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.

Nordson SELECT

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

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:	76 mm (3.0 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.

Standards Compliance

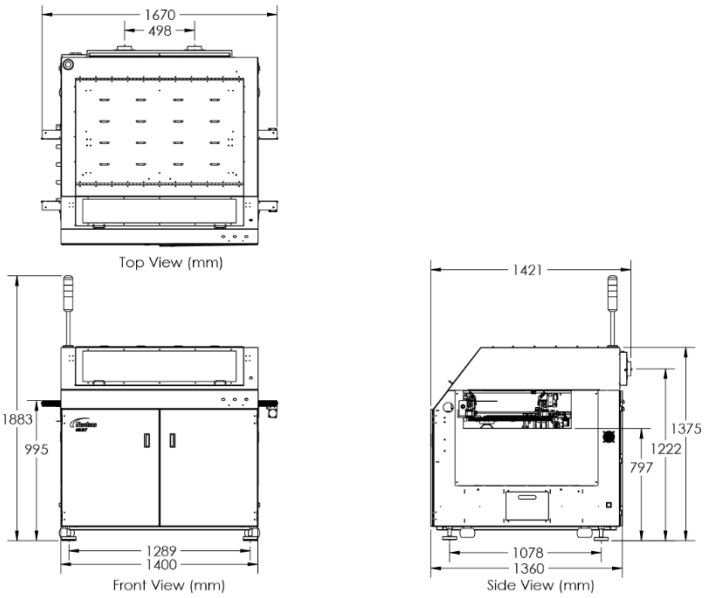
SMEMA

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

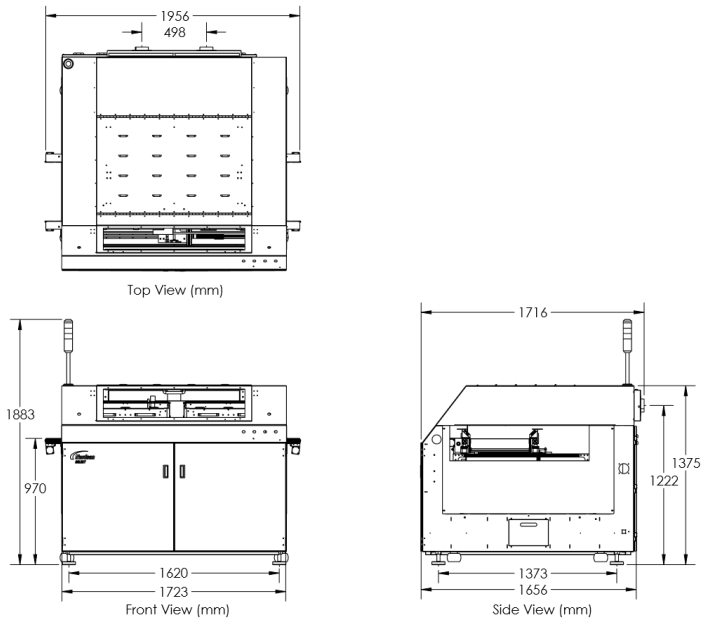
Nordson SELECT

Flux and Preheat Module

Dimensions are in millimeters



Flux & Preheat 2



Flux & Preheat 3

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