

# SELECT Synchro

Selective Soldering System by Nordson ELECTRONICS SOLUTIONS



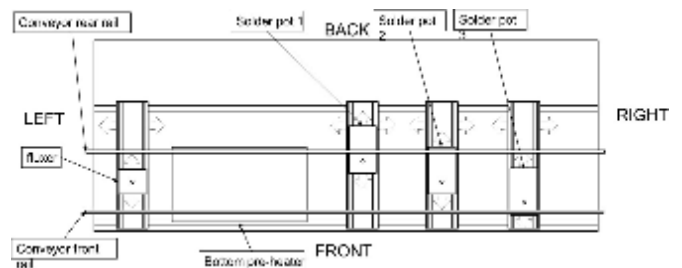
The SELECT Synchro is a multi-station selective soldering system designed for high-volume applications with maximum throughput. With its highly flexible configuration, the SELECT Synchro allows soldering of printed circuit boards as large as 460 x 2500 mm.

**Versatility.** Customers can choose between three, four, or five solder pots and different variants of the additional options to meet a broad range of selective soldering requirements. The Select Synchro configuration with drop-jet fluxer and five solder pots allows for using up to five different solder nozzles or alloys in the same process. The Synchro is capable of processing up to 7 boards at the same time.

**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.

## Features and Benefits

- **FAST;** Increased throughput due to elimination of wasted convey time 20% to 30% on most applications, higher savings if the convey time is large compared to the soldering time of one station
- **SMART;** Automatically balancing the whole process which significantly increases machine throughput and broadens soldering flexibility at its best
- **SPACE-EFFICIENT;** Over 50% reduction in size due to a large reduction of pot and fluxer motion in the conveyor direction. Machine dimensions 2.5m x 1.5m for 2, 3, 4 and 5 pot configurations
- **HIGH THROUGHPUT;** Board dimensions 2,500mm+ X 460mm. Since the board travels at a constant speed on the conveyor, theoretically the conveyor direction dimension is limitless
- **FLEXIBLE;** Allows use of different alloys and different nozzles or one fixed nozzle layout for all of your products



SELECT SynchroMotion configuration with 3 solder pots

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## Features

The Select Synchro is a fully configured SMEMA compatible 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**



### Standard Features

Seven-zone operation with independent zones for concurrent fluxing and preheating plus 5 single selective soldering station  
SMEMA conveyor with positive PCB location  
Automatic conveyor width adjustment  
MicroDrop drop-jet fluxer  
Flux level sensing system  
Full surface bottom-side infrared preheating  
All titanium solder pot and pump assembly  
Quick change magnetically coupled solder nozzle

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  
In-process, closed-loop flux verification system for drop-jet control  
Full surface topside infrared preheating  
Closed-loop pyrometer control  
Board warpage sensing system  
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  
AOI solder joint inspection system  
Data logging system with traceability of all process parameters, barcode reader  
Automatic wave height monitoring  
MES capability

# SELECT Synchro

## Specifications

### Motion System

Z accuracy:	±100 µm (0.004 in.)
Z repeatability <sup>(1)</sup> :	±50 µm (0.002 in.), 3 sigma
Z velocity:	0.05 m/s peak (2 in./s)
X-Y accuracy:	±100 µm (0.004 in.)
X-Y repeatability <sup>(1)</sup> :	±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

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

### Solder Pot Capacity and Weight

Capacity <sup>(2)</sup> :	Approx. 12.0 kg (26.4 lbs.)
Total weight of tin-lead solder together with solder pot and pump assembly <sup>(2)</sup> :	Approx. 22.4 kg (49.2 lbs.)
Total weight of lead-free solder together with solder pot and pump assembly <sup>(2)</sup> :	Approx. 19.7 kg (43.3 lbs.)
Max. temperature:	320°C

### Solderable Area (X-Y)

Max. 460 x 2500 mm  
Min. 50 x 100 mm

### Preheating

Selectable topside preheating from 1.5 kW to 24.0 kW  
Selectable bottom preheating from 1.5 kW to 9.0 kW

### Board Handling Capability

Max. board size:	460 x 2500 mm
Min. board size:	50 x 100 mm

### Conveyor

Min./Max. board/carrier thickness:	0.5m to 5 mm
Max. overboard clearance:	120 mm
Max. underboard clearance:	80 mm
Edge clearance <sup>(5)</sup> :	3 mm (0.12 in.), edge conveyor including on-rail clamps
Transport height <sup>(6)</sup> :	Conforms to SMEMA standard for conveyor height; height adjustable from 940-965 mm from floor to bottom of board
Load capacity <sup>(7)</sup> :	5.0 kg/PCB complete 30 kg
Operation modes:	Automatic (SMEMA), manual or pass-through

### Facilities Requirements

System footprint:	2500 x 1500 mm
Compressed air:	6 bar min., 8 bar max.
Power (mains) <sup>(8)</sup> :	400/480VAC, 50-60 Hz, three phase, 50 kW, 72 A
Nitrogen:	99.99% (4.0) pure, 4-6 bar, 1.3 m <sup>3</sup> /hour (single pot), 6.5 m <sup>3</sup> /hour (5 solder pots)
Ventilation:	Rear 300 m <sup>3</sup> /hour, two 100 mm dia. Ducts
System weight <sup>(9,10)</sup> :	1800 kg

### Standards Compliance

SMEMA, CE

### Explanatory Notes

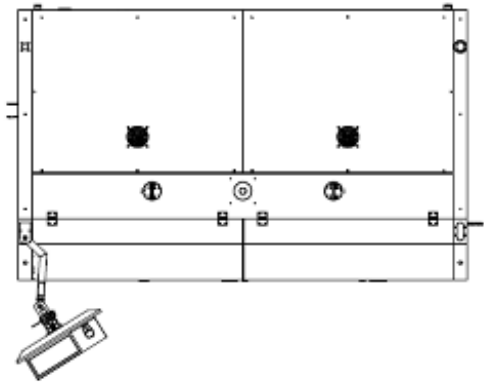
1. Repeatability is measured at full rated system speed.
2. Solder capacity and total weight of solder pot and pump assembly varies depending on solder alloy.
3. Board size is reduced when operating in parallel or double modes
4. Contact factory regarding smaller or larger boards/carriers.
5. Edge conveyor conforms to SMEMA standards.
6. 900 mm (35.4 in.) non-SMEMA conveyor height available upon request.
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. System weight varies depending on configuration.
10. Configuration dependent. Other configurations may be available. Contact Nordson SELECT

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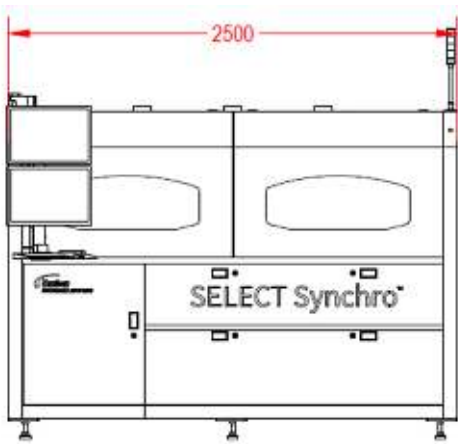
**Additional options may be available: contact Nordson SELECT for further information.**

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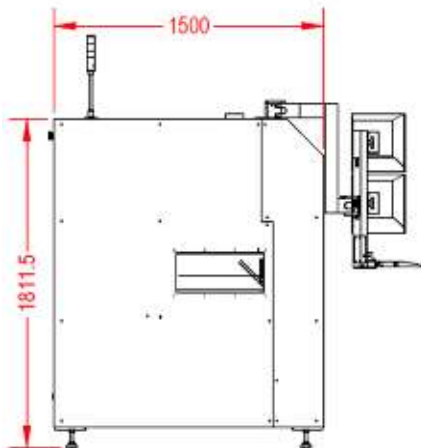
Dimensions are in millimeters



Top View (mm)



Front View (mm)



Side View (mm)



The SCCE (Soldering Competence Center Europe) is a division of smartTec and your partner for all aspects of soldering. An extensive training and seminar program as well as process know-how, development and support are emphasized in the SCCE.

The SCCE will be pleased to advise you with your questions:

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