

# Spectrum™ II Premier with IntelliJet® Jetting System

Superior technology for the latest generation semiconductor packages

## Features and Benefits

- The Spectrum II Premier S2-900P implements new jetting, vision and software technologies to meet even the most challenging dispensing requirements
- The S2-900P incorporates the new IntelliJet® Jetting System, which dispenses the smallest dots and lines with market-leading reliability and consistency
- The new Monocle™ Vision Package delivers expansive field of view and contrast capabilities
- Pre-configured with common options for advanced packaging processes:
  - High precision X-Y-Z motion system for best-in-class wet dispense accuracy
  - Patented, closed-loop process controls for dispense weight
  - High-accuracy, non-contact laser height sensor
  - Fids-on-the-Fly™ and advanced packaging software suite for high throughput
  - Substrate heating controls for up to six zones

The Spectrum II Premier system improves upon the world's preferred automated fluid dispensing platform with the latest technology to produce the most challenging advanced packages.

**Leading-Edge Technology.** The S2-900P incorporates the latest generation IntelliJet® system with Readiset™ Jet Cartridge technology, taking jetting to new levels. Capable of consistently jetting down to 1 nL dispense volumes and up to 1000 Hz, the IntelliJet system jets into tighter dispense gaps with smaller wet-out distances than traditional jets. Readiset cartridges make jet maintenance quick and easy, keeping dispenser productivity at its highest level. The new Monocle Vision Package further improves wet-dispense accuracy and productivity with higher contrast capabilities and larger fields of view.

**Advanced Process Controls.** The Spectrum II Premier platform reduces process variation, increases yield, and reduces cost. Software-managed temperature, fluid and air pressure provide closed-

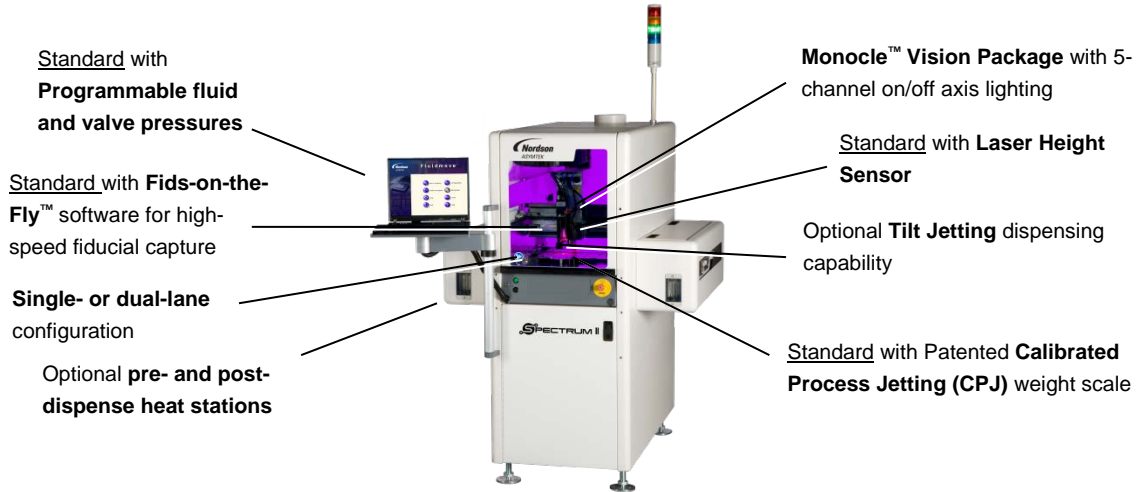
loop control that eliminates the need for operator adjustments. Calibrated Process Jetting (CPJ) automatically maintains volumetric repeatability during long production runs. Controlled Process Heat (CpH™) adds recipe-controlled heat management for improved thermal efficiency.

**Reliable Performance.** Pairing the performance of the Spectrum II Series advanced process controls with the IntelliJet system provides unmatched consistency for large production lines. To achieve identical performance across a line and make scaling up production rapid and reliable, settings are easily copied from system to system.

**Expertise.** With over 30 years of market leadership in automated fluid dispensing, Nordson ASYMTEK is able to guide you in developing a reliable production process. From initial process development through full-scale production, you are supported by our experienced worldwide engineering, applications development and technical service network.



# Spectrum™ II Premier S2-900P Features



Standard with Programmable fluid and valve pressures

Standard with Fids-on-the-Fly™ software for high-speed fiducial capture

Single- or dual-lane configuration

Optional pre- and post-dispense heat stations

Monocle™ Vision Package with 5-channel on/off axis lighting

Standard with Laser Height Sensor

Optional Tilt Jetting dispensing capability

Standard with Patented Calibrated Process Jetting (CPJ) weight scale

## Additional Optional Features and Configurations

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

Material handling: MH-900 Series loader/unloaders, film frame wafer, bare wafer  
 SECS/GEM interface  
 Ventilation Interlocking for Volatile Organic Compound dispensing (e.g. flux or primer)

# Spectrum™ II Premier S2-900P Key Specifications

## Motion System

Z repeatability <sup>(1)</sup>: ±15 µm (0.0006 in.), 3 sigma  
 X-Y repeatability <sup>(1)</sup>: ±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:

$C_p \geq 1.0$ : ±35 µm (0.0014 in.)  
 $C_{pk} \geq 1.0$ <sup>(1)</sup>: ±40 µm (0.0016 in.)

## Z-Gap Performance

Z-Gap Repeatability <sup>(2)</sup>: ±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 <sup>(3)</sup>: 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.)  
 (configuration dependent)

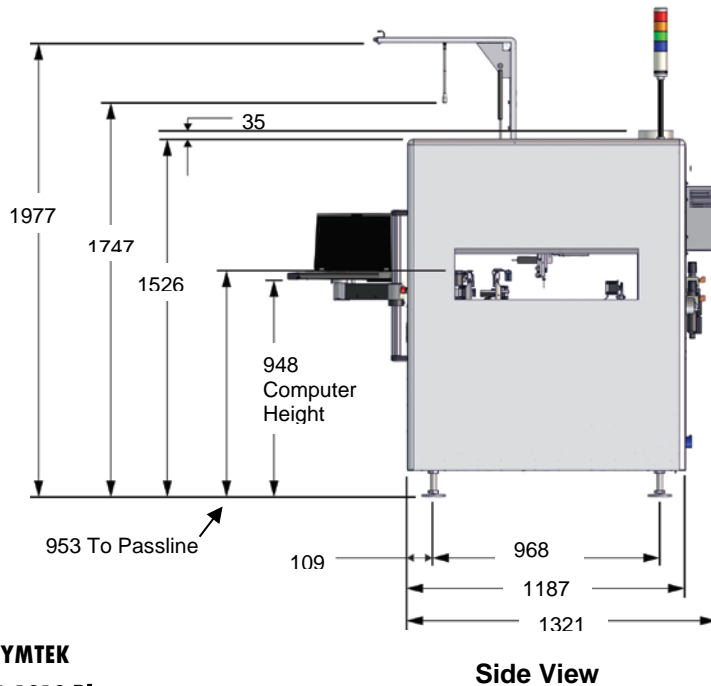
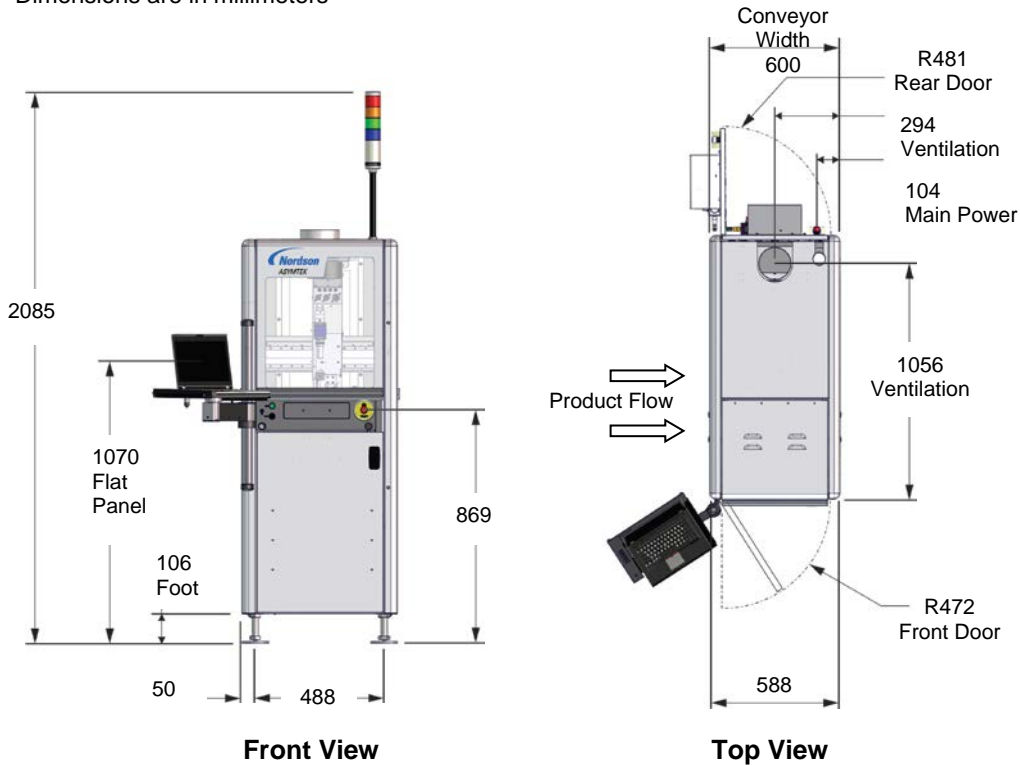
## Facilities Requirements

System footprint: Single heat station: 600 mm wide x 1321 mm deep (23.6 x 52.0 in.)  
 Two heat stations: 850 x 1321 mm (33.5x52.0 in.)  
 Three heat stations: 1100 x 1321 mm (43.3x52.0 in.)  
 Air supply: Two air supplies: one with 3 CFM @ 100 psi for contact tooling, a second one with 1 CFM @ 100 psi for the rest of the system (100 psi = 689 kPa, 6.8 atm)  
 Power (mains): Power supply accommodates 200-240 VAC, 47-63 Hz single phase, 30 A  
 Ventilation: Downdraft or updraft  
 System weight <sup>(4)</sup>: 377-422 kg (830-930 lbs.)

- (1) Wet dispense  $C_{pk}$  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

# Spectrum™ II Premier S2-900P Dimensions

Dimensions are in millimeters



For more information, speak with your local representative or contact your regional office.

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