

# Integra™ Series: Model 508.5

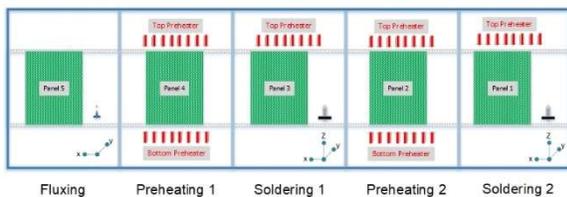
## Selective Soldering System for High-Volume, High-Performance Soldering

### Features and Benefits

- Five-zone in-line operation with simultaneous fluxing, preheating and up to three individual soldering stations for maximum throughput
- Variants available with two or three soldering stations for high-volume, high-performance selective soldering
- 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 pots compatible with all solder alloys plus easy tool-free maintenance

The Integra™ 508.5 is a multi-station selective soldering system designed for high-volume applications with maximum throughput. Due to its modular design, the Integra™ 508.5 can be matched to the requirements of various high-volume applications. Available in four variants, the Integra™ 508.5 features concurrent fluxing, preheating and soldering and can be configured with two or three in-line soldering stations for maximum output.

**Versatility.** With its flexible configuration, the Integra™ 508.5 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 508 x 508 mm (20.0 x 20.0 in.).

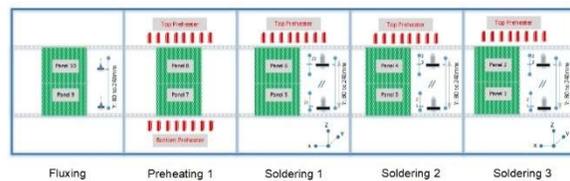


Integra™ 508.5 2S configuration

When configured with dual drop-jet fluxers and dual solder pots, the Integra™ 508.5 can be used in two different modes and is capable of processing up



to 10 boards at one time. The parallel processing mode enables fluxing and soldering of two printed circuit boards in each fluxing and soldering station at the same time doubling machine productivity.



Integra™ 508.5PD 3S configuration

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.

## Integra™ 508.5 Features

The Integra™ 508.5 is a multi-station SMEMA compatible selective soldering platform designed for demanding high-volume 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 pots

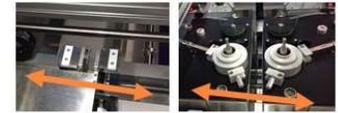
**Parallel or double processing** modes with dual fluxers and solder pots for simultaneous or independent soldering



Parallel mode solders two boards at same time, double mode allows multiple size nozzles in one program

**Multiple soldering stations** for high-volume applications with maximum throughput

**Single or dual fluxers and solder pots** for increased productivity and flexibility



Automatically adjustable nozzle distance between 80-240 mm

**Five-zone in-line operation** with concurrent fluxing, preheating and soldering for increased throughput

**MicroDrop drop-jet fluxer** standard and available dual MicroDrop drop-jet fluxers

**Full titanium solder pots and pump assemblies** compatible with all solder alloys



### Standard Features

Five-zone operation with independent zone for concurrent fluxing and preheating plus either two (508.5 2S) or three selective soldering stations (508.5 3S)  
SMEMA chain 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  
Automatic solder pot level monitoring  
Automatic wave height monitoring  
Heated nitrogen inerting system  
Process viewing camera  
PhotoScan editor and machine control software

- Easy “point-and-click” programming
- Remote machine control
- Remote machine maintenance
- Network and FIS capability

TFT monitor

### Additional Configurations

Dual MicroDrop drop-jet fluxers and dual solder pot and pump assemblies for parallel or double soldering modes with either two (508.5PD 2S) or three selective soldering stations (508.5PD 3S)

### Optional Features

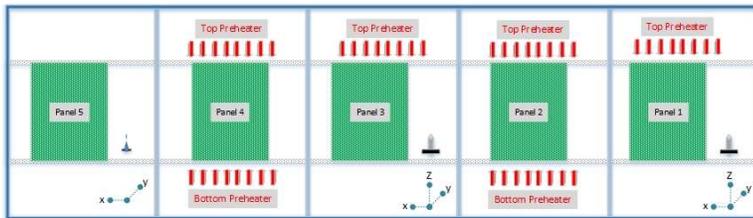
In-process, closed-loop flux verification system for drop-jet control  
Full surface topside infrared preheating  
Closed-loop pyrometer control  
Board warpage sensing system  
Dual process viewing camera and second monitor  
Automatic solder wire feeding system  
Automatic solder level sensing system  
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

# Integra™ 508.5 Configurations

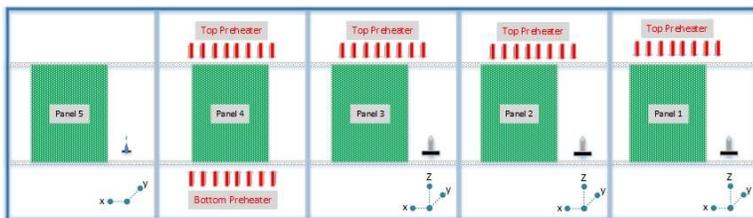
The Integra™ 508.5 multi-station selective soldering system is available in either two or three soldering station variants designed to meet a wide range of demanding high-volume, high-performance soldering applications. Both two and three soldering station variants have top and bottom preheating directly after fluxing and can be equipped for either single, parallel or double processing.

Two soldering station variants have top preheating above each soldering station and a second top and bottom preheating station for soldering of high-thermal mass printed circuit board assemblies. Three soldering station variants have top preheating above each soldering station and are designed for maximum throughput.

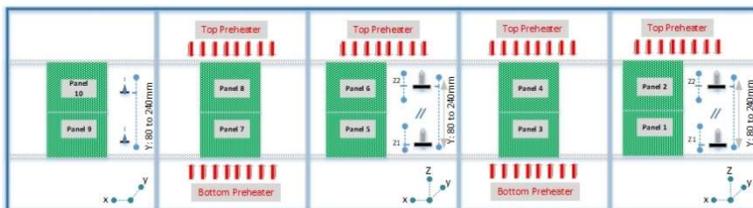
## Integra™ 508.5 Available Machine Configurations



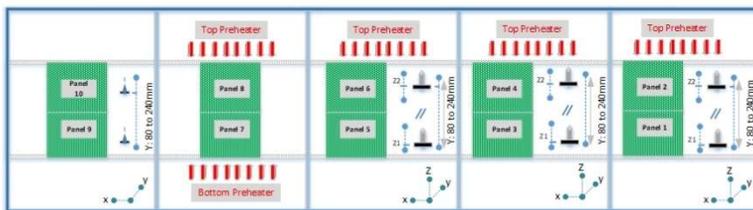
Integra™ 508.5 2S – two soldering stations, single



Integra™ 508.5 3S – three soldering stations, single



Integra™ 508.5PD 2S – two soldering stations, parallel or double



Integra™ 508.5PD 3S – three soldering stations, parallel or double

### Advantages of the Integra™ 508.5

- Modular design with high flexibility
- Concurrent fluxing, preheating and soldering
- Single, parallel or double fluxing and soldering
- Dual solder pots allow use of different solder alloys
- High solder joint quality with complete process traceability
- Parallel processing of multi-up panels

When used in the parallel processing mode, boards need to be panelized and individual boards need to be spaced at a distance between 80-240 mm. A panel with any multiple of two boards aligned in the direction of the dual nozzles will derive the full benefit of fluxing and soldering two boards at the same time, including 2-up, 4-up, 6-up or 8-up panels.

With an odd number of boards within a multi-up panel a partial benefit is obtained. For example, a 3-up panel has the full benefit of fluxing and soldering two boards at the same time and single fluxing and soldering the third board. A 5-up panel has the full benefit of parallel fluxing and soldering four boards and single fluxing and soldering the fifth board.

# Specifications: Integra™ 508.5

## Motion System

Z accuracy	±50 µm (0.002 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	±50 µm (0.002 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.)

## Solderable Area (X-Y)

Single, parallel or double operating mode <sup>(3,4)</sup>:  
Max. 508 x 508 mm (20.0 x 20.0 in.)  
Min. 50 x 50 mm (2.0 x 2.0 in.)

## Board Handling Capability

Max. board size: 508 x 508 mm (20.0 x 20.0 in.)  
Min. board size: 50 x 50 mm (2.0 x 2.0 in.)

## Conveyor

Max. board/carrier length:	508 mm (20.0 in.)
Min. board/carrier length:	50 mm (2.0 in.)
Max. board/carrier width:	508 mm (20.0 in.)
Min. board/carrier width <sup>(4)</sup> :	50 mm (2.0 in.)
Max. board/carrier thickness:	15.2 mm (0.6 in.)
Max. overboard clearance:	120 mm (4.7 in.)
Max. underboard clearance:	40 mm (1.5 in.)
Edge clearance <sup>(5)</sup> :	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 <sup>(6)</sup> :	7.5 kg (16.5 lbs.)
Operation modes:	Automatic (SMEMA), manual or pass-through

## Facilities Requirements

System footprint:	5540 x 1700 mm (218.1 x 66.9 in.)
Compressed air:	6 bar min., 8 bar max.
Power (mains) <sup>(7)</sup> :	Power supply accommodates 3 phase, 400VAC, 50-60 Hz, 26-34 kW, 30-32 A
Nitrogen:	99.99% (4.0) pure, 4-6 bar, 1.3 m <sup>3</sup> /hour (each single pot station), 2.6 m <sup>3</sup> /hour (each dual pot station)
Ventilation:	Rear 150 m <sup>3</sup> /hour per duct, three 100 mm (4.0 in.) dia. ducts
System weight <sup>(8,9)</sup> :	3000 kg (6600 lbs.)

- (1) Repeatability is measured at full rated system speed.
- (2) Solder capacity and total weight of each 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) Total weight of all parts on conveyor at any one time. Contact factory regarding requirements for greater load capacity.
- (7) Electrical power varies depending on configuration.
- (8) System weight varies depending on configuration.
- (9) Configuration dependent. Other configurations may be available. Contact Nordson SELECT.

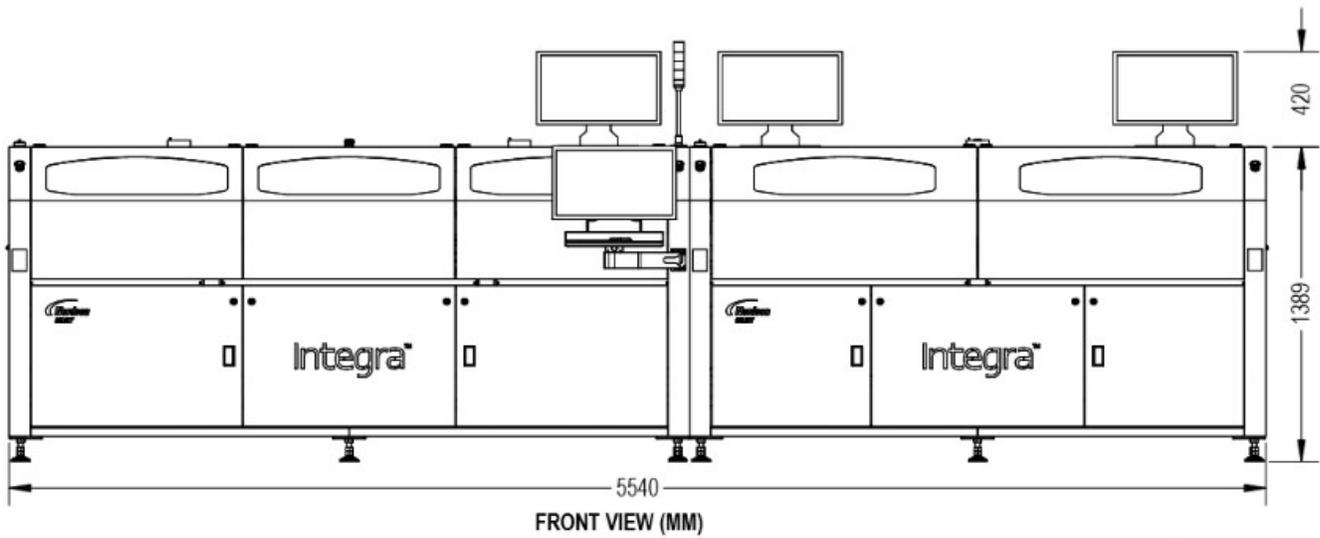
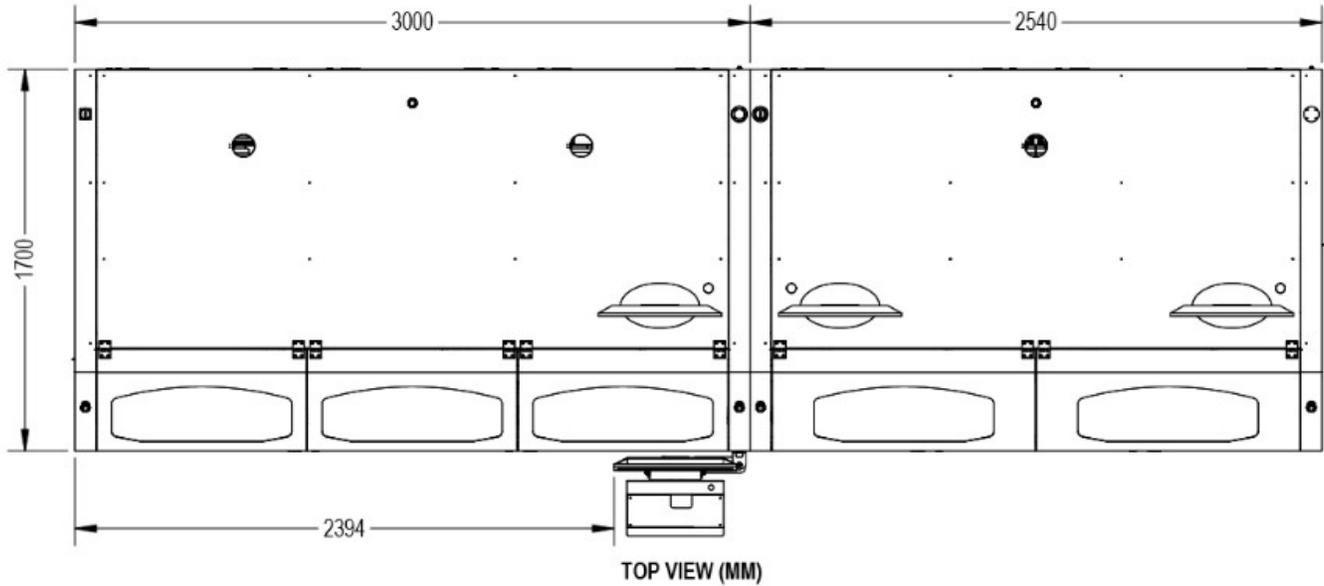
Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

## Standards Compliance

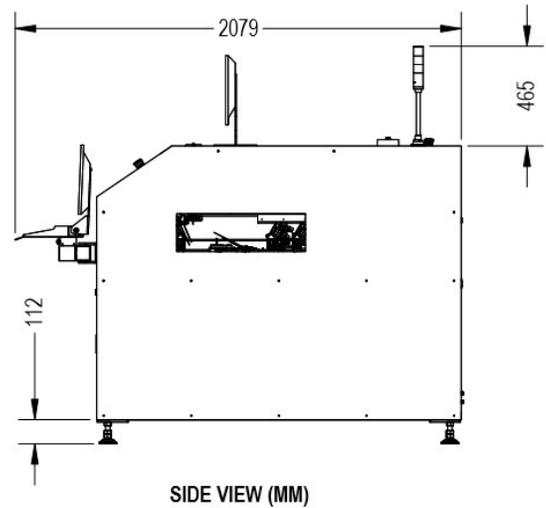
SMEMA, CE

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

# Integra™ 508.5



Dimensions are in millimeters



**smartTec**  
*smart technology products and solutions*

[www.smarttec.dk](http://www.smarttec.dk)

**Nordson SELECT, Inc.**  
 Germany Office  
 +49 (0) 7273 949466 0 Phone  
[info@nordsonselect.com](mailto:info@nordsonselect.com) Email

**Perläckerstraße 11**  
**76767 Hagenbach**  
 Germany

[www.nordsonselect.com](http://www.nordsonselect.com)

Published 2017-15-08