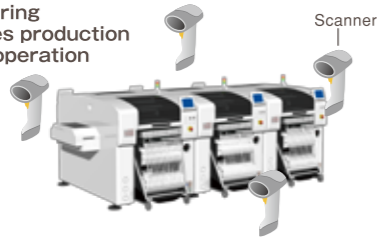## High-quality mounting

Prevents setup errors during changeover and increases production efficiency through easy operation

Scanner

Component verification option

● Component setup error prevention
Prevents setup errors through verifying the NPM-W downloaded production data and component barcode data
● Array data activesync function
There's no need to select array data; data is verified with the NPM-W
● 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)

High productivity

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

NPM-DGS

NPM-W Line

## Automatic changeover option

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

External scanner *Under development

Head Camera

Planning form *Under development
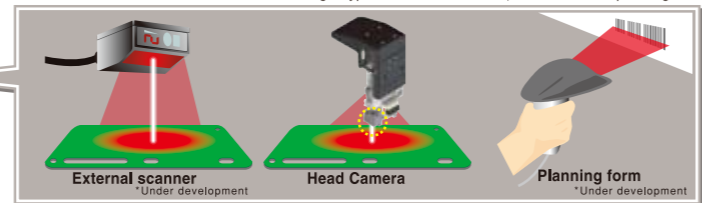
Data Creation System

Software packages unify data creation, edit, simulation and library of both CM and NPM lines.

NPM-DGS

PT200 PC*1

PC*1

CM Line

NPM-W Line

*1:A computer must be purchased separately.

NPM-DGS (Model No.NM-EJS9A)
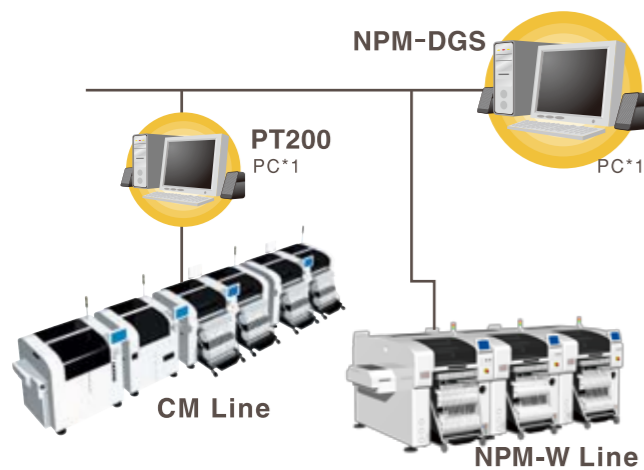
Multi-CAD import
Almost all CAD data can be retrieved by macro definition registration, Properties, such as polarity, also can be confirmed on screen in advance.

Simulation
Tact simulation can be confirmed on screen in advance so that line total operation ratio can increase.
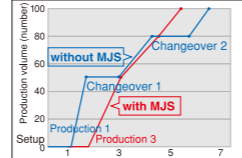
PPD/LWS Editor
Time loss can be minimized by compiling production data quickly and easily on the PC display during operation.

Component library
A component library of all placement machines including the CM series on floor can be registered to unify data management.

Mix Job Setter(MJS)
without MJS
Changeover 2
Changeover 1
with MJS
Setup
Production 1
Production 3
Production time (hour)
Production volume (number)

Production data optimization allows the NPM to commonly arrange feeders. Feeder replacement time reduction for changeover can improve productivity.

Off-line component data creation option
With creating off-line component data using a store-bought scanner, productivity and quality can be improved.

Off-line camera unit (option) *Under development

Minimizes time on machine for parts library programming and assists equipment availability and quality.

Parts library data is generated using the NPM-W line camera.
Illumination conditions and recognition speed, not complete by a scanner, can be checked offline in advance assuring quality enhancements and equipment availability.
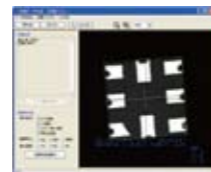
Recognition test / Evaluation screen

Off-line camera 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.

eco ideas Panasonic Group products are built with the environment in mind. http://panasonic.net/eco/

ISO 14001 Panasonic Group builds Environmental Management System in the factories of the world and acquires the International Environmental Standard ISO 14001:2004.

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ideas for life

Electronics Assembly System
catalog
PRODUCTION MODULAR

NPM
NEXT PRODUCTION MODULAR

Manufacturing Process Innovation

NPM-W
Model No.NM-EJM2D

CE

*It may not conform to Machinery Directive and EMC Directive in case of optional configuration and custom-made specification.

Model ID		NPM-W					
PCB dimensions	Batch mounting	L 50 mm × W 50 mm ~ L 750 mm × W 550 mm		PCB exchange time	Batch mounting	4.4 s (With no component mounted on the reverse side of PCB)	
	2-positin mounting	L 50 mm × W 50 mm ~ L 350 mm × W 550 mm			2-positin mounting	2.3 s (With no component mounted on the reverse side of PCB)	
Electric source		3-phase AC 200, 220, 380, 400, 420, 480 V 2.5 kVA					
Pneumatic source*1		0.5 MPa, 200 L /min (A.N.R.)					
Dimensions*1		W 1 280 mm*2 × D 2 332 mm*3 × H 1 444 mm*4					
Mass		2 250 kg (Only for main body:This differs depending on the option configuration.)					
Placement head		16-nozzle head (With Dual Heads)	12-nozzle head (With Dual Heads)	8-nozzle head (With Dual Heads)		3-nozzle head*6 (With Dual Heads)	
Placement speed		70 000cph (0.051 s/ chip)	62 500cph (0.058 s/ chip)	40 000cph (0.090 s/ chip)		11 000cph (0.33 s/ QFP)	
Placement accuracy(Cpk≧1)		±40 μm / chip	±40 μm / chip	±40 μm/ chip ±30 μm/QFP □12 mm ~ □32 mm ±50 μm/QFP □12 mm Under		±30 μm /QFP	
Component dimensions (mm)		(01005") 0402 chip*5 to L 6 × W 6 × T 3	(01005") 0402 chip*5 to L 12 × W 12 × T 6.5	(01005") 0402 chip*5 to L 32 × W 32 × T 12		(0201") 0603 chip to L 150 × W 25 (diagonal 152) × T 28	
Component supply	Taping	Tape : 8 / 12 / 16 / 24 / 32 / 44 / 56 mm Max.120 (8 mm tape : double feeder, (small real))		Tape : 8 to 56 / 72 mm	Tape : 8 to 56 / 72 / 88 / 104 mm Front/rear feeder cart specifications : Max.120 (Tape width and feeder are subject to the conditions on the left) Single tray specifications : Max.86 (Tape width and feeder are subject to the conditions on the left) Twin tray specifications : Max.60 (Tape width and feeder are subject to the conditions on the left)		
	Stick	———			Front/rear feeder cart specifications : Max.14 Single tray specifications : Max.10 Twin tray specifications : Max.7		
	Tray	———			Single tray specifications : Max.20 Twin tray specifications : Max.40		

*Placement tact time,inspection time and accuracy values may differ slightly depending on conditions
*Please refer to the specification booklet for details.

*1 : Only for main body
*2 : 1 880 m in width if extension conveyors (300 m) are placed its front/rear.
*3 : Dimension D including tray feeder : 2 570 mm
  Dimension D including feeder cart : 2 465 mm
*4 : Excluding monitor and signal tower

*5 : The 0402 chip requires a specific nozzle/feeder.
*6 : 3-nozzle head is only available to NPM-W and cannot be installed to NPM-D.

1 For larger boards and larger components

PCBs up to a size of 750 × 550 ㎜ with component range up to 150 × 25 ㎜

2 3 patterns for component supply

With numerous combinations of placement heads and supply methods, coping to issues seen in HMHV manufacturing.

3 Options for LED Assembly

Brightness uniformity, needed in LED assembly is provided without sacrifice to speed.

Placement heads

- 3-nozzle head
- 8-nozzle head
- 12-nozzle head
- 16-nozzle head

System software

- ● NPM-DGS　Data Generation System
- ● Component verification system
- ● Automatic changeover　(option)
- ● Host communication　(option)

Supply units

- Feeder cart (30 inputs)
- Single Tray feeder (20 Component types)
- Twin Tray feeder (40 Component types)

Machine Configuration

| R : 30 Input Feeders | R : Single-Tray 13 fixed bank feeders | R : Twin-Tray |
| F : 30 Input Feeders | F : 30 Input Feeders | F : 30 Input Feeders |

<Line example (NPM-W × 3)>

16　8　3
16　16　8

- ・Feeders : **163 Inputs**
  (326 Inputs when 8mm Double Feeder（S）used)
- ・Tray : **20 Part Numbers**
- ・Line Throughput : **150,500 cph**
- ・Line Length : **4,440 ㎜**

*8 & 3 Nozzles head compatible with tray feeding

Multi-functionality

Large Board

750 × 550 ㎜

Large Board up to 750 × 550 ㎜ can be handled

L = 350 ㎜　L = 350 ㎜

2 × of PCBs W / 350 ㎜ (L) can be clamped 2.3sec transfer of PCBs minimizing transfer loss time.

Large Components

Compatible to component sizes up to 150 × 25 ㎜

0603
～120×90 ㎜
～150×25 ㎜
(Opposing Corners152 ㎜)

Multi-FunctionalHead (3 Nozzle Head)

3 Nozzle Head — Connector — Flip chip
Force Control : 0.5N～50N

Component height (mm): 28, 12, 6.5, 3

8 Nozzle Head
12 Nozzle Head
16 Nozzle Head

Transistor Diode, ALC, QFP, MTCP, CSP, BGA-T, SOP, Connector, HIC

Component Size (mm): 0, 6, 12, 32, 120×90, 150×25

Transfer Unit

Multi-functional transfer unit

Single Tray Feeder Configuration

Handle PoP components (Tape, Tray) by installing the multi-functional transfer unit at the 13 input fixed feeder bank in the rear of the machine.

*Transfer unit (using 8 input slots) is compatible only with the 8 & 3 nozzle heads.

Changeover & Productivity

Feeder location free

Feeders for Next Product

Within same table, feeders can be set anywhere. Alternate allocation as well as setting of new feeders for next product can be done while the machine is in operation.

*Feeders will require off-line data input.

Twin Tray Feeder

Up to 40 Part Numbers of Trays can be set. By using L & R independently, changeover during operation is possible.

*Tray feeders are compatible with 8 & 3 nozzle heads only.

Enhance Existing Lines

Feeders and Nozzles are compatible with NPM-D and the CM Series.

①High speed microchip placement with the 16 Nozzle Head.

16 — NPM-W　CM402　DT
16

②High speed placement of large components with the 3 nozzle head.

CM402　DT　NPM-W — 3
3

LED Placement

Brightness Binning

NG

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

Global Bad Mark

Global Bad Mark

Recognition of global bad mark enables/disables individual bad mark recognition. If yes, individual bad mark recognition is performed.

PCB Buffer

750 ㎜

By attaching an extension conveyor, buffering of PCBs up to 750mm in size can be buffered in between machines minimizing board transfer time.