Spectrum™ II S2-900 Series
Scalable solutions for high-volume manufacturing and assembly

Features and Benefits

- The Spectrum II series leverages over 30 years of Nordson ASYMTEK’s automated fluid dispensing and jetting technology
- Scalable design matches current and future requirements for maximum return on investment
- The Spectrum II series continues Nordson ASYMTEK’s market leadership with:
  - High precision X-Y-Z motion system
  - Total system wet dispense accuracy performance for dots and lines
  - Patented, closed-loop process controls for consistent dispense weight over long production runs
  - Independent X, Y, Z dual simultaneous valve dispensing option for increased productivity
  - Integrated vision system with on and off axis lighting options
  - Integrated substrate heating options for up to 6 stations
  - Programmable dual-axis tilt option

The scalable Spectrum II series is ideal for high-volume production of advanced dispensing processes, including underfill, cavity fill, die attach, and encapsulation.

Scalability. With its flexible, scalable configuration, the Spectrum II can be configured with single or dual lanes, and up to six heat stations with the dual-lane configuration. The platform is easily upgraded in the field when process needs change.

At only 600mm wide without optional pre- and post-heating stations, the Spectrum II maximizes use of precious production floor space.

Advanced Process Control. The Spectrum II reduces process variation, increases yield, and reduces cost. Software-managed temperature, fluid and air pressure provide closed-loop control that eliminates the need for operator adjustment. Calibrated Process Jetting (CPJ) automatically maintains volumetric repeatability during long production runs. Controlled Process Heat (CPH™) adds recipe-controlled heat management for improved thermal efficiency.

The Spectrum II’s standard digital vision system’s high-brightness LEDs with RGB three-color control provides good image contrast and detection capabilities for more accurate and consistent pattern recognition. For the most challenging vision applications, the Monocle™ Vision Package (MVP) enhances contrast and field of view size and resolution even further.

Jet Technology. Patented non-contact jetting offers many advantages over traditional needle dispensing. The NexJet® 8 system shoots “on the fly” using a patented high-speed actuator, jetting precise volumes of fluid in dots, lines and patterns with flow rates up to 500 mg/second and 300 dots/second.

Expertise at Creating Value. With over 30 years of precision fluid dispensing experience and a reputation for the best closed-loop process controls, Nordson ASYMTEK provides customers a reliable partner for fluid dispensing development and production. From initial process development through full-scale production, you are supported by our experienced worldwide engineering, applications development and technical service network.
### Spectrum™ II S2-900 Series Features and Configurations

#### Additional Optional Features and Configurations

- **CpH™** - Controlled Process Substrate Heat
- Dual-action dispensing (two applicators operate independently)
- Exterior bulk fluid reservoir: 600 cc (20 oz), includes remote feed and fluid level sensor
- Hot plate, process development (batch processing)
- Low fluid sensor, magnetic or capacitive
- Cleanroom compatibility

- **Monocle™ Vision Package (MVP)** for increased contrast, field of view, and vision resolution
- **SECS/GEM interface**
- **Ventilation Interlocking for Volatile Organic Compound dispensing** (e.g. flux or primer)

#### Spectrum™ II S2-900 Series Key System Specifications

##### Motion System

- **Z repeatability**: ±15 µm (0.0006 in.), 3 sigma
- **X-Y repeatability**: ±15 µm (0.0006 in.), 3 sigma
- **X-Y acceleration**: 1 g peak
- **X-Y velocity**: 1 m/s peak (40 in./s)
- **X-Y-Z encoder resolution**: 1 µm

##### Wet Dispensing Accuracy & Repeatability

**Single Applicator**
- Cₚ ≥ 1.0: ±35 µm (0.0016 in.)
- Cₚk ≥ 1.0(1): ±40 µm (0.0016 in.)

**Z-Gap Performance**
- Z-Gap Repeatability (2): ±15 µm (0.0006 in.), 3 sigma
- Minimum Z-Gap Capability: 50 µm (0.002 in.)

##### Dispense Area (X-Y)

- 339 x 410 mm (13.3 x 16.1 in.)

##### Conveyor

- **Min. board/carrier width**: 34 mm (1.3 in.)
- **Max. board/carrier thickness**: 12 mm (0.5 in.)
- **Max. board/carrier length**:
  - One station: 340 mm (13.4 in.)
  - Three stations: 320 mm (12.6 in.)
- **Min. board/carrier length**: 25 mm (1.0 in.)
- **Max. board/carrier width**: Single lane: 535 mm (21.1 in.)
  - Dual lane: up to 228 mm (9.0 in.)

(1) Wet dispense Cₚk is tested against Nordson ASYMTEK standard sealant line path accuracy test method

(2) Z-gap repeatability is tested with Nordson ASYMTEK standard white ceramic, performance with other substrates may vary

(3) Contact factory regarding smaller boards/carriers

(4) System weight varies depending on configuration

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*Note: System can run on 10A, 120 VAC without heater option installed.*
Dimensions are in millimeters

**Front View**

- 2085
- 1070 Flat Panel
- 106 Foot
- 50
- 488

**Top View**

- 900 Series System Dimensions
- 294 Ventilation
- 104 Main Power
- 1056 Ventilation
- R472 Front Door
- R481 Rear Door

**Side View**

- 1977
- 1747
- 1526
- 948 Computer Height
- 953 To Passline
- 109
- 968
- 1187
- 1321

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