The Flux & Preheat Module is SMEMA compatible and provides concurrent fluxing and preheating for any Nordson SELECT in-line selective soldering system. This Flux & Preheat module greatly increases throughput and reduces cycle time with concurrent processing.

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

Features and Benefits

- In-line fluxing and preheating of printed circuit boards up to 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
- Topside infrared preheating during fluxing or topside and bottom-side infrared preheat after fluxing with controlled ramp rate
- SMEMA edge conveyor with program width adjustment for easy pairing with Nordson SELECT in-line selective soldering systems

Productivity. The use of a Flux & Preheat module enables simultaneous fluxing, preheating and soldering up to 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 module, 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 module is a SMEMA compatible system that provides 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 and positive PCB location
- Conveyor direction left-to-right
- Closed-loop rotary encoders
- Atomizing spray flux applicator
- Topside infrared preheater after fluxing with closed-loop control
- SWAK-OS 4.0 graphics-based programming and machine control software
  - Fully-automated fiducial alignment and board mapping
  - 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 FluxJet precision drop-jet flux dispensers or one of each
- Four fluxers, any combination of atomizing spray heads or FluxJet precision drop-jet flux dispensers
- Topside infrared preheater during fluxing with closed-loop control
- Bottom-side infrared preheater after fluxing with closed-loop control
- Six channel thermal data logging system
- Barcode reader
Specifications

Motion System
X-Y accuracy (1): ±50 µm (0.002 in.)
X-Y repeatability (2): ±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 4.0 graphics-based programming and machine control software

Preheating
Scalable infrared preheating from 3.0 kW to 6.0 kW

Board Handling Capability
Flux & Preheat (3, 4, 5):
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 (5):
Min. board/carrier length: 610 mm (24.0 in.)
Max. board/carrier length: 50 mm (2.0 in.)
Max. board/carrier width:
Flux & Preheat: 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 (6):
3 mm (0.12 in.), edge conveyor
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 (7):
4.5 kg (10.0 lbs.)
Operation modes:
Automatic (SMEMA), manual or pass-through

Facilities Requirements
System footprint: 1981 x 1716 mm (78.0 x 67.5 in.)
Compressed Air: 6 bar (90 psi.) min., 7 bar (100 psi) max.
Power (mains) (8): Power supply accommodates 208/220-240VAC, 60 Hz single phase, 40 A 80 A with 2 preheaters, 100 A with 3 preheaters
Nitrogen (9): 99.999% (5.0) pure, 4-7 bar (60-100 psi)
1.2 m3/hour consumption
Ventilation: 595 m3/hour (350 SCFM), two 100 mm (4.0 in.) dia. ducts
System weight (10, 11):
Flux & Preheat: 568 kg (1250 lbs.)

1 Accuracy as measured at extremes of travel.
2 Repeatability is measured at full rated system speed.
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 Max. board handling capability is 558 x 457 mm (22.0 x 18.0 in.) when configured with optional right-to-left conveyor direction.
6 Edge conveyor conforms to SMEMA standards.
7 Total weight of all parts on conveyor at any one time. Contact factory regarding requirements for greater load capacity.
8 Electrical power varies depending on configuration.
9 Nitrogen consumption is machine configuration dependent.
10 System weight varies depending on configuration.
11 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

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