

Model ID		NPM-W2													
Front head		Rear head		Lightweight 16-nozzle head		12-nozzle head		Lightweight 8-nozzle head		3-nozzle head V2		Dispensing head		No head	
Lightweight 16-nozzle head		12-nozzle head		NM-EJM7D								NM-EJM7D-MD		NM-EJM7D	
Lightweight 8-nozzle head		3-nozzle head V2		NM-EJM7D-MD										NM-EJM7D-D	
Dispensing head		NM-EJM7D-MA										NM-EJM7D-A			
Inspection head		NM-EJM7D								NM-EJM7D-D					
No head															
PCB dimensions	Single-lane *1	Batch mounting	L 50 mm × W 50 mm ~ L 750 mm × W 550 mm				2-positin mounting	L 50 mm × W 50 mm ~ L 350 mm × W 550 mm							
	Dual-lane *1	Dual transfer (Batch)	L 50 mm × W 50 mm ~ L 750 mm × W 260 mm				Dual transfer (2-positin)	L 50 mm × W 50 mm ~ L 350 mm × W 260 mm							
		Single transfer (Batch)	L 50 mm × W 50 mm ~ L 750 mm × W 510 mm				Single transfer (2-positin)	L 50 mm × W 50 mm ~ L 350 mm × W 510 mm							
Electric source		3-phase AC 200, 220, 380, 400, 420, 480 V 2.8 kVA													
Pneumatic source*2		0.5 MPa、200 L /min (A.N.R.)													
Dimensions*2		W 1 280 mm*3 × D 2 332 mm*4 × H 1 444 mm *5													
Mass		2 470 kg (Only for main body:This differs depending on the option configuration.)													
Placement head		Lightweight 16-nozzle head (Per head)				12-nozzle head (Per head)				Lightweight 8-nozzle head (Per head)				3-nozzle head V2 (Per head)	
		High production mode[ON]		High production mode[OFF]		High production mode[ON]		High production mode[OFF]							
Max. speed		38 500cph(0.094 s/ chip)		35 000cph(0.103 s/ chip)		32 250cph(0.112 s/ chip)		31 250cph(0.115 s/ chip)		20 800cph(0.173 s/ chip)		8 320cph(0.433 s/ chip) 6 500cph(0.554 s/ QFP)			
Placement accuracy (Cpk≥1)		±40 μm / chip		±30 μm / chip (±25 μm / chip*6)		±40 μm / chip		±30 μm / chip		±30 μm/ chip ±30 μm/QFP □12 mm ~ □32 mm ±50 μm/QFP □12 mm Under		±30 μm /QFP			
Component dimensions (mm)		0402*7 chip ~ L 6 × W 6 × T 3		03015*7*8/0402*7 chip ~ L 6 × W 6 × T 3		0402*7 chip ~ L 12 × W 12 × T 6.5				0402*7 chip ~ L 32 × W 32 × T 12		0603 chip to L 150 × W 25 (diagonal 152) × T 30			
Component supply	Taping	Tape : 4 / 8 / 12 / 16 / 24 / 32 / 44 / 56 mm								Tape : 4 to 56 mm		Tape : 4 to 56 / 72 / 88 / 104 mm			
		Max.120(Tape: 4, 8 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.30 (Single stick feeder) Single tray specifications : Max.21 (Single stick feeder) Twin tray specifications : Max.15 (Single stick feeder)					
	Tray									Single tray specifications : Max.20 Twin tray specifications : Max.40					
Dispensing head		Dot dispensing								Draw dispensing					
Dispensing speed		0.16 s/dot (Condition : XY=10 mm, Z=less than 4 mm movement, No θ rotation)								4.25 s/component (Condition: 30 mm x 30 mm corner dispensing) *9					
Adhesive position accuracy(Cpk≥1)		± 75 μm/dot								± 100 μm/component					
Applicable components		1608 chip to SOP,PLCC,QFP,Connector,BGA,CSP								BGA, CSP					
Inspection head		2D inspection head(A)								2D inspection head(B)					
Resolution		18 μm								9 μm					
View size		44.4 mm × 37.2 mm								21.1 mm × 17.6 mm					
Inspection processing time	Solder Inspection*10	0.35s/ View size													
	Component Inspection*10	0.5s/ View size													
Inspection object	Solder Inspection*10	Chip component : 100 μm × 150 μm or more (0603 or more) Package component : ϕ 150 μm or more								Chip component : 80 μm × 120 μm or more (0402 or more) Package component : ϕ 120 μm or more					
	Component Inspection*10	Square chip (0603 or more), SOP, QFP (a pitch of 0.4 mm or more), CSP, BGA,Aluminum electrolysis capacitor, Volume, Trimmer, Coil, Connector*11								Square chip (0402 or more), SOP, QFP (a pitch of 0.3 mm or more), CSP, BGA,Aluminum electrolysis capacitor, Volume, Trimmer, Coil, Connector*11					
Inspection items	Solder Inspection*10	Oozing, blur, misalignment, abnormal shape, bridging													
	Component Inspection*10	Missing, shift, flipping, polarity, foreign object inspection*12													
Inspection position accuracy (Cpk≥1) *13		± 20 μm								± 10 μm					
No. of inspection	Solder Inspection*10	Max. 30 000 pcs./machine (No. of components :Max. 10 000 pcs./machine)													
	Component Inspection*10	Max. 10 000 pcs./machine													

*Placement tact time inspection time and accuracy values may differ slightly depending on conditions

*Please refer to the specification booklet for details.

*1 : Please consult us separately should you connect it to NPM-D3/D2/D. It cannot be connected to NPM-TT and NPM.

*2 : Only for main body

*3 : 1 880 mm in width if extension conveyors (300 mm) are placed on both sides.

*4 : Dimension D including tray feeder : 2 570 mm
Dimension D including feeder cart : 2 465 mm

*5 : Excluding the monitor, signal tower and ceiling fan cover.

*6 : ±25 μm placement support option. (Under conditions specified by Panasonic.)

*7 : The 03015/0402 chip requires a specific nozzle/feeder.

*8 : Support for 03015 mm chip placement is optional. (Under conditions specified by Panasonic : Placement accuracy ±30 μm / chip)

* 9 : A PCB height measurement time of 0.5s is included.

*10 : One head cannot handle solder inspection and component inspection at the same time.

*11 : Please refer to the specification booklet for details.

*12 : Foreign object is available to chip components. (Excluding 03015 mm chip)

*13 : This is the solder inspection position accuracy measured by our reference using our glass PCB for plane calibration. It may be affected by sudden change of ambient temperature.

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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All data as of January 1, 2020
Ver.January 1, 2020

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●Homepage industrial.panasonic.com/ww/fa-jisso



Panasonic

BUSINESS

2020

Electronics Assembly System

catalog

PRODUCTION MODULAR



Model Name

NPM-W2

Model No.NM-EJM7D

Model No.NM-EJM7D-MD Model No.NM-EJM7D-D

Model No.NM-EJM7D-MA Model No.NM-EJM7D-A

*Photograph is NM-EJM7D



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

1 Higher productivity and quality with printing, placement and inspection process integration
Depending on the PCB you produce, you can select High-speed mode or High-accuracy mode.

2 For larger boards and larger components
PCBs up to a size of 750 × 550 mm with component range up to L150 × W25 × T30 mm

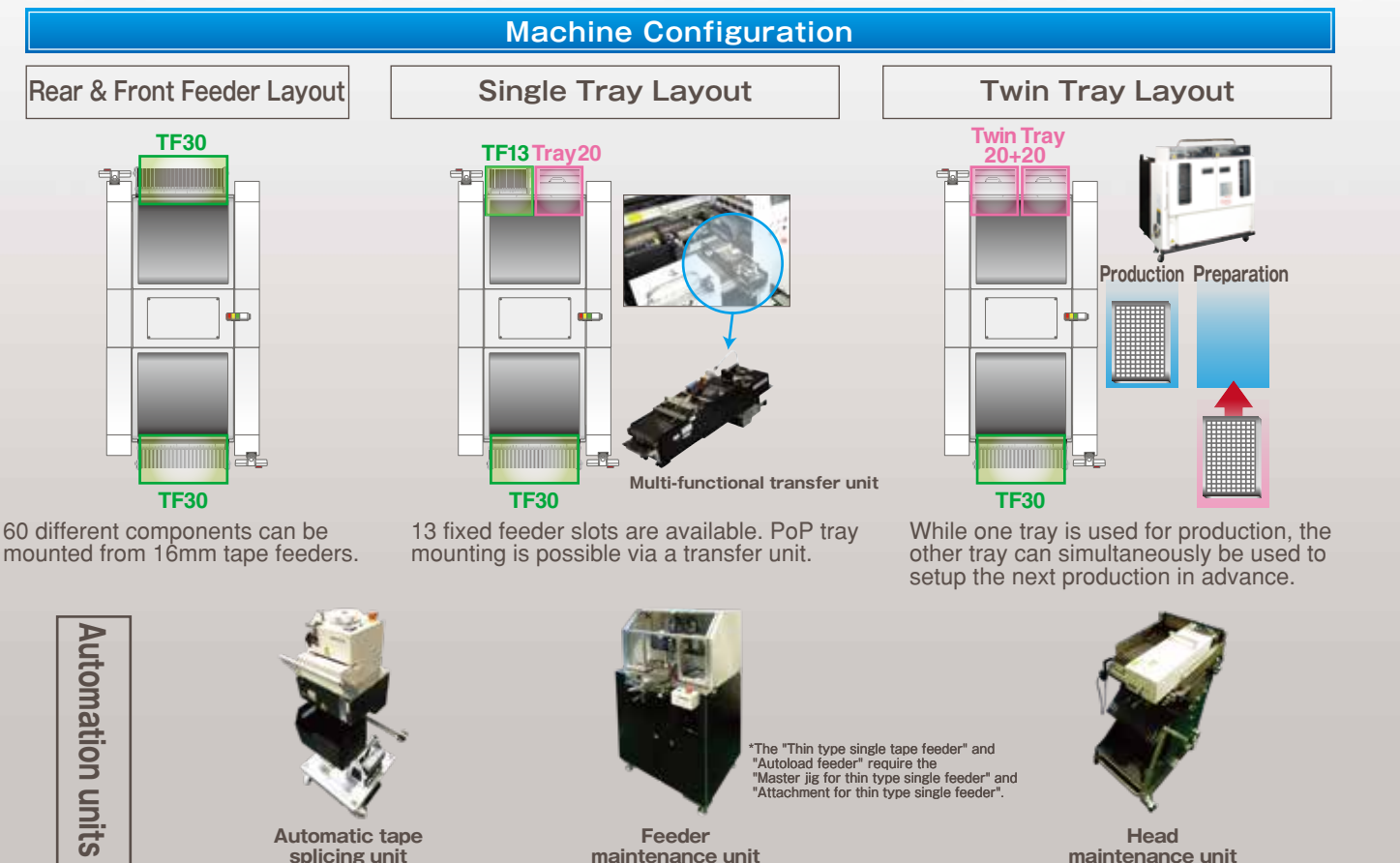
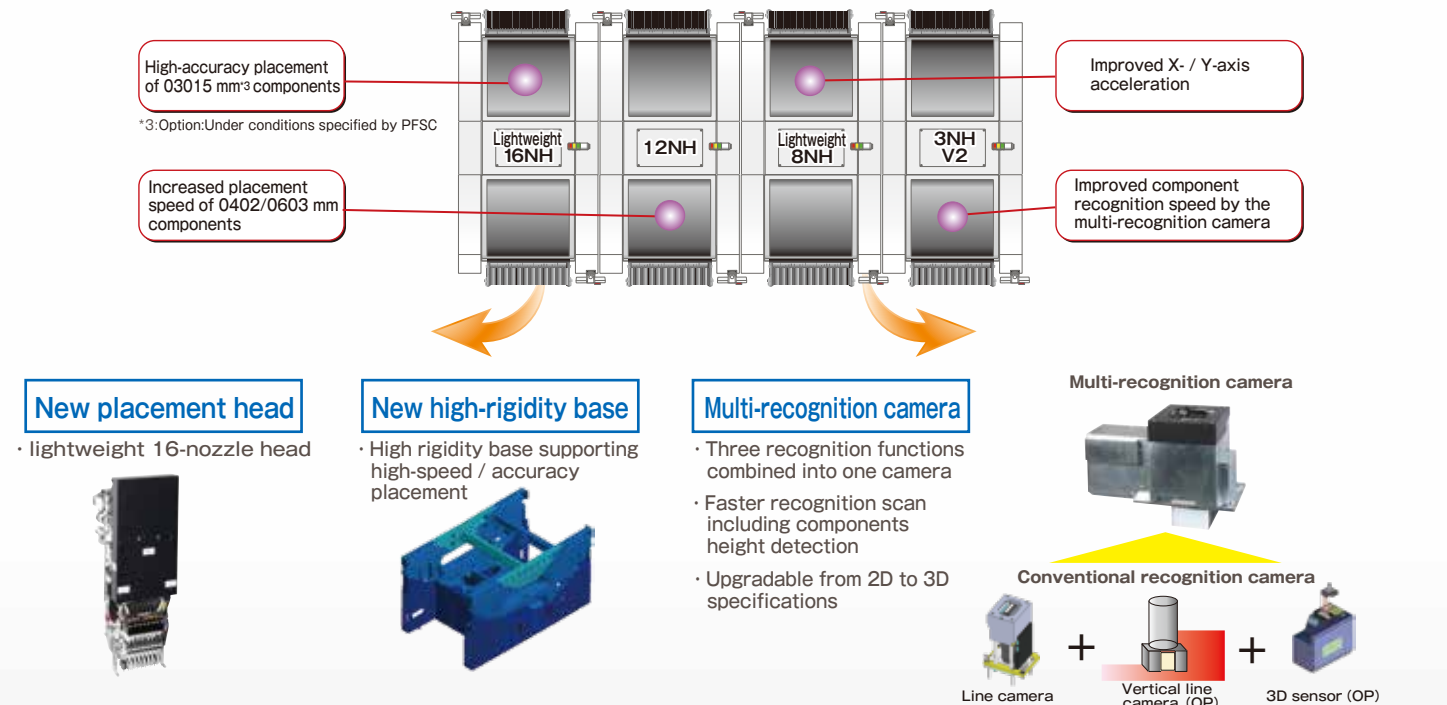
3 Higher area productivity through dual lane placement
Depending on the PCB you produce, you can select an optimal placement mode - "Independent" "Alternate" or "Hybrid"



Features Simultaneous realization of high area productivity and high-accuracy placement

◆ **High production mode** (High production mode: ON)
Max. speed: 77 000 cph^{*1} (IPC9850 (1608) : 59 200cph^{*1}) / Placement accuracy: ±40 μm

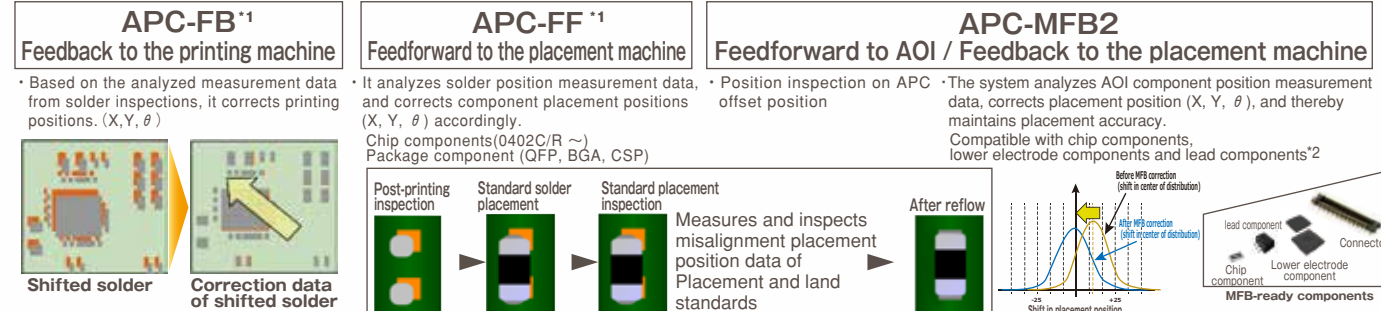
◆ **High accuracy mode** (High production mode: OFF)
Max. speed: 70 000 cph^{*1} / Placement accuracy: ±30 μm (Option : ±25 μm^{*2})
^{*1}Tact for 16NH × 2 head
^{*2}Under conditions specified by PFSC



High-quality placement

APC system

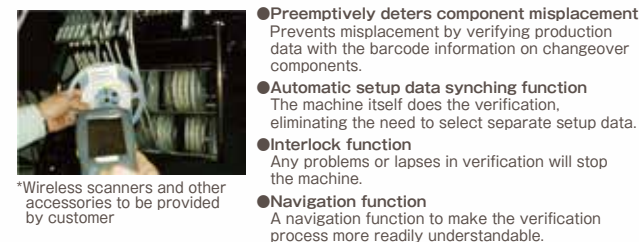
Controls variations in PCBs and components, etc. on a line basis to achieve quality production.



^{*1}APC-FB (feedback)/FF (feedforward): 3D inspection machine of another company can be also connected. (Please ask your local sales representative for details.)
^{*2}APC-MFB2 (mounter feedback2): Applicable component types vary from one AOI vendor to another. (Please ask your local sales representative for details.)

Component Verification option

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



^{*1}Wireless scanners and other accessories to be provided by customer

Off-line setup support station

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

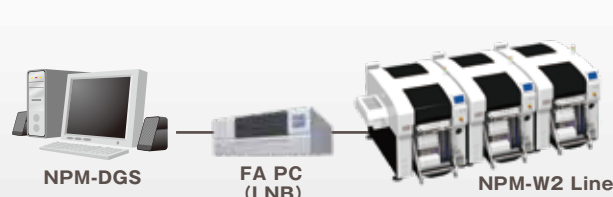
●Two types of Support Stations are available.

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

②Component 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.

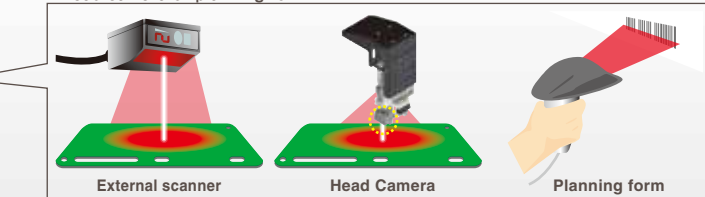
Changeover ability

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



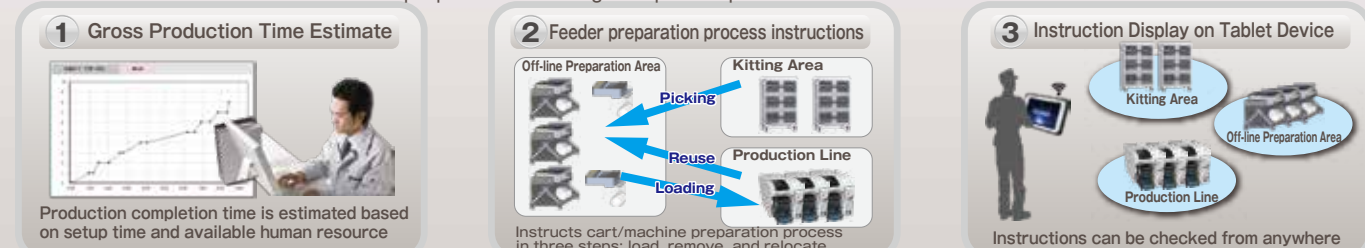
Automatic changeover option

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



Feeder setup navigator option

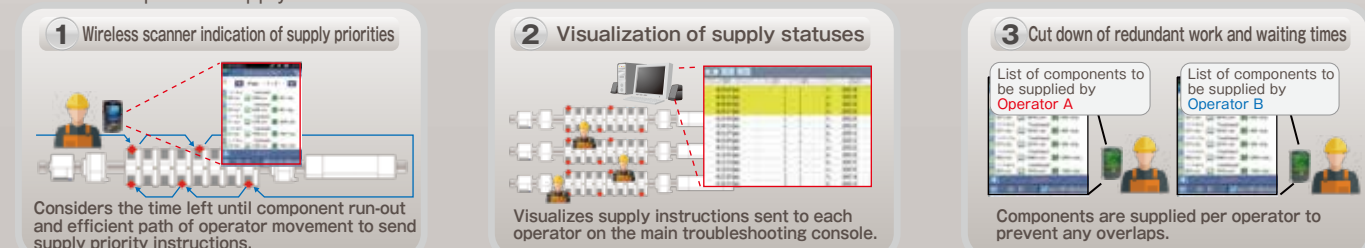
It is a support tool to navigate efficient setup procedure. The tool factors in the amount of time it takes to perform and complete setup operations when estimating the time required for production and providing the operator with setup instructions. This will visualize and streamline setup operations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



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.

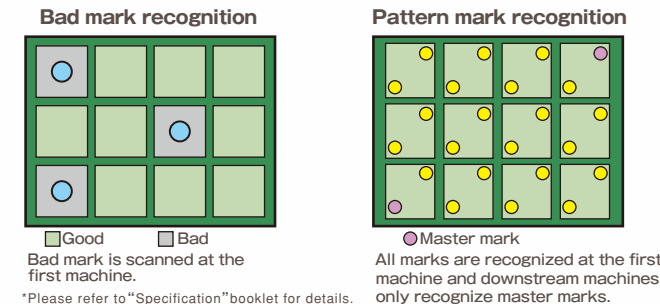


^{*}PanaCIM is required to have operators in charge of supplying components to multiple production lines.

PCB information communication function

Information of mark recognitions done on first NPM machine in line is passed on to downstream NPM machines. Which can reduce cycle time utilizing the transferred information.

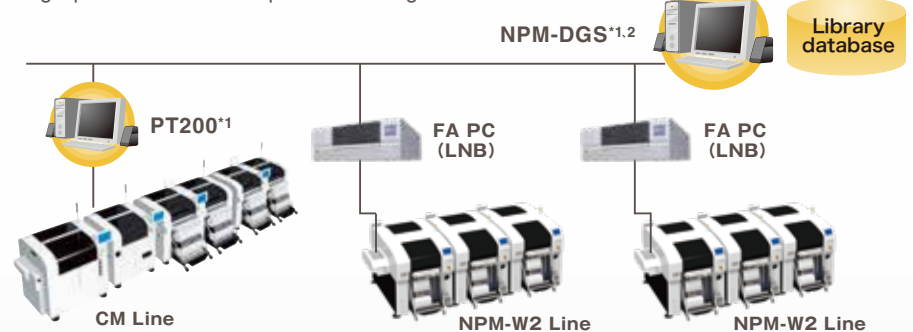
[Subject for communication]



Data Creation System

NPM-DGS (Model No.NM-EJS9A)

This is a software package that provides integrated management of component library and PCB data, as well as production data that maximizes mounting lines with high-performance and optimization algorithms.



^{*1}: A computer must be purchased separately.

^{*2}: NPM-DGS has two management functions of floor and line level.

Offline Camera(option)

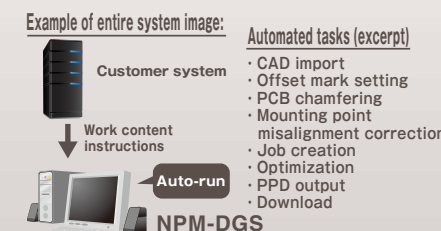
Component data can be created offline even while the machine is in operation.
Use the line camera to create component data. Lighting conditions and recognition speed can be confirmed in advance, so it contributes to the improvement of productivity and quality.



Offline Camera Unit

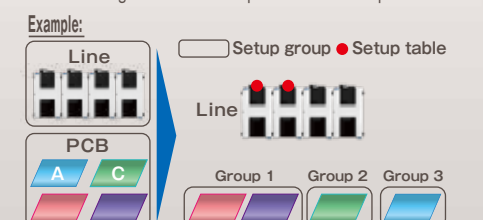
DGS Automation(option)

Automated manual routine tasks reduce operation errors and data creation time.
Manual routine tasks can be automated. By collaborating with the customer system, the routine tasks for creating data can be reduced, so it contributes to a significant reduction in production preparation time.
It also includes the function to automatically correct the coordinates and angle of the mounting point (Virtual AOI).



Optimization of setup(option)

In production involving multiple models, setup workloads are taken into account and optimized.
For more than one PCB sharing common component placement, multiple setups may be required due to a shortage of supply units. In order to reduce the required setup workloads in such a case, this option divides PCBs into similar component placement groups, selects a table(s) for setup and thus automates component placement operation. It contributes to improving setup performance and reducing production preparation time for customer manufacturing various kinds of products in small quantities.



Quality improvement

Quality information viewer

This is software designed to support a grasp of changing points and analysis of defect factors through the display of quality-related information (e.g., feeder positions used, recognition offset values and parts data) per PCB or placement point. In case of our inspection head introduced, the defect locations can be displayed in association with quality-related information



Quality information viewer^{*}

^{*}PC is required for every line.



Quality information viewer window

Example of use of quality information viewer
Identifies a feeder used for mounting of defect circuit boards. And if, for example, you have many misalignments after splicing, the defect factors can be assumed to be due to:
1) splicing errors (pitch deviation is revealed by recognition offset values)
2) changes in component shape (wrong reel lots or vendors)
So you can take quick action to the misalignment correction.