

Spectrum™ S-820B

Precision batch dispensing for semiconductor applications

Features and Benefits

- Fluidmove® for Windows® software for easy-to-use programming control
- Patented Mass Flow Calibration automatically compensates for changes in fluid viscosity
- Automatic Pattern Recognition System for accurate identification of global and local fiducials
- Automated thermal management for reliable substrate heating and full temperature control of fluid delivery

The Spectrum™ S-820B Series system is designed for batch production of advanced dispensing processes, including underfill, cavity fill, die attach, and encapsulation. The S-820B provides advanced dispensing process capability in an affordable package, and is ideal for labs, batch production, and new product development.

The S-820B performs with a wide range of fluids, processes and substrates used in semiconductor packaging and assembly. It easily integrates with most Nordson ASYMTEK jets, pumps, and valves, including the DispenseJet® DJ-9500 and NexJet® System.

Nordson ASYMTEK's advanced process control capabilities have been incorporated into the S-820B platform, bringing premium features to this batch system:

- For valve and pump dispensing, Patented Mass Flow Calibration (MFC) uses weight-controlled dispensing and automatic calibration to deliver consistent fluid amounts throughout production.
- For jet dispensing, Calibrated Process Jetting (CPJ) uses weight control to ensure precise volumetric repeatability and optimized line speed for jet-on-the-fly operations.



- Jet-on-the-Fly (JOF) is a software feature that drives the DJ-9500 to dispense lines of dots without stopping. Dispense time is significantly reduced when compared to traditional needle dispensing.
- Dynamic Dispense Control (DDC) offers precise and flexible control parameters through closed-loop servo technology. With encoders and feedback from the dispensing pump, the user can specify different acceleration and deceleration values for the valve or pump, allowing each dispense shot to be optimized for speed, accuracy, and yield.

Several options can be added to meet specific application requirements. The S-820B is fully supported by Nordson ASYMTEK's exclusive Fluidmove® for Windows® software, providing dispense programming control within a familiar Windows environment.

Processes developed on the S-820B with the Fluidmove software package can be easily transferred to an inline Spectrum™ II or Quantum® platform when the operation requires more than batch capacities. Production can be expanded with minimal configuration downtime and seamless transition from engineering development to inline manufacturing.

Specifications: Spectrum™ S-820B

Motion System

Type:	Brushless DC servo motors, closed-loop with precision encoder feedback
Encoder resolution:	10 microns
X-Y positional accuracy:	± 75 µm (0.003 in.)
X-Y placement accuracy:	±100 µm (0.004 in.), 3 sigma
X-Y acceleration:	0.25 g peak with S-curve jerk control
X-Y repeatability:	±25 µm (0.001 in.)
Z-axis repeatability:	±25 µm (0.001 in.)
Z-travel:	75 mm (3.0 in.)

Dispense Area ⁽¹⁾

350 x 350 mm (14.0 x 14.0 in.)

Payload

Tool (z-axis):	3 kg (6.6 lbs)
Workpiece:	2 kg (4.4 lbs)

Vision and Lighting

Vision:	Vision system with Automatic Pattern Recognition
Lighting:	Programmable, on-axis, red/blue LED, 255 light levels

Computer

Computer:	Windows®-based laptop with mouse
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Software

User environment:	Fluidmove® for Windows®
Operating system:	Windows®

Fluid Delivery Method

DispenseJet®:	DJ-9000, DJ-9500
NexJet® System:	NJ-7
Auger pump:	Heli-flow® DV-7000, DV-8000
Valve:	DV-01B, DV-02, DV-03, DV-05, DV-07, DV-09, SV-100

Facilities Requirements

System footprint:	866 mm wide x 1123 mm deep (34.0 x 44.0 in.)
Display:	Extends 610 mm (24 in.)
Height:	2045 mm (80.5 in.) with light beacon <i>Complete dimensional diagrams are on the next page.</i>
Air supply:	85 liters/min, 620 kPA (3 CFM @ 90 psi) <i>Note: may be higher depending upon application.</i>
Power:	200/240 VAC, 10 amps (max), 50/60 Hz, single phase
Weight:	364 kg (802 lbs)

Other Standard Features

Advanced process control modules:
Mass flow calibration (MFC)
Calibrated process jetting (CPJ)
Jet-on-the-Fly (JOF)
Dynamic Dispense Control (DDC)
Light beacon with audible alarm
Low air pressure alarm with programmable setpoint
Mechanical tactile height sensor
Needle heater control with programmable setpoints
Precision air regulators
Vacuum purge station

Options

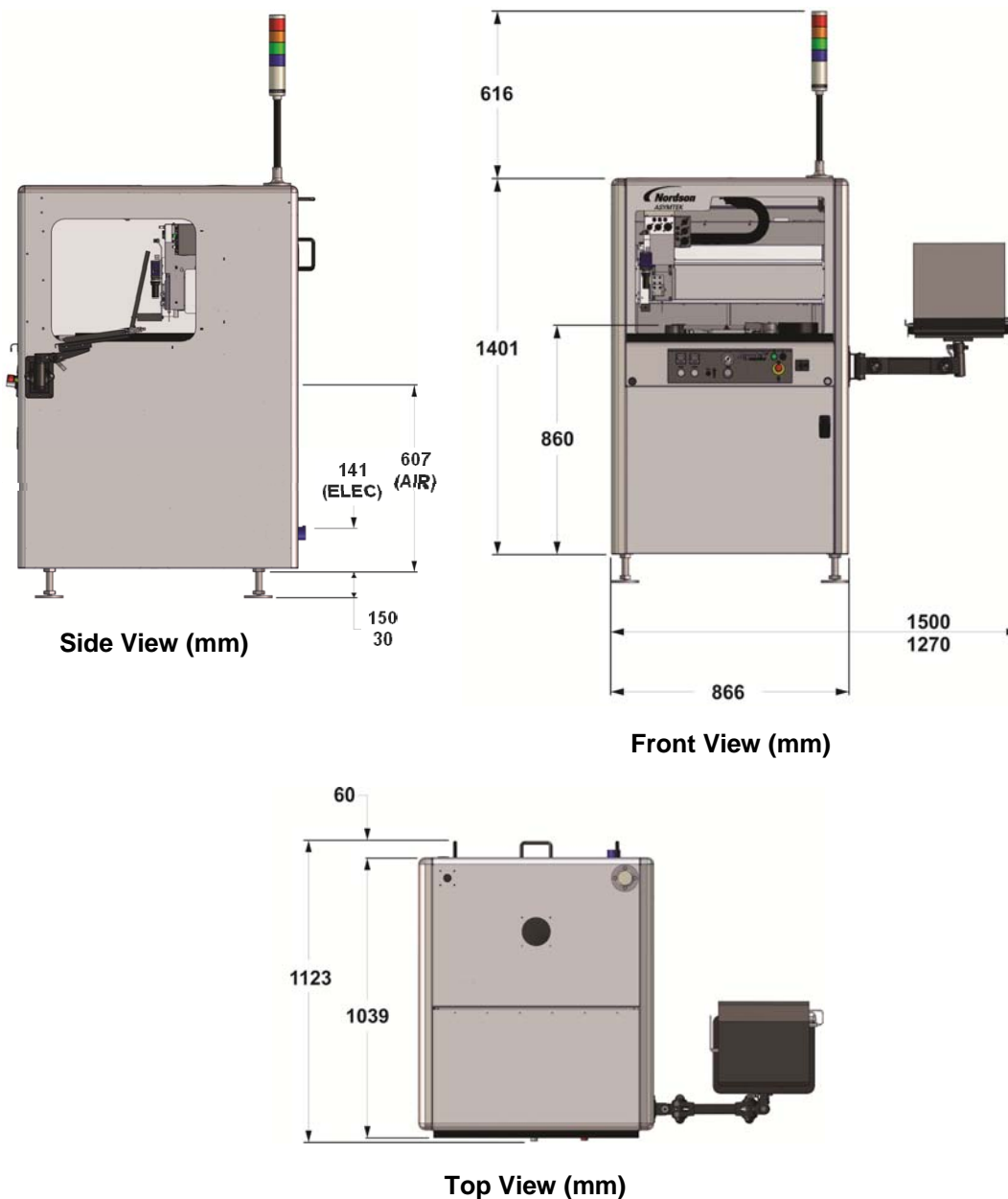
CAD Import software program
Dual-action dispensing head
Laser height sensor
Low fluid sensor
Needle heater
SECS/GEM interface
Tooling plate with programmable setpoints:
Heated vacuum: 350 x 350 mm (14.0 x 14.0 in.)
Impingement tooling: 350 x 350 mm (14.0 x 14.0 in.)

- (1) Dispense area includes mounted camera, valve, and height sensor (i.e., overlapping area of camera, valve, and height sensor travel).

Additional options are available: contact Nordson ASYMTEK for further information.

Dimensions: Spectrum™ S-820B

Dimensions are in millimeters



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

Nordsonasymtek.com

North America

Headquarters
Carlsbad, CA, USA
+1.760.431.1919
info@nordsonasymtek.com

China

Email: [china-](mailto:china@nordsonasymtek.com)
info@nordsonasymtek.com

Shanghai
+86.21.3866.9166

Beijing
+86.10. 8453.6388

Guangzhou
+86.20.8554.9996

Europe

Maastricht, Netherlands
+31. 43.352.4466
cs.europe@asymtek.com

Japan

Tokyo
+81.3.5762.2801
Info-jp@nordsonasymtek.com

Korea

Seoul
+82.31.765.8337
info@nordsonasymtek.com

India

Chennai
+91. 44.4353.9024
info@nordsonasymtek.com

S.E. Asia/Australia

Singapore
+65.6796.9514
info@nordsonasymtek.com

Taiwan

+886.229.02.1860
info@nordsonasymtek.com

Nordson ASYMTEK
+1.760.431.1919 Phone
info@nordsonasymtek.com Email
2747 Loker Avenue West
Carlsbad, CA USA 92010-6603
www.nordsonasymtek.com

Published 2014-08-22 (Updated)