

In-Line Flux and Preheat Module

Concurrent Fluxing and Preheating for Increased Throughput

Features and Benefits

- In-line fluxing and preheating of printed circuit boards up to 406 x 406 mm (16.0 x 16.0 in.) or 610 x 457 mm (24.0 x 18.0 in.)
- Concurrent fluxing and preheating increases throughput and reduces processing time
- Atomizing spray flux applicator or precision drop-jet flux dispenser for processing a wide range of various flux chemistries
- Choice of topside or bottom-side infrared or topside or bottom-side convection preheating with controlled ramp rate
- SMEMA edge conveyor with program width adjustment for easy pairing with Nordson SELECT in-line selective soldering systems

The Flux & Preheat 2 and Flux & Preheat 3 are SMEMA compatible modules that provide concurrent fluxing and preheating for any Nordson SELECT in-line selective soldering system. These Flux & Preheat modules greatly increase throughput and reduce cycle time with concurrent processing.

Process Control. With automatic two-point fiducial correction and step-and-repeat capability in both X and Y directions, these Flux & Preheat modules can flux multiple boards within multi-up panels. Topside and bottom-side preheating with closed-loop process control reduces thermal stress.



Flux and preheat module paired with in-line selective soldering system



Productivity. The use of a Flux & Preheat module enables simultaneous fluxing, preheating and soldering of three or four printed circuit boards at the same time optimizing throughput and increasing productivity. When paired with a Nordson SELECT in-line soldering system, the Flux & Preheat module is automatically controlled by the SWAK-OS software of the in-line selective soldering system that optimizes and balances both systems.

Process Control. Nordson SELECT's closed-loop rotary encoders and other advanced process control capabilities have been incorporated into the Flux & Preheat 2 and Flux & Preheat 3, 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.

Flux and Preheat Module Features

The in-line Flux & Preheat 2 module and Flux & Preheat 3 module are SMEMA compatible systems that provide concurrent fluxing and preheating for any Nordson SELECT in-line selective soldering system and are ideal 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

Spray or drop-jet fluxing with atomizing spray, precision FluxJet or dual flux dispensers



Spray flux applicator

Drop-jet dispenser

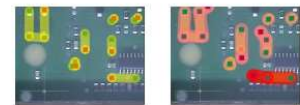
Dual flux heads

Infrared or convection preheating with closed-loop process control and controlled ramp rate



SMEMA edge conveyor with program controlled width adjust and positive PCB location

SWAK-OS graphics-based programming and machine control software



Seamlessly creates true-to-scale image of entire board

Paint flux and solder paths to create and edit programs

Standard Features

- SMEMA edge conveyor with program controlled width adjustment, positive PCB location and PCB flattening
- Conveyor direction left-to-right
- High speed Z-axis motion
- Closed-loop rotary encoders
- Atomizing spray flux applicator
- Topside infrared preheater with closed-loop control
- 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

Optional Features

- Right-to-left conveyor direction
- 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
- Four fluxers, any combination of atomizing spray heads or drop-jet flux dispensers
- Bottom-side infrared preheater with closed-loop control
- Topside convection preheating with closed-loop control
- Bottom-side convection preheating with closed-loop control
- Six channel thermal data logging system
- Barcode reader

Specifications: Flux and Preheat Module

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

Board Handling Capability

Flux & Preheat 2 ^(2, 3) :	
Max. 406 x 406 mm (16.0 x 16.0 in.)	
Min. 50 x 50 mm (2.0 x 2.0 in.)	
Flux & Preheat 3 ^(2, 3) :	
Max. 610 x 457 mm (24.0 x 18.0 in.)	
Min. 50 x 50 mm (2.0 x 2.0 in.)	

Conveyor

Max. board/carrier length:	
Flux & Preheat 2:	406 mm (16.0 in.)
Flux & Preheat 3:	610 mm (24.0 in.)
Min. board/carrier length:	50 mm (2.0 in.)
Max. board/carrier width:	
Flux & Preheat 2:	406 mm (16.0 in.)
Flux & Preheat 3:	457 mm (18.0 in.)
Min. board/carrier width:	50 mm (2.0 in.)
Max. board/carrier thickness:	7.6 mm (0.3 in.)
Max. overboard clearance:	102 mm (4.0 in.)
Max. underboard clearance:	102 mm (4.0 in.)
Edge clearance ⁽⁴⁾ :	3 mm (0.12 in.), edge conveyor including on-rail clamps
Transport height:	Conforms to SMEMA standard for conveyor height; height adjustable from 940-965 mm (37.0 - 38.0 in.) from floor to bottom of board
Load capacity ⁽⁵⁾ :	4.5 kg (10.0 lbs.)
Operation modes:	Automatic (SMEMA), manual or pass-through

Facilities Requirements

System footprint:	
Flux & Preheat 2:	1701 x 1421 mm (66.9 x 55.9 in.)
Flux & Preheat 3:	1981 x 1716 mm (78.0 x 67.5 in.)
Air supply:	Less than 10 CFH @ 90-100 psi
Power (mains) ⁽⁶⁾ :	
Flux & Preheat 2:	Power supply accommodates 208/220-240VAC, 60 Hz single phase, 30 A 50 A with 2 preheaters, 70 A with 3 preheaters
Flux & Preheat 3:	Power supply accommodates 208/220-240VAC, 60 Hz single phase, 40 A 70 A with 2 preheaters, 100 A with 3 preheaters
Nitrogen ⁽⁷⁾ :	60-100 psi, 20-30 CFH consumption
Ventilation:	Rear 250 SCFM recommended, two 100 mm (4.0 in.) dia. ducts
System weight ^(8, 9) :	
Flux & Preheat 2:	431 kg (950 lbs.)
Flux & Preheat 3:	568 kg (1250 lbs.)

- (1) Repeatability is measured at full rated system speed.
- (2) Substrates as small as 50 x 50 mm (2.0 x 2.0 in.) are possible without the need for fixturing or other tooling.
- (3) Contact factory regarding smaller boards/carriers.
- (4) Edge conveyor conforms to SMEMA standards.
- (5) Total weight of all parts on conveyor at any one time. Contact factory regarding requirements for greater load capacity.
- (6) Electrical power varies depending on configuration.
- (7) Nitrogen consumption is machine configuration dependent.
- (8) System weight varies depending on configuration.
- (9) Configuration dependent. Other configurations may be available. Contact Nordson SELECT.

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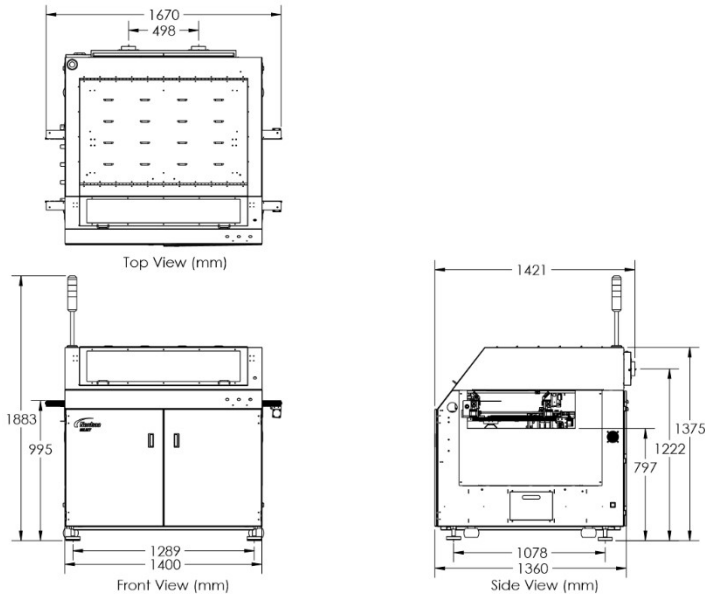
Standards Compliance

SMEMA

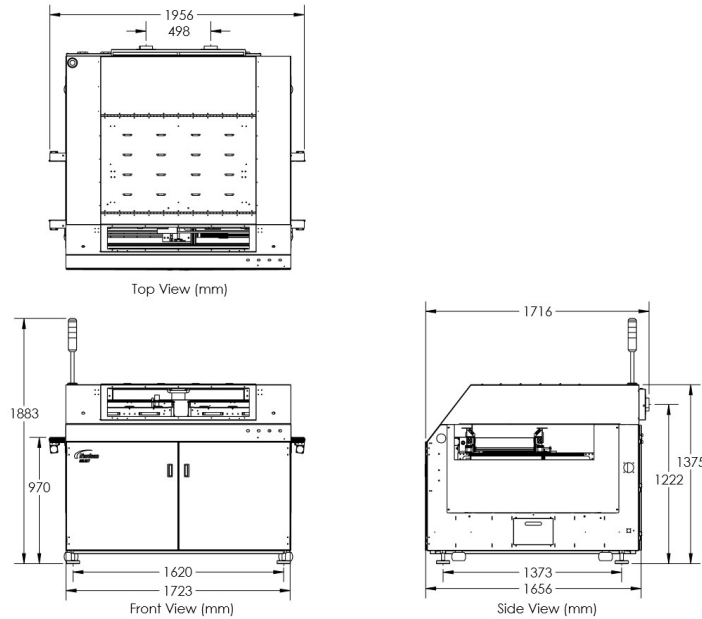
Additional options may be available: contact Nordson SELECT for further information.

Flux and Preheat Module

Dimensions are in millimeters



Flux & Preheat 2



Flux & Preheat 3

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