

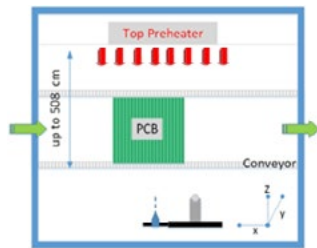
Cerno® Series: Model 508.1

Selective Soldering System in 508.1S, 508.1PD or 508.1PD 2seg Configurations



The Cerno® 508.1 is a robust selective soldering system delivering the optimum balance between flexibility, throughput and large board size. The Cerno® 508.1 has many unique features, including combined fluxing, preheating and soldering for easy integration into batch or in-line production.

Versatility. Customers can choose between three different variants of the Cerno® 508.1 to meet a broad range of selective soldering requirements. The Cerno® 508.1S configuration with single fluxer and solder pot provides single board processing.



Cerno® 508.1S flux, preheat and solder configuration

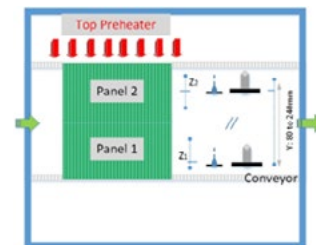
The Cerno® 508.1PD configuration with dual drop-jet fluxers and dual solder pots allows for using two solder nozzles in the same soldering station or processing two boards in a panel simultaneously. The Cerno® 508.1PD is capable of processing up to 2 boards at one time. Parallel processing enables fluxing and soldering of two printed circuit boards at the same time doubling machine productivity.

The Cerno® 508.1PD 2seg configuration with dual fluxers

Features and Benefits

- Batch or in-line platform with combined fluxing, preheating and soldering for highest possible process flexibility
- 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
- 2segment configuration can solder two boards in-line with two segmented conveyors without boards being panelized or requiring tooling
- Full titanium solder pots compatible with all solder alloys plus easy tool-free maintenance

and solder pots can solder two singulated boards in a parallel mode in-line with two segmented conveyors. This allows sequential soldering of two printed circuit boards at the same time without the need for the boards to be in a panel, to be palletized or to require tooling.



Cerno® 508.1PD flux, preheat and solder configuration

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.

Cerno® Series: Model 508.1

Selective Soldering System in 508.1S, 508.1PD or 508.1PD 2seg Configurations

Cerno® 508.1 Features

The Cerno® 508.1 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**

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

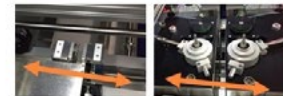


Parallel mode solders two boards at same time, double mode allows multiple size nozzles in one program

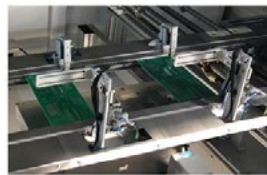
Integrated platform with combined fluxing, preheating and soldering for high process flexibility

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

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



Automatically adjustable nozzle distance between 80-240 mm



2 segment configuration can solder two singulated boards without being panelized or requiring tooling

SMEMA chain conveyor with automatic width adjustment

Standard Features

Integrated platform with combined fluxing, preheating and single selective soldering station (508.1S)
SMEMA chain conveyor with positive PCB location Automatic conveyor width adjustment
MicroDrop drop-jet fluxer
Flux level sensing system
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 (508.1PD)
Dual MicroDrop drop-jet fluxers and dual solder pots for parallel or double soldering modules or sequential soldering of two boards in-line (508.1PD 2seg)

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
Full surface bottom-side 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
Data logging system with traceability of all process parameters, barcode reader

Specifications

Motion System

Z accuracy	±100 µm (0.004 in.)
Z repeatability ⁽¹⁾ :	±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 ⁽¹⁾ :	±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 ⁽²⁾ :	Approx. 12.0 kg (26.4 lbs.)
Total weight of tin-lead solder together with solder pot and pump assembly ⁽²⁾ :	Approx. 22.4 kg (49.2 lbs.)
Total weight of lead-free solder together with solder pot and 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. 508 x 508 mm (20.0 x 20.0 in.)

Min. 50 x 50 mm (2.0 x 2.0 in.)

Preheating

Selectable infrared preheating from 6.0 kW to 12.0 kW

Board Handling Capability

508.1S and 508.1PD ^(3,4):

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.)

508.1PD 2seg ^(3,4):

Max. board size: 350 x 508 mm (13.8 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 ⁽⁴⁾: 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 ⁽⁵⁾: 3 mm (0.12 in.), edge conveyor including on-rail clamps

Transport height ⁽⁶⁾: 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⁾: 7.5 kg (16.5 lbs.)

Operation modes: Automatic (SMEMA), manual or pass-through

Facilities Requirements

System footprint:

508.1S/PD	1700 x 1700 mm (66.9 x 66.9 in.)
508.1PD 2Seg	1800 x 1700 mm (70.8 x 66.9 in.)
Compressed air:	6 bar (90 psi) min., 8 bar (110 psi) max.
Power (mains) ⁽⁸⁾ :	
508.1S	400V/480VAC, 50-60 Hz, 3-phase, 10 kW, 16 A without preheating, or 17 kW, 28 A with preheating
508.1PD	400V/480VAC, 50-60 Hz, 3-phase, 13 kW, 21 A without preheating, or 32 kW, 46A with preheating
508.1PD 2seg	400V/480VAC, 50-60 Hz, 3-phase, 16 kW, 35 A without preheating, or 24 kW, 32 A with preheating
Nitrogen:	99.99% (4.0) pure, 4-6 bar (60-90 psi), 1.3 m ³ /hour (single pot), 2.6 m ³ /hour (dual pot)
Ventilation:	150 m ³ /hour (90 SCFM), one 100 mm (4.0 in.) dia. duct
System weight ^(9,10) :	850 kg (1870 lbs.)

- (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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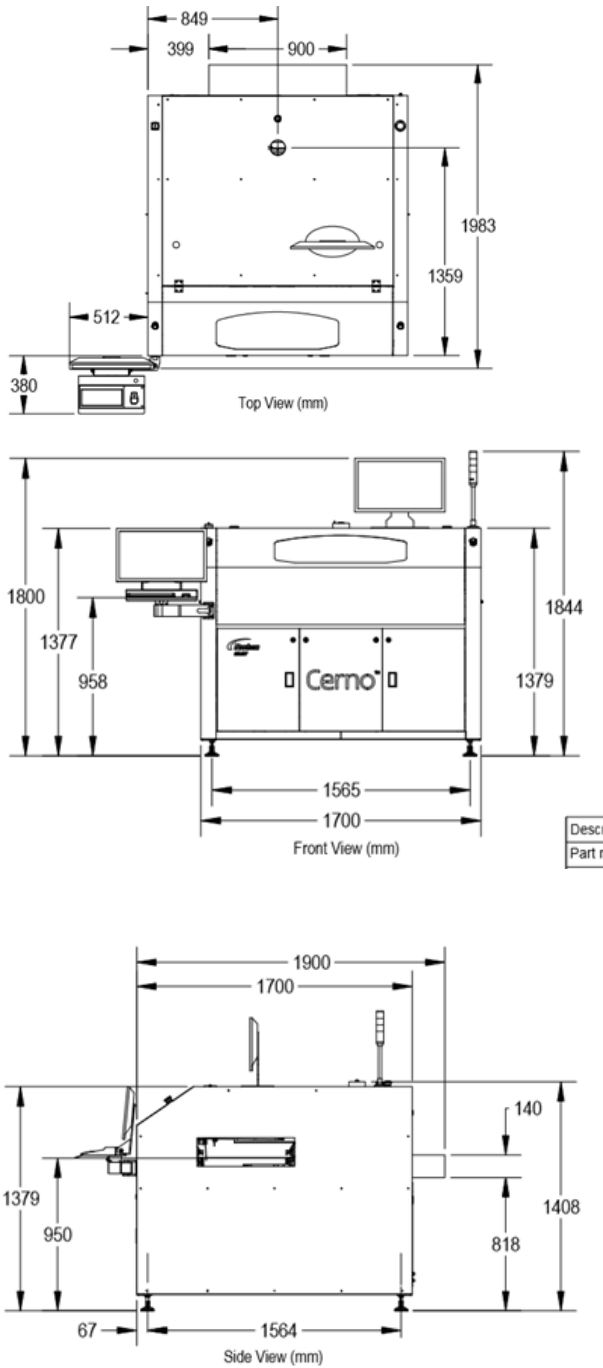
Standards Compliance

SMEMA, CE

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

Cerno® Series: Model 501.1S and PD

Dimensions are in Millimeters



For more information speak with your local sales rep or contact your regional office.

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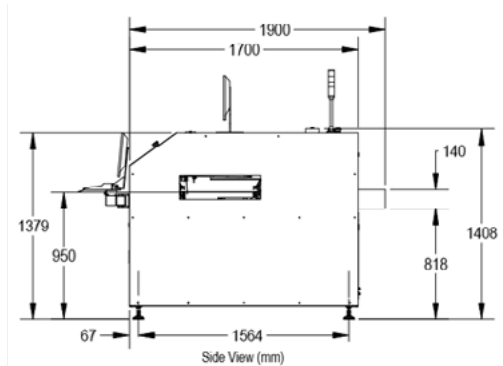
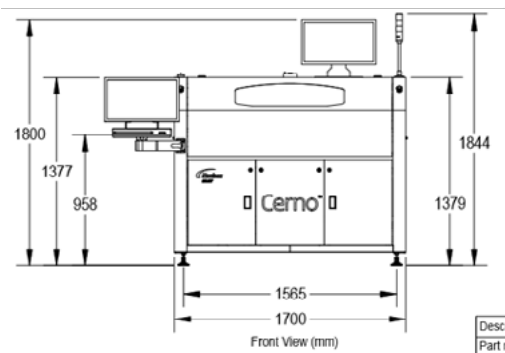
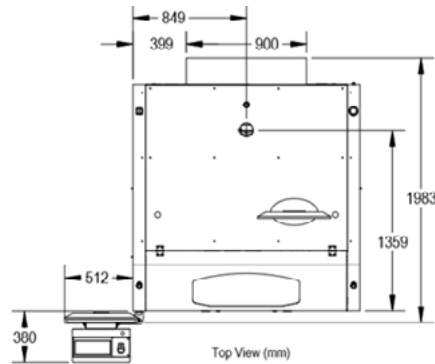
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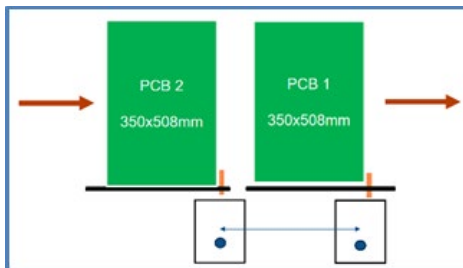
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Cerno® Series: Model 501.PD 2seg

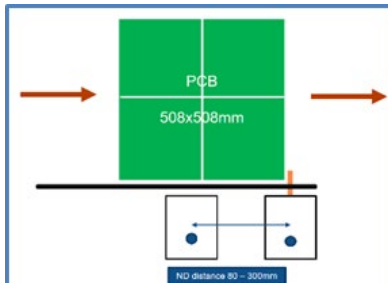
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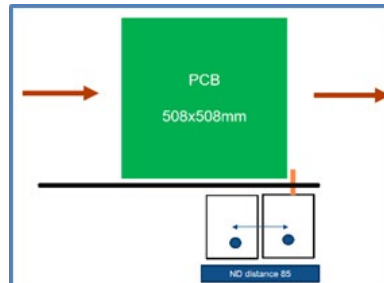
Descr
Part n



Cerno® 508.1PD 2seg soldering two singulated boards in parallel mode



Cerno® 508.1PD 2seg soldering one panelized board with dual nozzles



Cerno® 508.1PD 2seg soldering one board with small and large nozzles

For more information speak with your local sales rep or contact your regional office.

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