Novo™ Series: Model 103

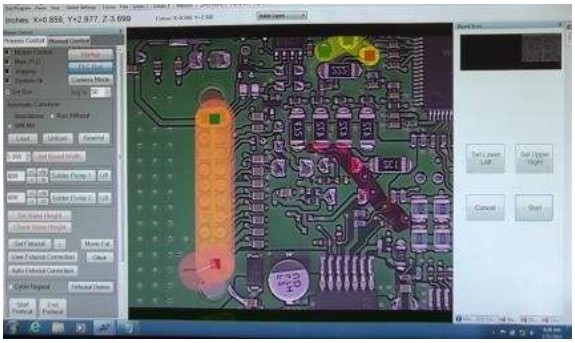
Selective Soldering Platform combining Flexibility and Modularity

Features and Benefits

- Selective soldering of printed circuit boards as large as 610 x 457 mm (24.0 x 18.0 in.)
- Standalone platform ideal for prototype, cell manufacturing or batch production requirements
- Interchangeable solder pots and pumps compatible with tin-lead, lead-free and HMP solder alloys
- Choice of single selective solder nozzle, dual selective nozzles with independent control or 75 mm wide wave soldering nozzle
- SWAK-OS graphics-based programming and machine control software enables fast and straightforward program creation

The Novo™ 103 is a robust selective soldering platform delivering an exceptional combination of versatility, productivity and value. The Novo™ 103 has many unique features, including high speed Z-axis motion for faster processing time and reduced soldering cycle.

Flexibility. With its feature rich, graphics-based programming and machine control software, the Novo™ 103 is specially designed for demanding selective soldering applications. Set-up and time to first article is significantly reduced to within 10-15 minutes. The SWAK-OS software features seamless fiducial recognition, live teach cameras, real time data collection, SQL backend data extraction and complete FIS capability for shop floor integration.



SWAK-OS graphics-based programming software

Soldering Technology. With its flexible configuration, the Novo™ 103 is a versatile selective soldering platform capable of processing tin-lead, lead-free or HMP solder alloys. Interchangeable solder pots and pumps are available with either single selective solder nozzle, dual selective nozzles with independent control or 75 mm (3.0 in.) wide wave soldering nozzle. The nitrogen inerted dual nozzle system enables the use of multiple size nozzles within the same program further enhancing flexibility and productivity.

Process Control. Nordson SELECT's optional closed-loop rotary encoders and other advanced process control capabilities have been incorporated into the Novo™ 103, enhancing solder quality, precision and yield capabilities.

Value. With a reputation for innovation, comprehensive process solutions from Nordson SELECT ensure a maximum return on investment and low cost of ownership. From initial process development through full-scale production, you are supported by our experienced worldwide engineering, applications development and technical service network.

Nordson SELECT

Novo™ 103 Features

The Novo™ 103 is a fully configured selective soldering platform and is a reliable and cost-effective solution for many demanding through-hole and SMT mixed-technology soldering applications including:

- Printed circuit board assemblies and other solderable substrates
- Interchangeable tin-lead and lead-free soldering

Standard Features

Universal PCB location rails with motor driven adjustment and multiple board stops for processing several boards at one time
High speed Z-axis motion
Atomizing spray flux applicator
Tin-lead solder pot and pump assembly with 6 mm and 12 mm quick change magnetically coupled bullet nozzles
Automatic solder pot level monitoring and fill system
Automatic wave height monitoring and adjust system
Solder alloy verification system
Heated nitrogen inerting system
Programming and fiducial alignment look-up camera
Process witness camera
SWAK-OS graphics-based programming and machine control software

- Automatic fiducial alignment
- Board warp compensation
- On-board help videos
- Remote machine diagnostics
- Complete FIS capability

Single monitor

Optional Features

Universal PCB location fixture
FluxJet precision drop-jet dispenser
In-process flux verification system for drop-jet
Dual flux heads, 2 atomizing spray heads, 2 drop-jet flux dispensers or one of each
Topside infrared preheater with closed-loop control
Dual process witness cameras
Automatic solder nozzle tinning system
Lead-free solder pot and pump assembly (titanium)
HMP solder pot and pump assembly
Dual nozzle solder pot and pump assembly, tin-lead or lead-free (titanium)
3-25 mm bullet nozzles or 4-25 mm mini-wave nozzles
75 mm (3.0 in.) wide wave nozzle and pump assembly, tin-lead or lead-free (titanium)
Solder pot exchange cart with warming controls
Closed-loop rotary encoders
Bottom-side nitrogen spot preheater
Nitrogen de-bridging knife
Off-line programming software
Dual monitors
Six channel thermal data logging system
Barcode reader

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Specifications: Novo™ 103

Motion System

Z accuracy	±50 µm (0.002 in.)
Z repeatability [1]:	±50 µm (0.002 in.), 3 sigma
Z velocity:	0.15 m/s peak (6 in./s)
X-Y accuracy	±50 µm (0.002 in.)
X-Y repeatability [1]:	±50 µm (0.002 in.), 3 sigma
X-Y velocity:	0.2 m/s peak (8 in./s)

Computer

PC with Windows® operating system

Software

SWAK-OS graphics-based programming and machine control software

Solder Pot Capacity and Weight

Capacity [2]: Approx. 13.6 kg (30.0 lbs.)
Total weight of tin-lead solder together with solder pot and pump assembly [2]: Approx. 24.0 kg (53.0 lbs.)
Total weight of lead-free solder together with solder pot and pump assembly [2]: Approx. 21.3 kg (47.0 lbs.)

Solderable Area (X-Y)

Single bullet, dual bullet or mini-wave nozzles [3, 4]:
Max. 610 x 457 mm (24.0 x 18.0 in.)
Min. 50 x 50 mm (2.0 x 2.0 in.)

Board Handling Capability

Max. board size:	610 x 457 mm (24.0 x 18.0 in.)
Min. board size:	50 x 50 mm (2.0 x 2.0 in.)

Board Clearance

Max. overboard clearance: 102 mm (4.0 in.)
Max. underboard clearance: 102 mm (4.0 in.)

Facilities Requirements

System footprint:	1400 x 1421 mm (55.1 x 55.9 in.)
Air supply:	Less than 10 CFH @ 90-100 psi
Power (mains) [5]:	Power supply accommodates 120VAC, 60 Hz, 15 A standard or 208/220-240VAC, 60 Hz single phase, 15 A optional
	50 A with topside preheating [6]
Nitrogen [7]:	99.999% pure @ 60-100 psi, 30-60 CFH consumption
Ventilation:	Rear 250 CFM recommended, two 100 mm (4.0 in.) dia. ducts

System weight [8, 9]: 422 kg (930 lbs.)

(1) Repeatability is measured at full rated system speed.
(2) Solder capacity and total weight of solder pot and pump assembly varies depending on solder alloy.
(3) Substrates as small as 50 x 50 mm (2.0 x 2.0 in.) are possible without the need for fixturing or other tooling.
(4) Contact factory regarding smaller boards/carriers.
(5) Electrical power varies depending on configuration.
(6) Topside preheating only available with 208/220-240VAC, 60 Hz, single phase power supply.
(7) Nitrogen consumption is solder nozzle dependent and machine configuraton dependent.
(8) System weight varies depending on configuration.
(9) Configuration dependent. Other configurations may be available. Contact Nordson SELECT.

Standards Compliance

SMEMA

Additional options may be available: contact Nordson SELECT for further information.

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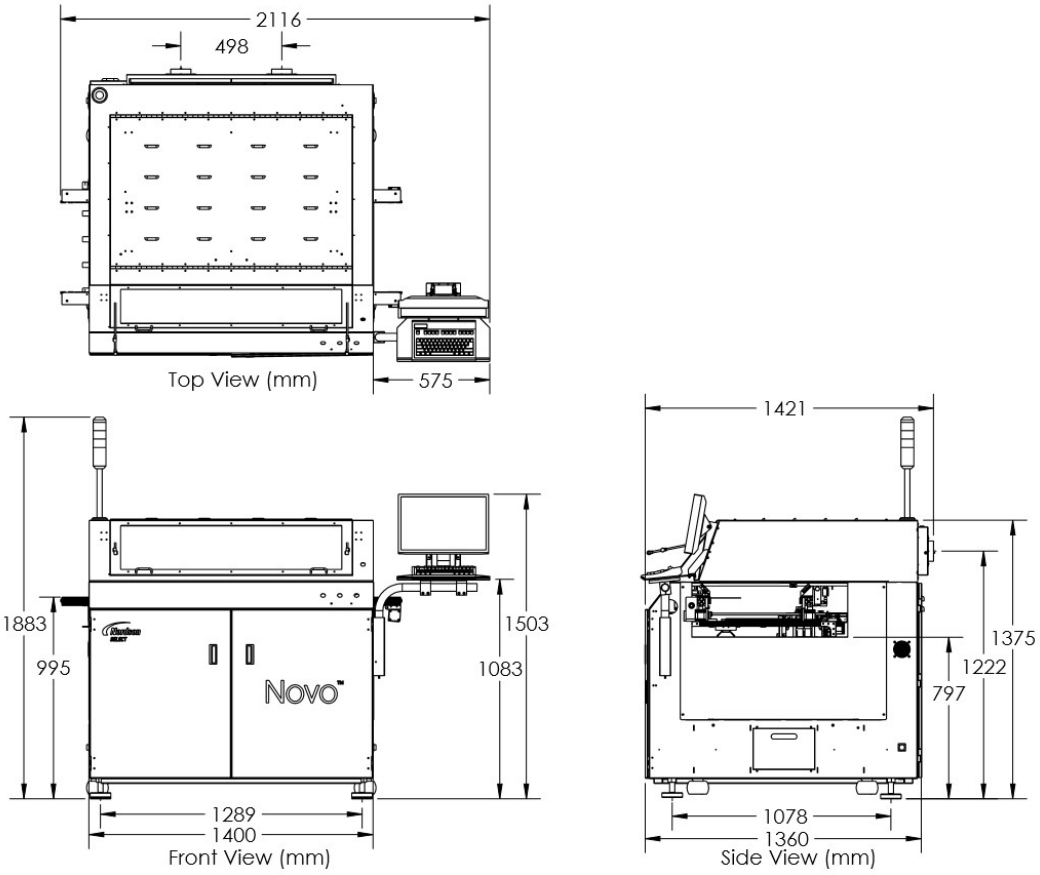
Dimensions are in millimeters



Nordson SELECT, Inc.
+1.509.924.4898 Phone
sales.usa@nordsonselect.com Email
3010 North First Street
Spokane Valley, WA USA 99216-5085
www.nordsonselect.com

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

Nordsonselect.com

North America
Headquarters
Spokane Valley, WA, USA
+1.509.924.4898
info@nordsonselect.com

China
Email:
info@nordsonselect.com

Shanghai
+86.21.3866.9166

Beijing
+86.10. 8453.6388

Guangzhou
+86.20.8554.9996

Europe
Maastricht, Netherlands
+31. 43.352.4466
info@nordsonselect.com

Japan
Tokyo
+81.3.5762.2801
Info@nordsonselect.com

Korea
Seoul
+82.31.765.8337
info@nordsonselect.com

India
Chennai
+91. 44.4353.9024
info@nordsonselect.com

S.E. Asia/Australia
Singapore
+65.6796.9514
info@nordsonselect.com

Taiwan
+886.229.02.1860
info@nordsonselect.com