Novo® Series: Model 460
Selective Soldering with combined Flexibility and Modularity

Features and Benefits

- Choice of single or dual drop-jet fluxers and solder pots for either simultaneous parallel or independent double processing modes
- Parallel processing significantly increases machine throughput while double processing broadens soldering flexibility
- Full titanium solder pot compatible with all solder alloys plus easy tool-free maintenance
- Software control between different solder alloys without changing solder pots
- Standalone platform with combined fluxing, preheating and soldering for highest possible process flexibility

Designed for a wide variety of selective soldering applications, the Novo® 460 offers exceptional value with superior process capabilities and is ideally suited for cell manufacturing. The Novo® 460 has many unique features, including drop-jet fluxing, IR preheating and selective soldering with fast and easy programming and machine setup.

Versatility. With its flexible configuration, the Novo® 460 is a versatile selective soldering platform and can be equipped for either single, parallel or double processing. Use of a single drop-jet fluxer and solder pot allows soldering of printed circuit boards as large as 460 x 460 mm (18.1 x 18.1 in.).

When configured with dual drop-jet fluxers and dual solder pots, the Novo® 460 can be used in two different modes and is capable of processing up to 2 boards at one time. The parallel processing mode enables fluxing and soldering of two printed circuit boards at the same time doubling machine productivity.

The double processing mode allows soldering with multiple size nozzles within the same program enhancing flexibility and increasing productivity. A single drop-jet fluxer and dual solder pots can be used in the double processing mode and is ideally suited for the use of two different solder alloys without requiring physical changing of solder pots.

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.
Novo® 460 Features
The Novo® 460 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:

- Double-sided TH/SMT assemblies
- TH selective and mini-wave soldering
- Multiple solder alloy soldering without changing solder pot

Motion System
Standard Features
- Standalone platform with combined fluxing, preheating and single selective soldering station (460S)
- Two-way loading and unloading system for PCB frames
- Solder frame for printed circuit boards
- MicroDrop drop-jet fluxer
- Nitrogen preheating
- All titanium solder pot and pump assembly
- Quick change magnetically coupled solder nozzle
- Automatic solder pot level monitoring
- Automatic wave height monitoring
- PhotoScan editor and machine control software
  - Easy “point-and-click” programming
  - Remote machine control
  - Remote machine maintenance
  - Network and FIS capability
- TFT monitor

Optional Features
- Fully-automated fiducial alignment and board mapping
- Flux level sensing system
- In-process, closed-loop flux verification system for drop-jet control
- Full surface topside infrared preheating
- Full surface bottom-side infrared preheating
- Closed-loop pyrometer control
- Process viewing camera and second monitor
- Automatic solder wire feeding system
- Automatic solder level sensing system
- Wave height control sensing system
- Automatic solder nozzle cleaning system
- Data logging system with traceability of all process parameters, barcode reader

Additional Configurations
- Dual MicroDrop drop-jet fluxers and dual solder pot and pump assemblies for parallel or double soldering modes (460PD)
Specifications

Motion System

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z accuracy</td>
<td>±100 µm (0.004 in.)</td>
</tr>
<tr>
<td>Z repeatability (1)</td>
<td>±50 µm (0.002 in.), 3 sigma</td>
</tr>
<tr>
<td>Z velocity</td>
<td>0.05 m/s peak (2 in./s)</td>
</tr>
<tr>
<td>X-Y accuracy</td>
<td>±100 µm (0.004 in.)</td>
</tr>
<tr>
<td>X-Y repeatability (1)</td>
<td>±50 µm (0.002 in.), 3 sigma</td>
</tr>
<tr>
<td>X-Y velocity</td>
<td>0.2 m/s peak (8 in./s)</td>
</tr>
</tbody>
</table>

Computer

PC with Windows® operating system

Software

PhotoScan “point-and-click” programming editor and machine control software

Solder Pot Capacity and Weight

| Capacity (2)            | Approx. 12.0 kg (26.4 lbs.)   |
| Total weight of solder  | Approx. 22.4 kg (49.2 lbs.)   |
| pump assembly (2)       | Approx. 19.7 kg (43.3 lbs.)   |
| Max. temperature        | 320°C                         |

Solderable Area (X-Y)

Single, parallel or double operating mode (3, 4): Max. 460 x 460 mm (18.1 x 18.1 in.)

Preheating

Selectable infrared preheating from 1.5 kW to 6.0 kW

Board Handling Capability

Max. board size: 460 x 460 mm (18.1 x 18.1 in.)

Board Clearance

Max. overboard clearance: 120 mm (4.7 in.)
Max. underboard clearance: 40 mm (1.5 in.)

Facilities Requirements

System footprint: 1700 x 2104 mm (66.9 x 82.8 in.)

Compressed air: 6 bar (90 psi) min., 8 bar (110 psi) max.

Power (mains) (5): Power supply accommodates 400/480VAC, 50-60 Hz, three phase, 6-9 kW, 10-15 A without preheater, or 400/480VAC, 50-60 Hz, three phase, 15-16 kW, 24-26 A with preheater

Nitrogen: 99.99% (4.0) pure, 4-6 bar (60-90 psi), 1.3 m³/hour (single pot), 2.6 m³/hour (dual pot)

Ventilation: 150 m³/hour (90 SCFM), one 100 mm (4.0 in.) dia. duct

System weight (6, 7): 900 kg (1985 lbs.)

Facilities Requirements notes:

(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) Board size is reduced when operating in parallel or double modes.
(4) Contact factory regarding smaller or larger boards/carriers.
(5) Electrical power varies depending on configuration.
(6) System weight varies depending on configuration.
(7) Configuration dependent. Other configurations may be available. Contact Nordson SELECT.

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Standards Compliance

SMEMA, CE

Additional options may be available: contact Nordson SELECT for further information.
Dimensions are in Millimeters