Greater versatility, unparalleled accuracy and increased efficiency

NPM-X Series
The next-generation platform for any mix, any volume
Seamless, efficient solutions for any mix or volume

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.

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.

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.
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.

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

<table>
<thead>
<tr>
<th>Speed</th>
<th>Up to 46, 200 CPH/head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0201 - 6 x 6 x 3</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±25 μm (at Max. Speed)</td>
</tr>
</tbody>
</table>

Flexible mid-speed lightweight 8NH

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

<table>
<thead>
<tr>
<th>Speed</th>
<th>Up to 24, 000 CPH/head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0402 - 45 x 45 x 12</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±25 μm (at Max. Speed)</td>
</tr>
</tbody>
</table>

Multi-function lightweight 4NH and 3NH V2

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

<table>
<thead>
<tr>
<th>Speed</th>
<th>Up to 9, 400 CPH/head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0603 - 150 x 25 x 40 (50*)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±20 μm (at Max. Speed)</td>
</tr>
<tr>
<td>Force</td>
<td>.5N - 100N</td>
</tr>
</tbody>
</table>

Large-capacity nozzle changers

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

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Up to 64 chip nozzles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility</td>
<td>0201mm - MF nozzles</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Ceramic-tipped nozzles</td>
</tr>
<tr>
<td>Force</td>
<td>Vacuum &amp; chuck nozzles</td>
</tr>
</tbody>
</table>

*SPECIAL OPTION*
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

<table>
<thead>
<tr>
<th>Model ID</th>
<th>NPM-WXS</th>
<th>NPM-WX</th>
<th>NPM-DX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Beam</td>
<td>Dual Beam</td>
<td>Quad Beam</td>
</tr>
<tr>
<td>Single-lane mode</td>
<td>2-position mounting: L 50mm x W 50mm ~ L 750mm x W 610mm</td>
<td>Batch mounting: L 50mm x W 50mm ~ L 750mm x W 610mm</td>
<td>L 50mm x W 50mm ~ L 510mm x W 590mm</td>
</tr>
<tr>
<td>PCB dimensions</td>
<td>Dual transfer (2-position): L 50mm x W 50mm ~ L 750mm x W 300mm</td>
<td>Dual transfer (Batch): L 50mm x W 50mm ~ L 750mm x W 300mm</td>
<td>L 50mm x W 50mm ~ L 510mm x W 300mm</td>
</tr>
<tr>
<td>Dual-lane mode</td>
<td>Single transfer (2-position): L 50mm x W 50mm ~ L 750mm x W 590mm</td>
<td>Single transfer (Batch): L 50mm x W 50mm ~ L 750mm x W 590mm</td>
<td>L 50mm x W 50mm ~ L 510mm x W 300mm</td>
</tr>
<tr>
<td>Electric source</td>
<td>3-phase AC 200, 220, 380, 400, 420, 480 V 2.1 kVA</td>
<td>3-phase AC 200, 220, 380, 400, 420, 480 V 3.0 kVA</td>
<td>3-phase AC 200, 220, 380, 400, 420, 480 V 5.0 kVA</td>
</tr>
<tr>
<td>Pneumatic source</td>
<td>Min.0.5 MPa, 200 L /min (A.N.R.)</td>
<td>Min.0.5 MPa, 200 L /min (A.N.R.)</td>
<td>Min.0.5 MPa, 200 L /min (A.N.R.)</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass</td>
<td>2660kg</td>
<td>2740kg</td>
<td>3600kg</td>
</tr>
<tr>
<td>Placement head</td>
<td>Lightweight 16-nozzle head V2 (Per beam)</td>
<td>Lightweight 8-nozzle head (Per beam)</td>
<td>Lightweight 16-nozzle head V2 (Per beam)</td>
</tr>
<tr>
<td>Maximum speed</td>
<td>43,000 CPH (0.084s/chip)</td>
<td>23,000 CPH (0.155s/chip)</td>
<td>46,200 CPH (0.078s/chip)</td>
</tr>
<tr>
<td>Placement accuracy (Cpk≥1)</td>
<td>±25 μm/chip</td>
<td>±20 μm/QFP, 12mm under</td>
<td>±25 μm/QFP, 12mm ~ 45mm</td>
</tr>
<tr>
<td>Component dimensions (mm)</td>
<td>0201 chip /03015 chip /0402 chip /0603 chip</td>
<td>0402 chip - L 45 x W 45 x T 12 or L 100 x W 40 x T 12</td>
<td>0402 chip - L 45 x W 45 or L 100 x W 40</td>
</tr>
<tr>
<td>Taping</td>
<td>Tape: 4 - 104mm</td>
<td>Tape: 4 - 56mm</td>
<td>Tape: 4 - 104mm</td>
</tr>
<tr>
<td>Component supply</td>
<td>Front rear 17-slot feeder cart specifications: Max. 136 product types (4, 8mm tape)</td>
<td>Max. 136 product types (4, 8mm tape)</td>
<td>Max. 32 (Single stick feeder)</td>
</tr>
</tbody>
</table>

*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