

SELECT Synchro

Transform Your Selective Soldering Process with Non-Stop Productivity

The SELECT Synchro selective soldering system offers a unique patent pending design for high-volume through-hole and mixed-technology surface mount soldering applications and maximum throughput. The system processes multiple boards simultaneously with its highly flexible configuration and compact footprint. Choose the Synchro 3 or 5 for boards up to 2500 mm long and up to 460 mm wide or the Synchro 5 XL for boards up to 2500 mm long and up to 680 mm wide.

- Synchro 3 with up to 3 soldering stations.
- Synchro 5 and 5 XL with up to 5 soldering stations.

Versatility. The Synchro system easily flexes to support various soldering applications, including single-sided, double-sided through-hole, or mixed technology surface mount and through-hole assemblies. The system configuration includes a Microdrop drop-jet fluxer and can accommodate multiple solder nozzles to apply lead-free and leaded alloys. Various options provide added flexibility.

Value. With a reputation for innovation, Nordson SELECT process solutions deliver a maximum return on investment and low cost of ownership. From initial process development through full-scale production, you have the support of our experienced worldwide engineering, applications development, and technical service network.

Benefits

- Boards continuously travel through the system, boosting throughput by 20-40% for most applications, with more gain possible if conveyance and soldering times are comparable.
- Soldering work is automatically balanced between soldering pots to increase throughput further.
- Due to the minimal pot and fluxer motion in the conveyor direction, all Synchro systems reduce the system footprint, with the Synchro 5 reducing footprint by as much as 60% compared to traditional multi-station systems.
- All Synchro systems process several boards simultaneously, in various quantities, using different alloys and nozzles or a single fixed nozzle size.
- Depending on the system, supports up to three or five solder pots, each with the ability to accommodate different nozzle sizes, eliminating the need to change nozzles.

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Specifications

Motion System Flux	X-Y Repeatability ¹	+/- 100 µm (0.004 in.), 3 sigma
	X-Y Velocity/Acceleration ²	1 m/s peak (39.4 in./s), 10m/s ² (393.7 in./s ²)
Motion System Solder	X-Y Repeatability ¹	+/- 150 µm (0.006 in.), 3 sigma
	X-Y Velocity/Acceleration ²	0.15 m/s peak (5.9 in./s), 0.6m/s ² (23.6 in./s ²)
	Z Repeatability ¹	+/- 150 µm (0.006 in.), 3 sigma
	Z Velocity/Acceleration ²	0.125 m/s peak (4.9 in./s), 0.5m/s ² (19.7 in./s ²)
Computer	PC with Windows® operating system	
Software	SolderWorks Editor “point-and-click” programming and machine control software	
Solder Pot Capacity, Weight, and Temperature	Capacity ³	Approximately 12.0 kg/pot (26.5 lbs.)
	Total weight of tin-lead solder, solder pot, and pump assembly ³	Approximately 22.4 kg/pot (49.2 lbs.)
	Total weight of lead-free solder, solder pot, and pump assembly ³	Approximately 19.7 kg/pot (43.4 lbs.)
	Maximum temperature of solder alloy ⁴	320°C (608°F)
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	Maximum board size ⁵	Synchro 3 and 5: 2500 mm x 460 mm (98.4 in. x 18.1 in.) Synchro 5 XL: 2500 mm x 680 mm (98.4 in. x 26.8 in.)
	Minimum board size ⁵	100 mm (L) x 50 mm (W) (3.9 in. x 2 in.)
Solderable Area (X-Y)	SELECT Synchro 3 and 5: maximum 2500 mm x 454 mm ⁶ (98.4 in. x 17.9 in.)	
	SELECT Synchro 5 XL: maximum 2500 mm x 674 mm ⁶ (98.4 in. x 26.5 in.)	
Conveyor	Minimum/maximum board and carrier thickness	Standard conveyor: 0.5 mm to 5 mm (0.02 in. to 0.2 in.) Heavy-duty conveyor: 3 mm to 8 mm (0.12 in. to 0.31)
	Maximum overboard clearance	120 mm (4.7 in.)
	Maximum underboard clearance	40 mm (1.6 in.) 80 mm (3.1 in.) is optional
	Edge clearance ⁶	Standard conveyor: 3 mm (0.12 in.), on each side Heavy-duty conveyor: 5 mm (0.2 in.) on clamp side, 7 mm (0.3 in.) on edge side
	Conveyor height	Conforms to SMEMA standard for conveyor height; 950 mm (37.4 in.) +/- 25 mm (1 in.)
	Load capacity ⁷	Standard conveyor: Maximum 10 kg (22 lbs.) for 500 mm (19.7 in.); 3 mm (0.1 in.) board seating Heavy-duty conveyor: Maximum 20 kg (44 lbs.) for 500 mm (19.7 in.); 5 mm (0.2 in.) board seating
	Operation modes ⁸	Automatic (SMEMA), manual with standard or synchronized linking conveyors
Facilities Requirements	System footprint ⁹	Synchro 3 and 5: 2500 mm x 1500 mm x 1811.5 mm (98.4 in. x 59.1 in. x 71.3 in.) Synchro 5 XL: 2500 mm x 1750 mm x 1811.5 mm (98.4 in. x 68.9 in. x 71.3 in.)
	Compressed air	6 bar minimum, 8 bar maximum, 6 mm (0.2 in.) push-in connector
	Power (mains) ¹⁰	Synchro 3: 400VAC, 50 Hz, three phase, 45 kW, 63 A Synchro 5 and 5 XL: 400VAC, 50 Hz, three phase, 50 kW, 72 A
	Nitrogen	99.99% (4.0) pure, 4-6 bar, 1.5m ³ /hour/pot (25L/min/pot), 10 mm (0.4 in.) push-in connector
	Ventilation	Five 100 mm (3.9 in.) diameter ducts: Port 1: 300 m ³ /hour Ports 2-5: 75 m ³ /hour per port (a total of 300 m ³ /hour)
	System weight ¹¹	Synchro 3: 2006 kg (4422 lbs.) Synchro 5: 2118 kg (4669 lbs.) Synchro 5 XL: 2158 kg (4758 lbs.)

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Specification Table Footnotes

- 1. Repeatability is measured at the full-rated system speed and on an individual solder axis, which does not represent the entire system repeatability.
- 2. Velocity and acceleration are the maximum values for the single-axis motion. Actual fluxing and soldering are slower.
- 3. Solder capacity and total weight of the solder pot and pump assembly vary depending on the solder alloy.
- 4. The standard solder alloy temperature is 300°C (572°F). Monitor the system when running at maximum temperature.
- 5. Contact the factory regarding smaller or larger boards/carriers.
- 6. Conveyor clearance at the front (clamps) and back (guide rail) is 3 mm. **Note:** The clearance is 5 mm for the heavy-duty conveyor.
- 7. Total weight of all parts on the conveyor at any one time. Contact the factory regarding requirements for greater load capacity.
- 8. When used with synchronized SMEMA, the uniquely designed Nordson synchronized linking conveyors pause and start only when full.
- 9. The system footprint does not include a tower light, exhaust ducts, monitor arm, or door handles. Request a detailed footprint drawing for details.
- 10. Electrical power varies depending on the configuration.
- 11. System weight varies depending on the configuration.

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

System Solutions

Nordson Electronics Solutions builds the future of electronics reliability all across the globe. We’re proud of the decades of service and solutions we’ve provided to enhance semiconductor reliability. No matter where you are, you’ve likely manufactured or purchased a product made reliable with our equipment.

The Synchro is our most advanced selective soldering system, designed to last and provide cutting-edge soldering capabilities, continuing a time-honored tradition.

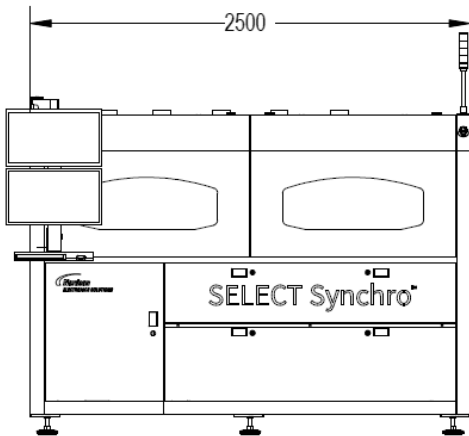
Explore the Synchro solutions.

For more information, contact us at info-electronics@nordson.com.

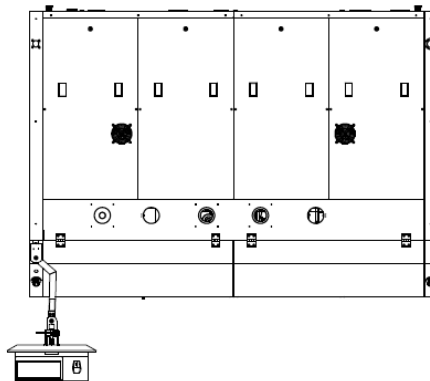
Essential	Essential selective soldering efficiency.	The Synchro 3 and 5 systems offer non-stop selective soldering productivity for 2500 mm x 460 mm boards.
Large-Scale	Expanded selective soldering efficiency.	The Synchro 5 XL system offers non-stop selective soldering productivity for 2500 mm x 680 mm boards.

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System Dimensions



Front view 2500 mm (~8.2 ft.)



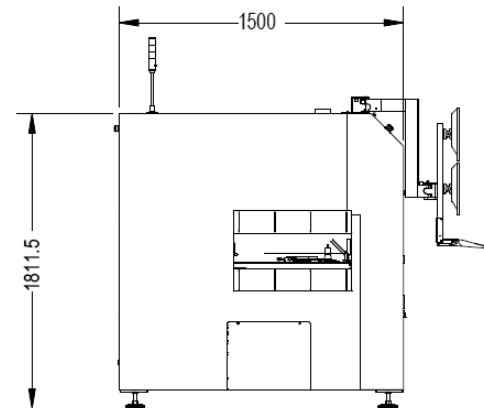
Top view

For more information, visit our website to find your local regional office or representative.

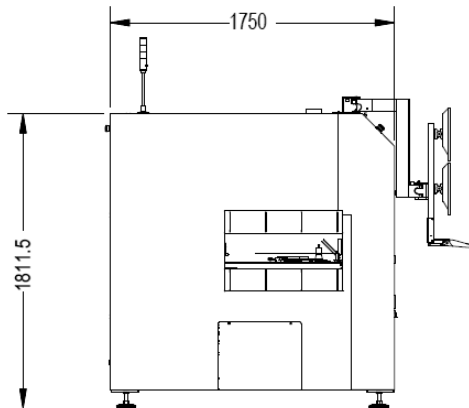
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Synchro 3 and 5
Side view 1500 mm x 1811.5 mm
(~4.9 ft. x 5.9 ft.)



Synchro 5 XL
Side view 1750 mm x 1811.5 mm
(~5.7 ft. x 5.9 ft.)

The product images shown are for illustrative purposes only and may not exactly represent the product received.

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May 2025