

Panasonic

Greater versatility,
unparalleled accuracy
and increased efficiency



NPM-X Series

Smart Factory Solutions for
any mix
any volume

The next-generation platform for
any mix, any volume

Seamless, efficient solutions for any mix or volume



NPM-WXS
Single Beam



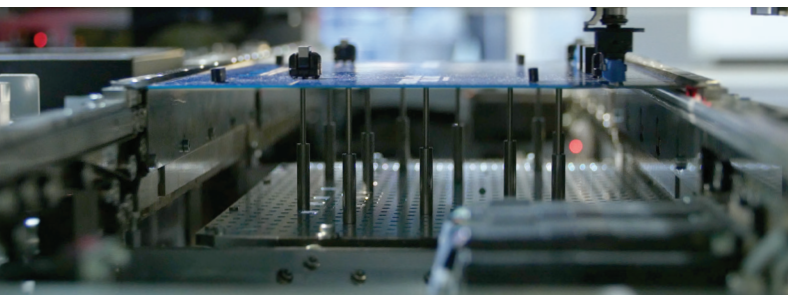
NPM-WX
Dual Beam



NPM-DX
Quad Beam

Design concept

The NPM-X Series delivers new, innovative technology – combining speed and autonomous controls with single-, dual- and quad-beam motion – into a cost-effective, scalable solution for any manufacturer.



NPM X-Series common attributes

Durable, solid base construction

The NPM X-Series is designed around a stiff frame, constructed of durable materials and built to last. Available in single-, dual- and quad-beam variants.

Linear motor drive system

With onboard dual-drive linear motors complimented by light and rigid beam architecture, the NPM X-Series introduces new industry-leading options; Linear servo motors with dual-drive Y and High Resolution linear scales in each motor.

Versatile head technologies

Unparalleled compatibility means the right placement heads that cater to your specific needs. With faster high voltage motor drives, higher precision Θ architecture and precisely forged stainless steel nozzles and adapters, the NPM X-Series sets new industry standards for handling any mix and any volume.



OPTIMIZED EFFICIENCY

- Remote access to error conditions and recovery modes
- Automatic recovery, improving the overall rate of operation
- Seamless MES integration across blended, full-line solutions via iLNB
- Dynamic process control through M2M communication utilities



COMPATIBILITY

- Utilize with Panasonic and third party equipment
- Combine the NPM-WX with the NPM-DX for greater output in less floor space
- Future-proof solutions with the ability to seamlessly pair with the W2, D3 and TT2 models
- Leverage existing peripherals (feeders, nozzles, carts, etc.)



SPEED AND POWER

- Versatile board handling and size capabilities
- High-capacity feeder capability
- Full-spectrum component range
- Unparalleled accuracy
- Speeds up to 184,800 CPH

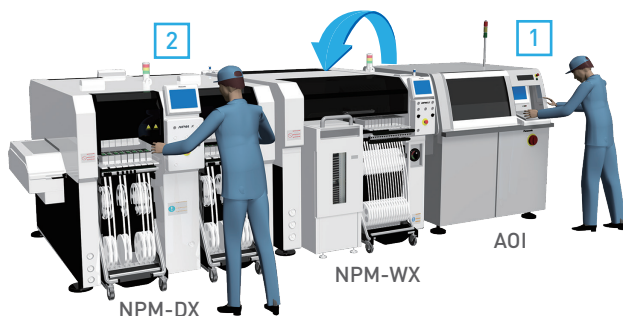
Throughput-optimizing solutions



- NPM-DGS (Data Generation System)
- APC System
- Automatic recovery option
- Remote operation option
- Automatic changeover option
- iLNB
- PCB information communication function
- AOI information display option
- Host communication option

AOI information display

The NPM X-Series features an available AOI information display function. This closed-loop M2M communication provides dynamic sharing of critical data between inspection and placement machines, and places it in a warning state. From there, the AOI information is displayed on the machine.



- 1 AOI is used to pinpoint target NPM
- 2 Target NPM is put in a warning state and information from AOI is displayed on-screen



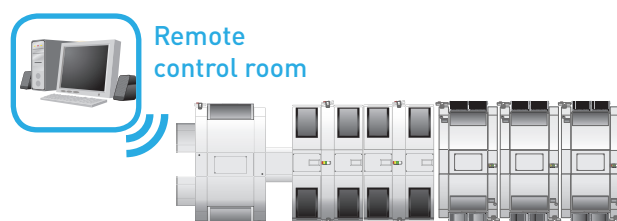
We've optimized the global market success of our NPM platform into ideal solutions for any size market...

Together with PanaCIM version 10 and our iLNB, we deliver incredible integration, efficiencies and value add to all customers regardless of their mix or volume.



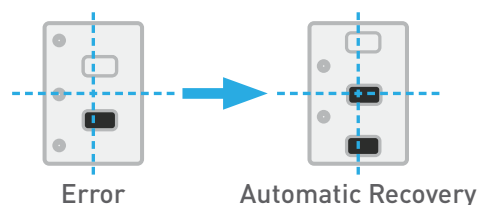
Remote recovery

Optimize error identification and correction processes remotely with available recovery options on the NPM X-Series. These advanced features allow qualified staff to remotely detect errors and take appropriate action, allowing the line to operate with less labor while maintaining high efficiency.



Automatic recovery

The NPM X-Series' automatic recovery option leverages the machine's ability to monitor its own performance and trigger recovery functions automatically to improve machine performance and reduce scrap. Examples of available recoveries include auto pick-up reteach and component pick retry.



Navigation

Feeder Setup and Component Supply Navigation tools reduce setup time and optimize replenishment efficiency across the factory floor, enabling higher utilization with fewer operators.

Solutions built to cater to your specific needs

Works with PanaCIM®

PanaCIM Enterprise Edition effectively delivers a feature-rich, manufacturing software suite through a scalable, small-footprint appliance that can grow with the manufacturer, while providing unprecedented integration of Panasonic and best-in-class, complementary technology partner equipment.



PanaCIM
Enterprise Edition

DGS: Data Generation System

DGS (Data Generation System) is an intuitive, PC-based programming software. DGS manages program creation across all of the Panasonic lines on a factory floor. Taking line balance into consideration, it assigns parts from CAD data, optimizes, and then creates the placement program.

- Multi-CAD import support
- Three options, maximizing output and changeover
- Simulator with on-screen accurate estimated cycle times for each product
- Virtual PCB inspection

Versatile-head technology

High-speed chip lightweight 16NH V2

- Acceleration of 3.5 G via 48V drive system
- New platform reduces head vibration during pick & place

Speed	Up to 46, 200 CPH/head
Range	0201 - 6 x 6 x 3
Accuracy	±25 µm (at Max. Speed)



Flexible mid-speed lightweight 8NH

- 2.3kg lighter with 48V drive system
- Improvement of Θ accuracy via new drive mechanism

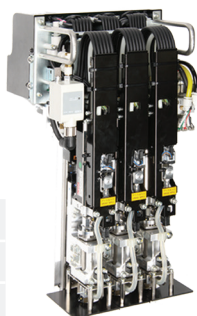
Speed	Up to 24, 000 CPH/head
Range	0402 - 45 x 45 x 12
Accuracy	±25 µm (at Max. Speed)



Multi-function lightweight 4NH and 3NH V2

- 2.5kg lighter with 48V drive system
- Improvement of Θ accuracy and increased spindle stroke

Speed	Up to 9, 400 CPH/head
Range	0603 - 150 x 25 x 40 (50*)
Accuracy	±20 µm (at Max. Speed)
Force	.5N - 100N

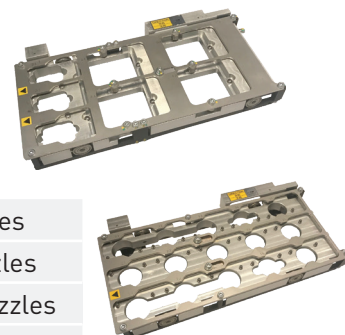


*Special option

Large-capacity nozzle changers

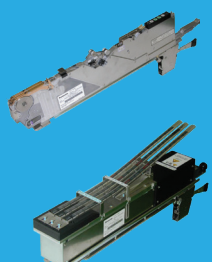
- Quick exchangeable and auto Poke-Yoke checker
- Auto nozzle teach reduces downtime via 2D barcode

Capacity	Up to 64 chip nozzles
Flexibility	0201mm - MF nozzles
Accuracy	Ceramic-tipped nozzles
Force	Vacuum & chuck nozzles



Catalog of options

Component feeders



- Common to all Panasonic pick and place platforms
- Tape feeder supports from 4 to 104mm width and deep pocket to 26mm
- Multi-pitch, multi-width feeders reduce investment
- Self-adjusting with auto teach and splice detection
- Safely hot swap during production
- Auto-load 8mm paper tape feeder
- Single, tri-tube and stackable stick feeder options

Support station box



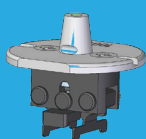
- Reduces changeover time with offline cart setup
- Wireless scanner guides operator through setup
- Combine with PanaCIM Material Verification for closed-loop setup

Multi-function transfer unit



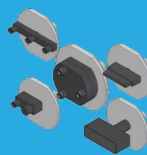
- Linear slide with auto reload for successful PoP process
- Supports solder and flux
- Programmable squeegee gap

Gripper



- Pneumatic, adjustable stroke
- Integrated 2D barcode for Nozzle Anywhere setup
- Compatible with nozzle holder for on-the-fly changes

Custom nozzles



- Eliminate manual placement with custom vacuum and gripper tools
- Local design expertise with quick turnaround
- Thousands of special designs

Material verification



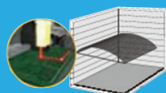
- Provides authenticated setup and fast changeover
- Manages alternate component part numbers and supply types
- Operator login tracks actions

Offline vision data system



- Easily create files offline and save directly to program
- Performs data reliability test
- Utilizes same vision recognition system as machine platform

Board warp mapping



- Head-mounted laser system measures board topography
- Controls part placement height
- Measurement data shared downstream

Automated board support



- Utilizes DGS data to position pins for complete support
- Eliminates manual pin placement errors
- Reduces changeover time

Multi-recognition camera

No cycle time impact regardless of inspection or lighting type. Orientation and 2D/OCR ensures proper orientation and part numbers are placed from tape and tray.

Type I and Type II configurations

High-speed chip

- 2D imaging of component between pick & place
- 2D centering and inspection of SMT and oddform components
- All options field upgradeable

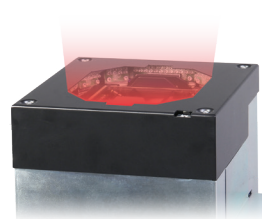
Type III configuration

High-speed chip

- Type 1 & 2 camera features and additional CPU and memory
- 3D coplanarity check for QFP & connector, missing & damaged ball (BGA)

Head camera with PiP lighting options

- Head camera: expanded FoV and topside clearance
- 2D/OCR part and orientation inspection and correction
- PiP lighting for PTH parts



NPM X-Series specifications



Model ID		NPM-WXS Single Beam		NPM-WX Dual Beam		NPM-DX Quad Beam		
PCB dimensions	Single-lane mode	2-position mounting: L 50mm x W 50mm ~ L 750mm x W 610mm		Batch mounting: L 50mm x W 50mm ~ L 750mm x W 610mm		L 50mm x W 50mm ~ L 510mm x W 590mm		
	Dual-lane mode	Dual transfer (2-position): L 50mm x W 50mm ~ L 750mm x W 300mm		Dual transfer (Batch): L 50mm x W 50mm ~ L 750mm x W 300mm		L 50mm x W 50mm ~ L 510mm x W 300mm		
		Single transfer (2-position): L 50mm x W 50mm ~ L 750mm x W 590mm		Single transfer (Batch): L 50mm x W 50mm ~ L 750mm x W 590mm				
Electric source 		3-phase AC 200, 220, 380, 400, 420, 480 V 2.1 kVA		3-phase AC 200, 220, 380, 400, 420, 480 V 3.0 kVA		3-phase AC 200, 220, 380, 400, 420, 480 V 5.0 kVA		
Pneumatic source		Min.0.5 MPa, 200 L /min (A.N.R.)				Min.0.5 MPa, 200 L /min (A.N.R.)		
Dimensions		W 1410mm  x D 2570mm  x H 1444mm 				W 1665mm  x D 2570mm  x H 1444mm 		
Mass		2660kg 		2740kg 		3600kg 		
Placement head		Lightweight 16-nozzle head V2 (Per beam)	Lightweight 8-nozzle head (Per beam)	4-nozzle head (Per beam)	3-nozzle head V2 (Per beam)	Lightweight 16-nozzle head V2 (Per beam)	Lightweight 8-nozzle head (Per beam)	4-nozzle head (Per beam)
Maximum speed		43,000 CPH (0.084s/chip)	23,000 CPH (0.155s/chip)	8,400 CPH (0.429s/chip)	9,400 CPH (0.383s/chip)	46,200 CPH (0.078s/chip)	24,000 CPH (0.150s/chip)	8,500 CPH (0.424s/chip)
				7,800 CPH (0.462s/QFP feeder)	7,300 CPH (0.493s/QFP feeder)			8,000 CPH (0.450s/QFP)
				7,100 CPH (0.507s/QFP tray) 	6,350 CPH (0.567s/QFP tray) 			
Placement accuracy (Cpk≥1)		±25 μm/chip	±25 μm/chip	±20 μm/QFP	±20 μm/QFP	±25 μm/ Square chip	±25 μm/ Square chip	±20 μm/QFP
			±40 μm/QFP, 12mm under				±40 μm/QFP, 12mm under	
			±25 μm/QFP, 12mm ~ 45mm				±25 μm/QFP, 12mm ~ 45mm	
Component dimensions (mm)		0201 chip   /03015 chip  0402 chip  ~ L 6 x W 6 x T 3	0402 chip  ~ L 45 x W 45 x T 12 or L 100 x W 40 x T 12	0603 chip ~ L 120 x W 90 x T 40 or L 150 x W 25 x T 50	0603 chip ~ L 120 x W 90 x T 40 or L 150 x W 25 x T 50	0201 chip   / 03015 chip  0402 chip  ~ L 6 x W 6 x T 3	0402 chip  ~ L 45 x W 45 or L 100 x W 40 x T 12	0603 chip ~ L 120 x W 90 or L 150 x W 25 x T 30
Component supply	Taping	Tape: 4 - 104mm				Tape: 4 - 56mm		Tape: 4 - 104mm
		Front rear 17-slot feeder cart specifications: Max. 136 product types (4, 8mm tape)				Max. 136 product types (4, 8mm tape)		
	Tray/Stick	One side tray specifications: Max.24, Front-rear tray specifications: Max. 48 Stick Max. 32 (Single stick feeder)				Max. 32 (Single stick feeder)		

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

*Please refer to the specification booklet for details

[1] Only for main body, differs depending upon option configuration

[2] 2010mm in width if extension conveyors (300mm) are placed on both sides

[3] Dimension D including feeder cart

[4] Excluding the monitor, signal tower and ceiling fan cover

[5] Stick feeders cannot be used on the rear feeder cart of NPM-WXS

[6] 0201/03015/0402 component requires a specific nozzle/tape feeder

[7] 0201 component is optional (under conditions specified by Panasonic)

[8] For any QFP ~20mm or less in size

[9] For any QFP ~28mm or less in size

[10] Special