward the offset values calculated from solder position
- Chip components(0402C/R ~)
- Package component (QFP, BGA, CSP)



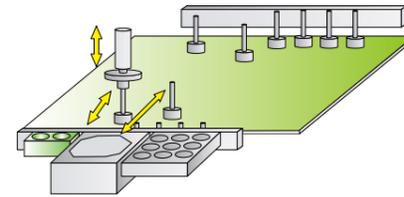
#### Placement height control

Improves mounting quality by controlling the mounting height based on PCB warpage data and individual part thickness.



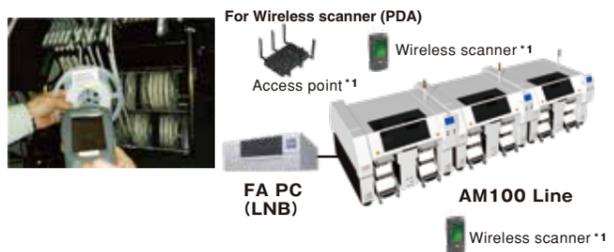
#### Automatic support pin replacement

Support pins are replaced automatically to reduce labor and operator errors during changeover.



#### Component Verification option

Prevents setup errors during changeover Provides an increase of production efficiency through easy operation

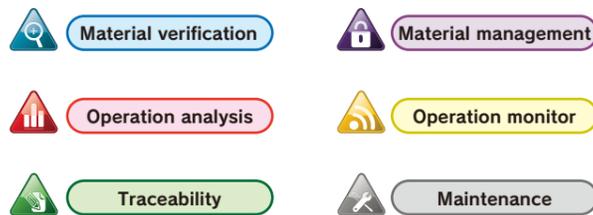


- Component setup error prevention  
Prevents setup errors through verifying the AM100 downloaded production data and component barcode data
- Array data activesync function  
There's no need to select array data; data is verified with the AM100
- Interlock function  
Equipment stops when it has an incorrect and/or incomplete verification
- Navigation function  
Clearly provide a verification task with data display and Intelligent feeder performance in sync
- Scanner selection  
Users can choose either a wired or wireless scanner (PDA)

\*1:Please prepare a wireless scanner and related accessories by yourself

#### LCM factory management system (PanaCIM)

Helps improve the entire factory's productivity and quality by supporting/directing operators and contributing to better management of the factory.



#### Automation reduces labor and helps improve quality

Automation reduces labor and helps improve quality



Feeder maintenance unit Automatic tape splicing unit

### Safety Cautions

- Please read the User's Manual carefully to familiarize yourself with safe and effective usage procedures.
- To ensure safety when using this equipment all work should be performed according to that as stated in the supplied Operating Instructions. Read your operating instruction manual thoroughly.

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<http://www.panasonic.com/global/corporate/sustainability.html>

**ISO 14001** Panasonic Group builds Environmental Management System in the factories of the world and acquires the International Environmental Standard ISO 14001.

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All data as of January 1, 2018

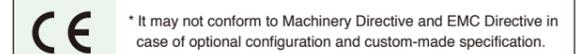
Ver. January 1, 2018

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### Modular Placement Machine

•Mixing a wide variety of machine layouts and a wide range of options to offer you an optimum line suitable for all types of production



Model ID	AM100
Model No.	NM-EJM4D
PCB dimensions	L 50 mm × W 50 mm to L 510 mm × W 460 mm
Placement speed	35 800 cph (0.1006 s/chip), 12 200 cph (0.295 s/QFP) <sup>①</sup> 12 mm or less
Placement accuracy(Cpk≥1)	±40 μm/chip ±50 μm/QFP <sup>①</sup> 12 mm or less ±30 μm/QFP <sup>①</sup> 12 mm over to <sup>②</sup> 32 mm or less
Component supply	Tape : 4 ~ 56 / 72 / 88 / 104 mm Tape feeder specification: Max. 160 Tray feeder specification: Max. 120 * <sup>1</sup> (Tape : 4 / 8 mm tape (small reel))
	Stick Tape feeder specification: Max. 40 Tray feeder specification: Max. 30 * <sup>1</sup> (Single stick feeder)
	Tray Tray feeder specification: Max. 20 * <sup>1</sup> Manually setting tray specification: Max. 20 * <sup>2</sup> (Option for the fixed feeder base)
Component dimensions	0402 chip * <sup>3</sup> to L 120 mm × W 90 or L 150 mm × W 25 mm (T=28 * <sup>4</sup> )
PCB exchange time	4.0 s (where there is no placement component on the rear side)
Electric source	3-phase AC 200 / 220 V ±10 V, AC 380 / 400 / 420 / 480 V ±20 V 2.0 kVA
Pneumatic source	Min.0.5 MPa to Max.0.8 MPa, 200 L /min (A.N.R.)
Dimensions	W 1 970 mm × D 2 019 mm * <sup>4</sup> × H 1 500 mm * <sup>6</sup>
Mass	2 650 kg * <sup>7</sup>

<sup>①</sup>Values such as maximum speed and placement accuracy may vary depending on operating conditions. \*Please refer to the 'Specification' booklet for details.  
<sup>②</sup>1:in case of Single tray <sup>②</sup>2:When installed on both sides of the rear fixed feeder base.  
<sup>③</sup>3:The 0402 chip requires a specific nozzle/feeder. 0402 mounting compatibility is optional.  
<sup>④</sup>4:For components with a height of 25 mm or more, a dedicated nozzle is required.  
<sup>⑤</sup>5:The D measurement indicates the size of the machine with the fixed feeder bases in the front and rear.  
<sup>⑥</sup>6:For front and rear feeder cart specifications,D measures 2282 mm and, with the tray feeder connected (front side: fixed feeder base), 2105 mm.  
<sup>⑦</sup>7:The signal tower and touch panel are not included. \*7:The machine body plus 4 fixed feeder bases (varies depending on the machine layout).

# Any-Mix Any-Volume Solution

**Concept** ... One-machine solution for the pursuit of net productivity and high versatility

Equipped with 14 nozzle head that balances productivity and versatility.  
-Placing components (up to 14 mm) \*1 in the maximum speed.\*2

Components ranges from 0402 to 120 x 90(mm) or 150 x 25(mm)

\*1: for □14 mm-square size components  
C0.5mm minimum



\*2: The optimal tact time may not achieved due to the weight of component or the surface material of component.

"No supply unit" is selectable for the rear side.

(For details, please contact with our sales representative.)

\*3: The measurements indicate the size of the machine with the feeder carts in front and rear

Improved operability  
Loading of Autoload feeder



Program creation using the data creation system (NPM-DGS)  
Panaset data conversion tool is installed in NPM-DGS as standard

Feeders are compatible with CM / NPM

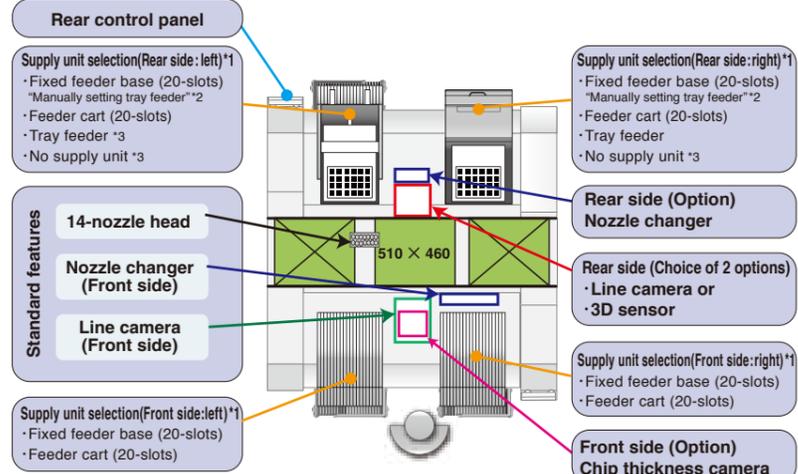


Feeder supply unit \*4 Max. 160

(For the double tape feeder: Max.80)  
\*4: Select either the fixed feeder base or feeder cart



## Machine layout



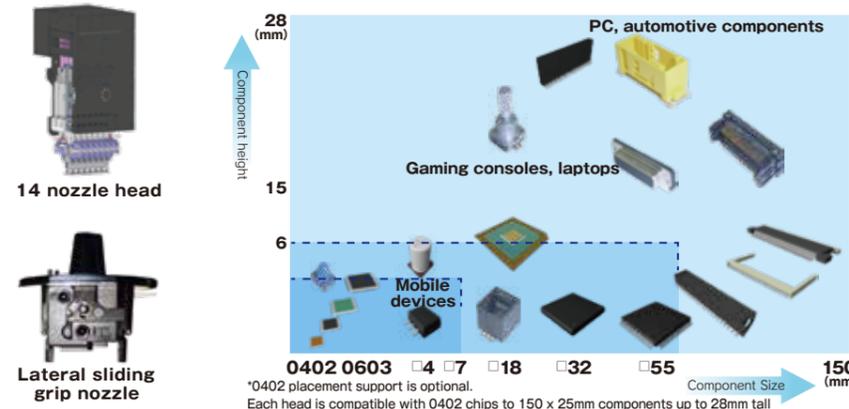
\*1: When you select supply units for a machine, the fixed feeder base cannot be mixed with the feeder cart in the machine.  
\*2: The Manually setting tray is only installable on the rear fixed feeder base (one on each side).  
\*3: Please consult our sales representative.  
\*The above illustration is an example of machine layout.

## Wide range of options

- Fixed feeder base options
  - ① Manually setting tray
  - ② Reel box
  - ③ Cutting unit & reel holder
- Grip nozzle
- Rear side nozzle changer
- Rear side operation panel
- Automatic replacement of support pins
- Chip thickness camera (front side only)
- Rear side camera (line camera or 3D sensor)
- Support station
- Height sensor (measuring PCB warpage)
- Automatic changeover
- Component verification
- Upper communication
- PanaCIM ready

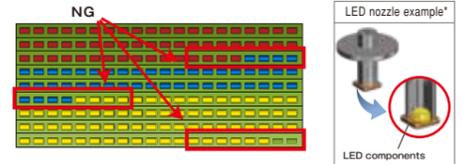


## Multi-functionality



## LED Placement

### Brightness Binning



Avoid mixing of brightness and minimizes component and block disposal.  
Monitors remaining component count to avoid component exhaust during operation.

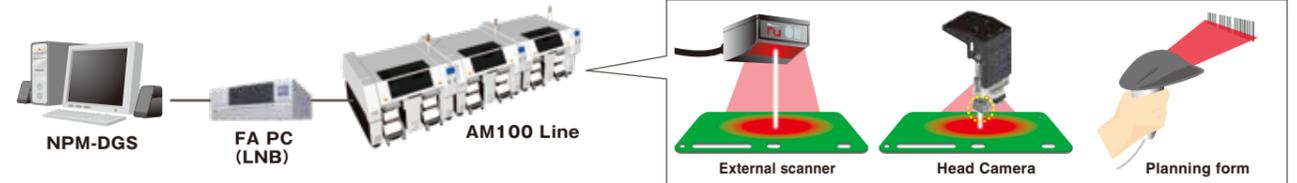
\*Please ask us for nozzles that support LED components of various shapes

## High productivity

### High productivity/Automatic changeover option

Supporting changeover (production data and rail width adjustment) can minimize time loss

● PCB ID read-in type  
PCB ID read-in function is selectable from among 3 types of external scanner, head camera or planning form



### Off-line setup support station

With the support stations, offline feeder cart setup is possible even outside of the manufacturing floor.

● Two types of Support Stations are available.

① Power Supply Station:  
Batch Exchange Cart Setup – Provides power to all feeders in cart. Feeder Setup – provides power to individual feeders.



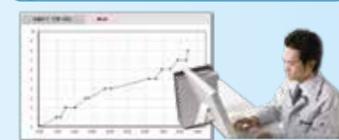
② Component Verification Station:  
Additional to the power supply station, Component Verification feature is added to this model. The station will navigate you to the location where feeders need exchange.



### Feeder setup navigator option

It is a support tool to navigate efficient setup procedure. The tool factors in the amount of time it takes to perform and complete setup operations when estimating the time required for production and providing the operator with setup instructions. This will visualize and streamline setup operations during setup for a production line.

#### ① Gross Production Time Estimate



Production completion time is estimated based on setup time and available human resource

#### ② Feeder preparation process instructions



Instructs cart/machine preparation process in three steps: load, remove, and relocate

#### ③ Instruction Display on Tablet Device



Instructions can be checked from anywhere

### Operating rate improvement/Parts supply navigator option

A component supply support tool that navigates efficient component supply priorities. It considers the time left until component run-out and efficient path of operator movement to send component supply instructions to each operator. This achieves more efficient component supply.

#### ① Wireless scanner indication of supply priorities



Considers the time left until component run-out and efficient path of operator movement to send supply priority instructions.

#### ② Visualization of supply statuses



Visualizes supply instructions sent to each operator on the main troubleshooting console.

#### ③ Cut down of redundant work and waiting times



Components are supplied per operator to prevent any overlaps.

\*PanaCIM is required to have operators in charge of supplying components to multiple production lines.