

ASYMTEK Vantage Series

Cutting-Edge Fluid Dispensing for Advanced Semiconductor Packaging

Nordson Electronics Solutions builds the future of electronics reliability all across the globe. We're proud of the decades of service and solutions we've provided to enhance semiconductor reliability. No matter where you are, you've likely manufactured or purchased a product made reliable with our equipment.

The Vantage® Series is our most advanced fluid dispensing system, designed to last and provide cutting-edge capabilities continuing a time-honored tradition.



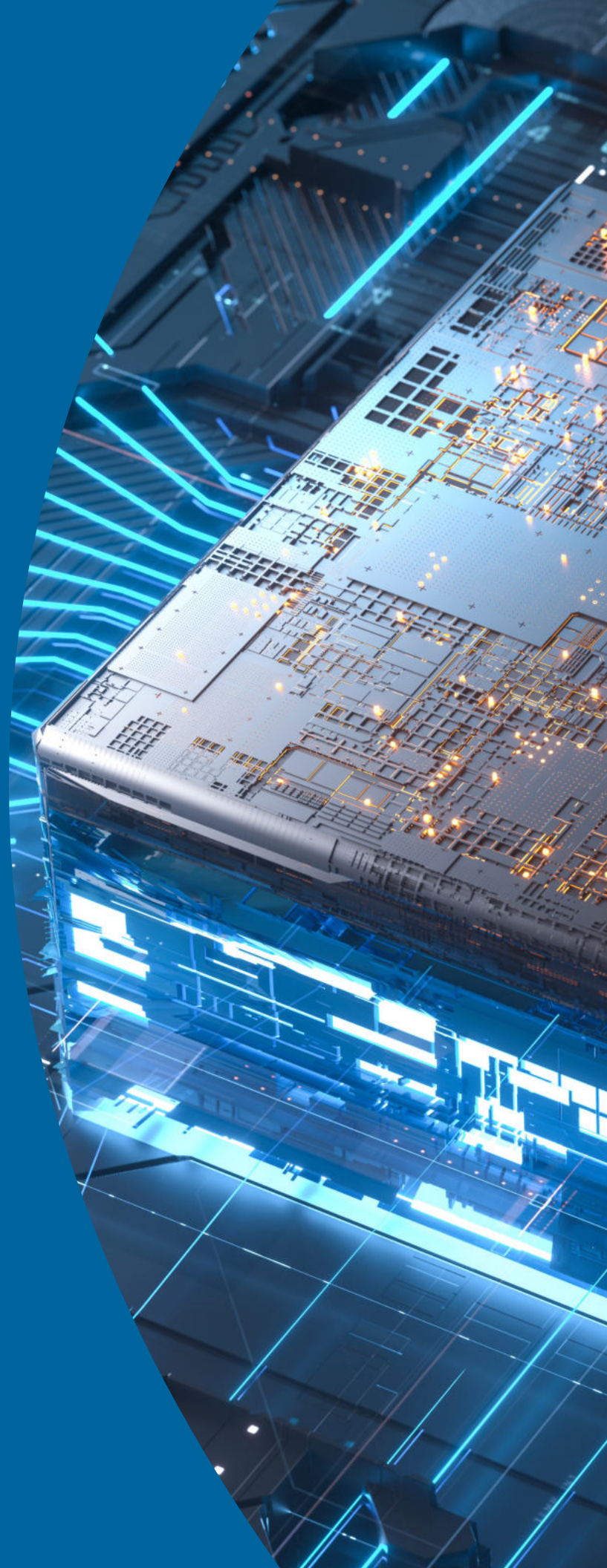
Advanced Packaging

Forging ahead in the era of More than Moore

The future of the semiconductor industry is promising. Chips are becoming increasingly important across all industries as manufacturers move to address challenges and seize opportunities.

As Moore's Law meets physical limits, chip designers are shifting to advanced 2D and 3D packaging techniques and heterogeneous integration (HI) or More than Moore to support emerging technologies and continuous power, performance, area, and cost (PPAC) improvements.

The growing complexity of these techniques requires more advanced reliability applications. Enhanced automation, precision, accuracy, closed-loop process control, predictive maintenance, and real-time process insights are key focus areas for fluid dispensing applications now and into the future.



3D IC Design Evolution

Shorter, Parallel Interconnects

- Higher I/O
- Reduced Latency
- Lower power

3D Stacking

- Tighter integration
- Many chips per package
- High bandwidth

Chipselets

- Higher yield
- Reuse IP blocks

Balancing power, performance, area, cost, and reliability demands.



Underfill for Reliability

Interconnection & Structural Integrity

- Microbump underfill
- C4 bump underfill
- BGA flip-chip underfill

Interconnection & Adhesion

- Microbump underfill

Device Protection

- Mechanical shock protection
- Moisture protection
- Thermal fatigue protection

The Vantage Series

Take Your Advanced Packaging Application to the Next Level

- Jet into die-to-die gaps <200 μm .
- Avoid keep-out zones <250 μm .
- Dispense 49,000 DPH with a single IntelliJet® valve.
- Dispense 90,000 DPH with two IntelliJet valves.
- Process skewed parts for better wet dispense accuracy and yield with patented* real-time correction in the x and y-axis.
- Keep your process on point with closed-loop controls, data traceability, and smart factory connectivity features.

Visually intuitive, efficient
Canvas® system software **with**
convenient access to critical
process data.



Single or dual-valve
IntelliJet jetting
at significantly
enhanced speeds.

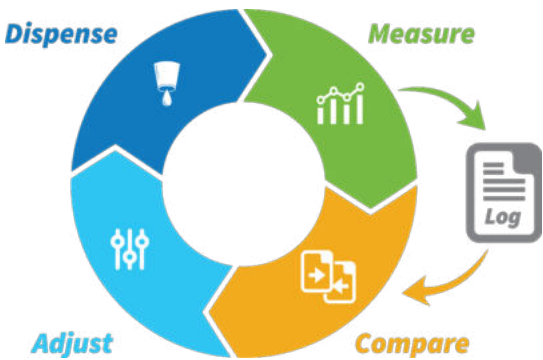
Dual-valve delivers
an 84% increase in
DPH over single-valve
dispensing alone.

High-capacity
work envelope.

Single-valve
dispense areas up
to 470 x 475 mm
and dual-valve
dispense areas up
to 341 x 475 mm.

Process more die
per part for better
UPH.

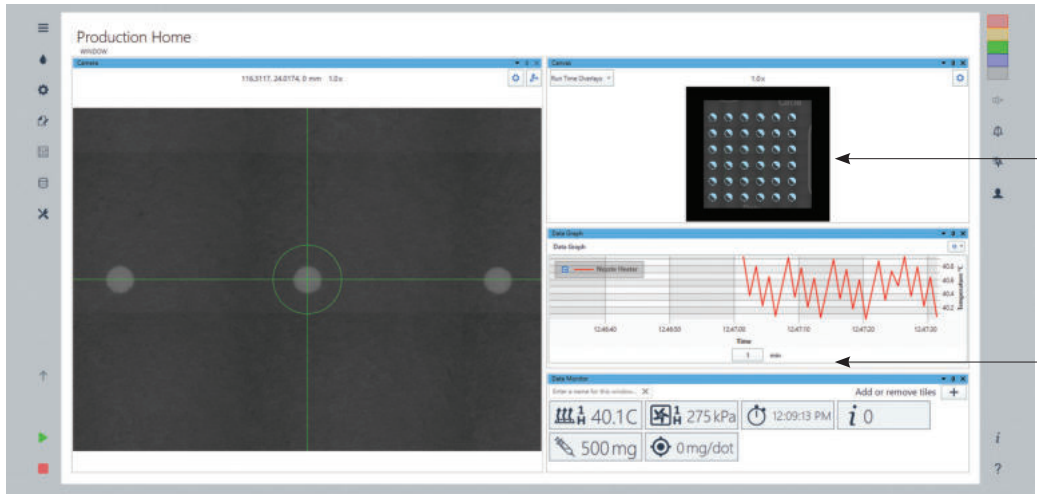
Canvas Software



Effortless Programming and Insight

Canvas fluid dispensing software simplifies programming tasks and provides insight and control over your process.

- **Graphical programming** – scan a workpiece and simulate dispensing results on a virtual canvas.
- **Guided wizards** – provide easy step-by-step setup instructions.
- **Quick-reference graphing and data tiles** – provide efficient access to system sensors, process controls, and data.
- **Offline programming** – program on the system or offline in your office to avoid production downtime.



Canvas graphical programming.

Graphs and data tiles.

1
Scan a workpiece.

2
Create a recipe.

3
Simulate results.

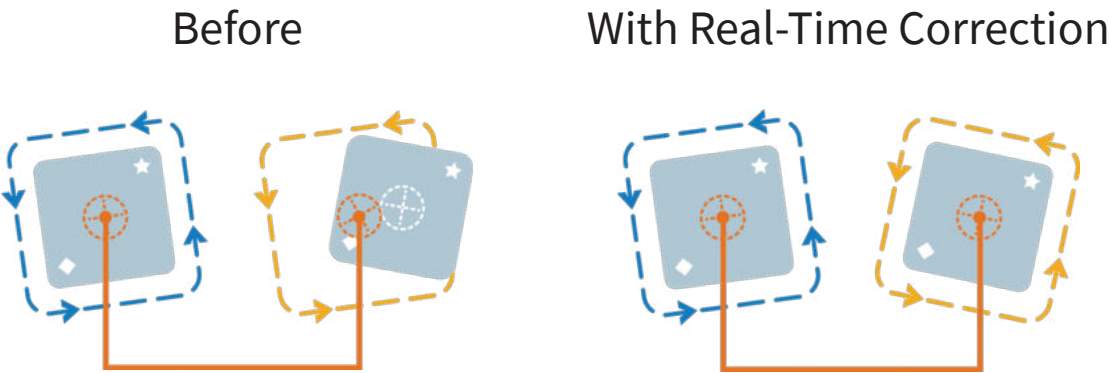
Simultaneous dual-head, dual-valve dispensing with the IntelliJet Jetting System improves yield and reduces production costs.

Dual valves move on independent heads to successfully dispense when the distance between parts varies (irregular device pitch) or when parts are skewed or rotated in a carrier (individual part skew).

Real-time correction addresses:

1. Global workpiece skew.
2. Individual part skew.
3. Translation.

Automatic real-time correction for better yield. Shifted parts and varied pitch on the wafer won't slow you down. Vantage Series dual-head, dual-valve systems are equipped with patented* real-time correction to automatically adjust for skewed parts and irregular wafer patterns with variable pitch.



Early fixed-pitch, dual-valve designs could not adjust for individual part-to-part skew, negatively impacting yield.

Vantage Series dual-head, dual-valve with patented* real-time correction in the x and y-axis automatically adjusts to dispense to skewed parts avoiding impact to yield.

*Nordson US Patents 9,707,584; 10,150,131; 10,737,286 and other patents pending.



Why Nordson Electronics Solutions?

We've earned the confidence of the world's largest semiconductor manufacturers. Let us help you succeed.

Discover how Nordson's Vantage Series solutions and outstanding global application support can optimize your process.

For more information, visit our website to find your local regional office or representative. We have several global locations to serve you.

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April 2023

**Nordson**
ELECTRONICS SOLUTIONS