

Model ID	NPM-VF					
	Standard conveyor	Anvil conveyor (Option)				
PCB dimensions	L 50 mm × W 50 mm ~ L 510 mm × W 460 mm	L 50 mm × W 50 mm ~ L 460 mm × W 400 mm				
Max. PCB mass *1	Up to 3kg	Up to 1kg				
PCB thickness	0.3 ~ 8 mm					
PCB flow	Left ← Right / Left → Right (Flow direction is selectable)					
Insertion direction	360° (± 180°) *1 degree unit					
Insertion push force	Up to 100 N	Up to 50 N				
PCB Exchange time	4.5 s or less	8.0 s or less				
Clinch specifications	Clinch angle: 60 degrees outward clinch Clinch pitch: 2.5 to 40 mm Lead bend angle : 10 ~ 30° Lead diameter : φ 0.4 mm ~ φ 0.8 mm (soft copper) φ 0.4 mm ~ φ 0.6 mm (hard copper / CP wire)					
Applicable components	Max. dimensions : L 130 mm × W 35 mm × H 60 mm · L 150 mm × W 38 mm × H 29 mm / Max. component mass : 200g					
Electric source	3-phase AC 200, 220, 380, 400, 420, 480 V 2.7 kVA					
Pneumatic source	0.5 ~ 0.8 MPa, 200 L /min (A.N.R.)					
Dimensions	W 1 866 mm × D 2 332 mm × H 1 554 mm(Main body only) <small>Note: Excluding the monitor, signal tower and ceiling fan cover.</small> W 2 166 mm × D 2 332 mm × H 1 554 mm(When downstream extension conveyor is connected)					
Mass	2 590 kg (Only for main body: This differs depending on the option configuration)					
Head Configurations						
3-station head	Body chuck + Nozzle + Nozzle	Tact: Max. 0.8 s / component *2,3,6				
	Body chuck + Nozzle + Swing nozzle					
	Body chuck + Nozzle + Lead chuck					
	Body chuck + Swing nozzle + Lead chuck					
2-station head	Body chuck + Body chuck	Tact: Max. 1.1 s / component *2,3				
Component Supply						
Stick	S	Max. component dimension: W 20 × L 80 × H 20 mm / Max. stick width : 24 mm / Max. component mass : 2 kg in total(including stick mass)				
	L	Max. component dimension: W 60 × L 80 × H 45 mm / Max. stick width: 64 mm / Max. component mass: 2 kg in total(including stick mass)				
Radial tape	Max. body dimension: Max. φ 20 × H 30 mm / Lead pitch: 2.5 / 5.0 / 7.5 / 10.0 mm					
Tray	Max. tray dimension: L 230 × W 335 × D 69 mm / Max. pallets per feeder: 20 / Max. mass: 20 kg (magazine + pallet + tray + components)					
Bulk*4	Customized spec					
Machine Configuration		Max. number of products to be loaded	Stick S	Stick L	Radial	Tray
	Front	30-slot fixed supply unit *5	15	7	10	—
		30-slot fixed supply unit	15	7	10	—
	Rear	13-slot fixed supply unit + single tray feeder	6	3	4	20
		Twin tray feeder	—	—	—	40
		Single tray feeder + Bowl feeder × 2 *4	—	—	—	20
Bowl feeder × 4 *4	—	—	—	—		
System						
Programming and Software	NPM-DGS · AM-LNB · LNB <small>Note: Max. 3 NPM-VF can be connected to AM-LNB Up to 15 machines of the NPM series (including NPM-VF) or the SP series can be connected to LNB.</small>					
Optional functions	Component verification, Traceability, Automatic changeover, Host communication					

SMT components *7							
Applicable components	Min. dimensions: L 5 mm × W 5 mm or larger (For tape, embossed tape of 12 mm or larger)						
Placement specs	Head: Nozzle only Placement accuracy: GFP ±0.05 mm (Cpk ≥ 1) Max. tact time: 3000 cph (per head)						
Supply unit(embossed tape)	Tape feeder width	12/16 mm	24/32 mm	44/56 mm	72 mm	88 mm	104 mm
	30-slot supply unit	30	15	10	7	6	5
	13-slot supply unit	13	6	4	3	2	2

\*Placement tact time may differ slightly depending on conditions.  
\*Please refer to the specification booklet for details.  
\*1: PCB mass after insertion (including carrier mass)  
\*2: Except when anvil is attached  
\*3: During 2-head operation (configured similar to 2-beam specs) under optimum conditions  
\*4: Custom specs--Connection via the host feeder  
\*5: For front side configuration, select between 30 stations fixed supply unit (Std.) or feeder cart (Option)  
\*6: For Body chuck + Nozzle + Nozzle  
\*7: Standard conveyor specs

### ⚠ 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, 2018

Ver. January 1, 2018

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# Panasonic

## BUSINESS

2018  
**Electronics Assembly System**  
**catalog**

Odd-form Component Insertion Machine



# NPM

NEXT PRODUCTION MODULAR

## Manufacturing Process Innovation



Model Name **NPM-VF**

Model No. NM-EJR9A



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

# NPM-VF Innovating PCB assembly components insertion

# process via automation of odd-form

## Features and aims of NPM-VF

- 1** Automation of odd-form components insertion process. In addition, SMT specifications\* are also supported.  
\*supports both SMT placement + odd-form insertion (developing)
- 2** Versatile and flexible: various configuration of head tools and machine feeder configuration to adapt to different types of components
- 3** Contribute to manpower reduction and stable production with high productivity, flexibility, high quality insertion

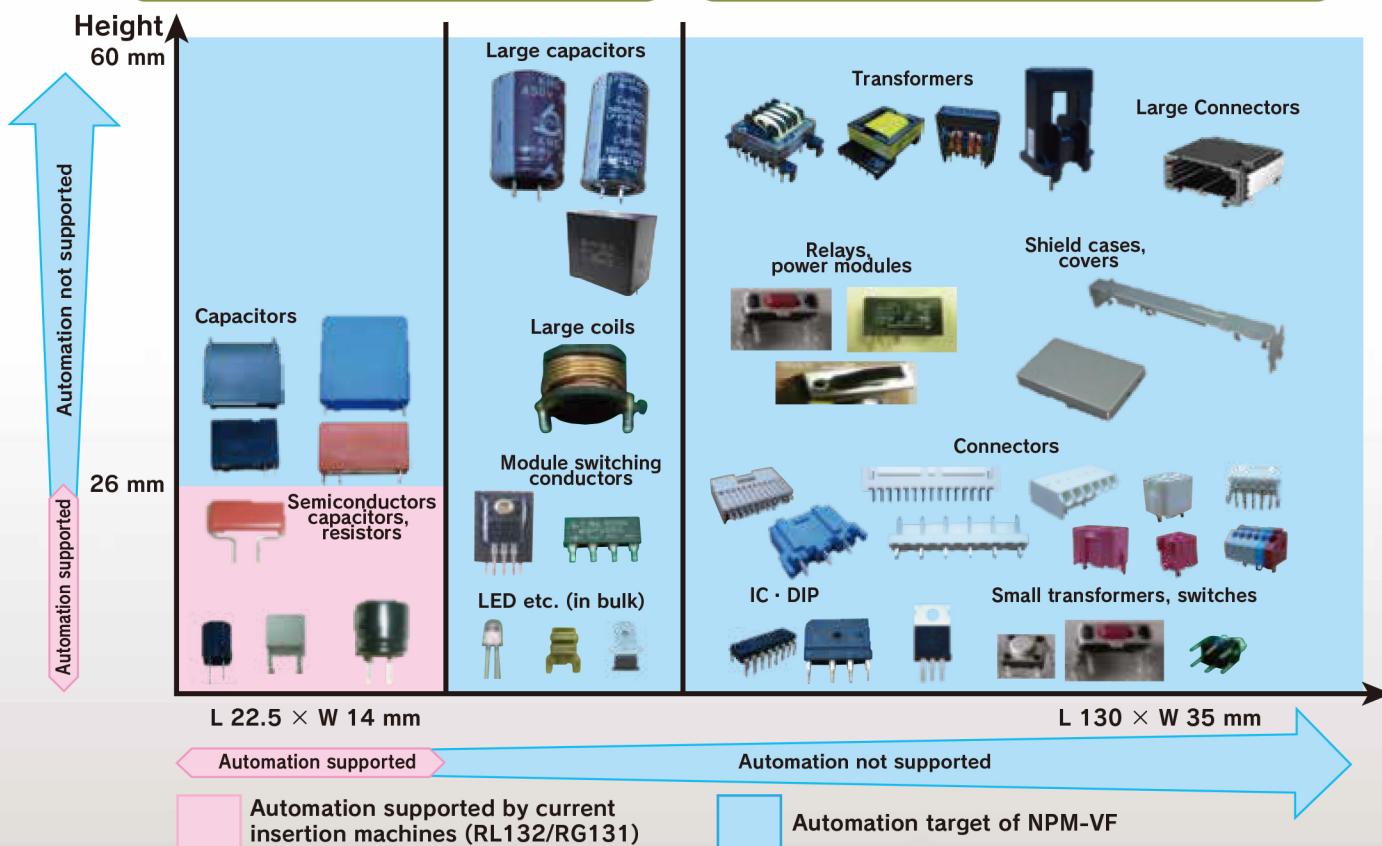
## Applicable Components

### Tape

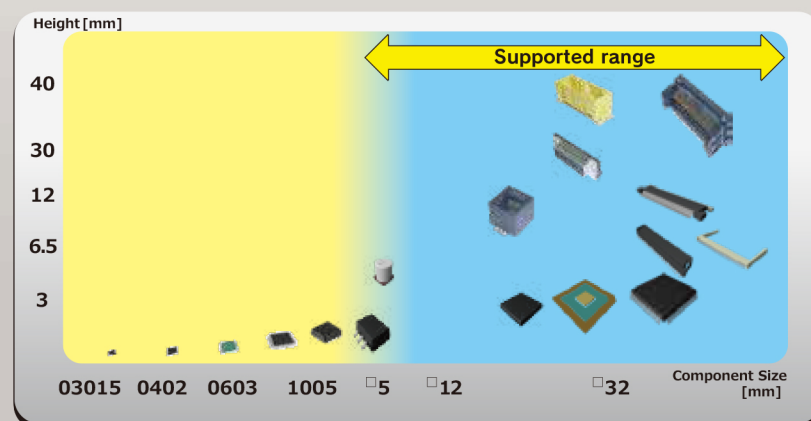
2~3 pins

### Stick, Tray, Bulk

4 pins and more



## Support for SMT components



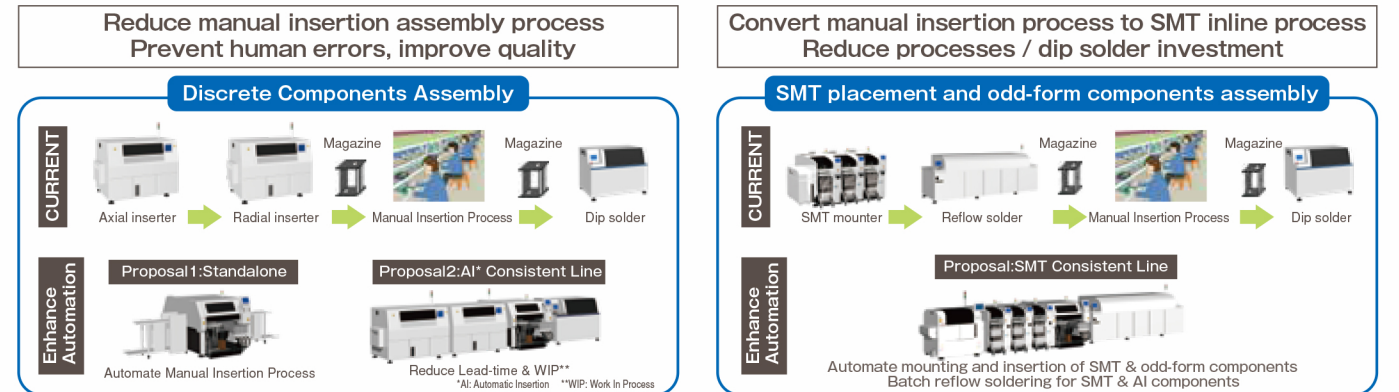
Supported range of the tape feeder  
Embossed tape: 12 to 104 mm

Intelligent tape feeder

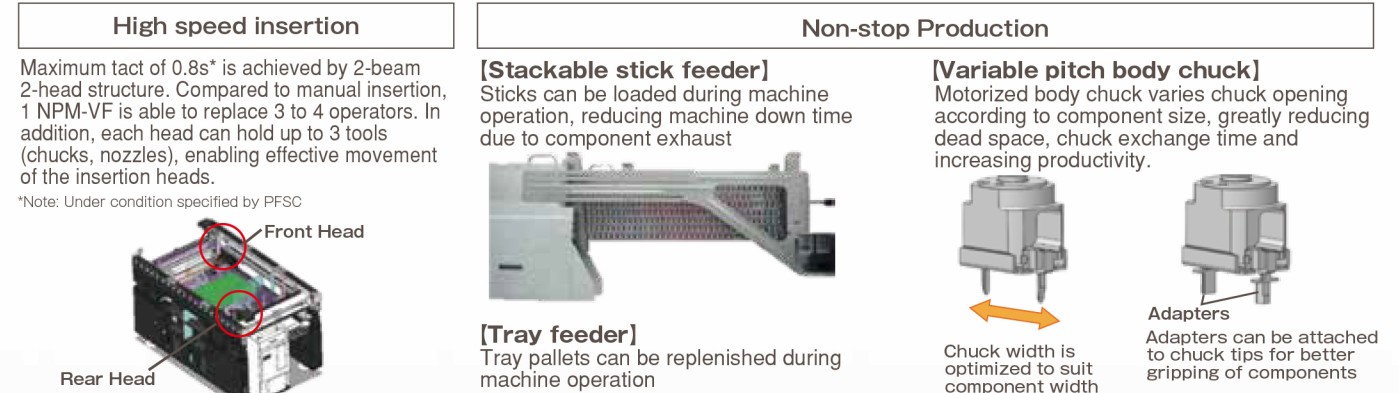
The multi-recognition camera is selectable from both types 1 (standard specs) and 3 (3D measurement function-ready). (Option)

Examples of applicable components	Outline	Height	Minimum lead pitch / minimum ball pitch	Minimum lead width / minimum ball diameter	Minimum ball height
QFP-SOP	5 mm ~	1.0 mm ~	0.5 mm	0.2 mm	-
BGA-CSP	5 mm ~	0.3 mm ~	0.5 mm	0.3 mm	0.25 mm

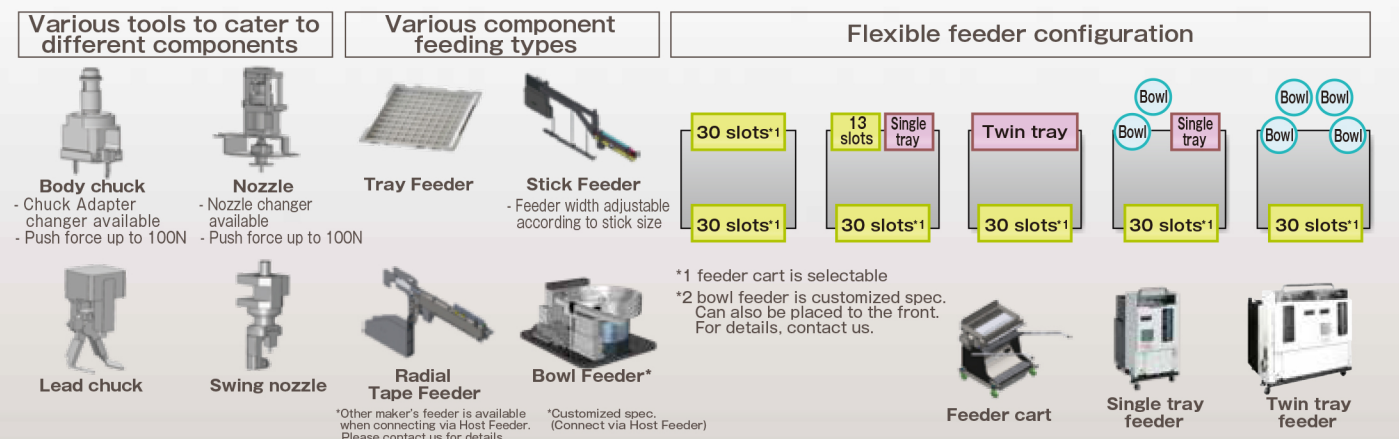
## Line Solution



## High Productivity



## Flexibility



## Quality Insertion

