

# Total Solutions

for Soldering Processes and  
Automated Production Lines

SEHO PowerWave N2

Wave Soldering System SEHO PowerWave N2

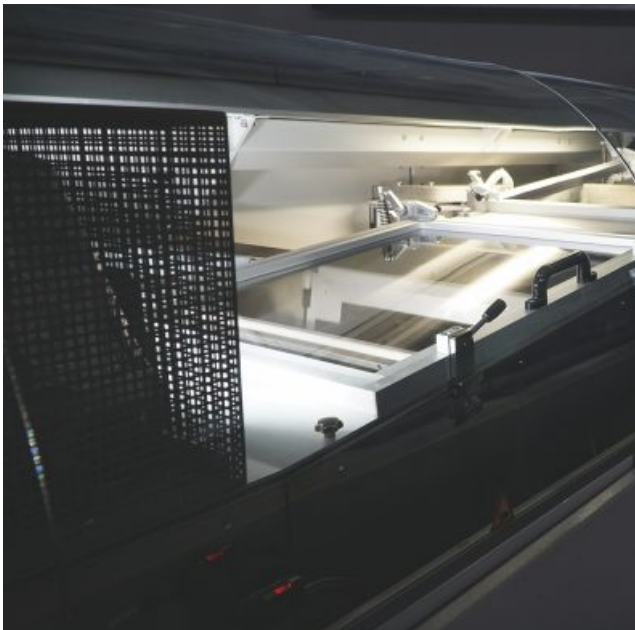


Reflow | Selective | Wave | Handling Solutions | AOI | Know How & Training

## Cost-Effective and Energy-Efficient

POWERWAVE N2

- Insulated stainless steel tunnel ensures low energy consumption.
- SEHO tunnel concept guarantees reduced nitrogen consumption.
- Efficient rest oxygen measurement.
- Innovative spray fluxer reduces flux consumption and ensures a reliable process with the optionally available flux quantity control.
- Flexible preheat configuration with convection, infrared and quartz heater modules.
- High-end soldering area ensures perfect and reliable solder connections.
- Programmable, automatic height adjustment of the solder nozzles.
- Pass-through optimization with separated conveyor segments and programmable sectorial soldering.
- Up-to-date control unit and easy programming.
- Continuous monitoring of all machine data and process parameters.
- Unbeatable value for money.



### The Machine Concept:

#### Designed to reduce your production costs

The nitrogen wave soldering system SEHO PowerWave N2 is designed for medium to large-sized production volumes and particularly puts a focus on optimizing your production quality while minimizing the manufacturing costs.

While featuring comparatively low investment cost and minimum operating expenses, the system offers ideal value for money, thus ensuring high profitability.

The system is ideally suited for both, lead-containing and lead-free soldering processes.

Based on SEHO's leading nitrogen technology, demanding surface mount assemblies are as perfectly soldered as through-hole assemblies.

This is accomplished with the innovative tunnel concept, individually in speed controllable conveyor segments, the reproducible flux application, the modular preheat configuration and the up-to-date soldering area which leaves nothing to be desired.



fluxer area with HVLV technology and exhaust units

### The Nitrogen Tunnel: effective and energy efficient

The PowerWave N2 is equipped with a closed tunnel system. The special design of the stainless steel tunnel results in a low nitrogen consumption.

A new and modern tunnel insulation ensures a remarkably high energy efficiency - a clear advantage for your production costs.

Hinged heat-resistant glass covers not only make for a very attractive design but also allow ideal accessibility to all machine areas.

### The Fluxer Area: reproducible and sparing

The PowerWave N2 is provided with an innovative fluxer unit that reduces flux consumption remarkably, and simultaneously makes for low maintenance requirements.

The fluxer is driven motorically, thus providing several advantages. Offset and spray width can individually be programmed, travel speed and positioning are absolutely accurate and reproducible.

The spray head with HVLV technology (high volume - low pressure) ensures a stable spray jet and a very precise spray pattern even at the outer edges of the printed circuit boards.

A flux quantity monitoring system ensures reliable processes and perfect results.

This features a reproducible fluxing process with a considerably reduced flux consumption. Simultaneously, maintenance requirements are tremendously reduced as this system overall features less soiling of the fluxer area.

### The Preheat Area: modular and productive

The flexible preheating zone configuration with an active length of 1800 mm [70.86"] enables the system to be adapted to your specific production needs.

Depending on the requirements, the PowerWave N2 may be equipped completely individual. IR preheat zones ensure an even heating of the entire assembly while quartz heaters

make for a quick heat transfer and compensate temperature differences because of unequal mass proportion within the assembly. Convection modules are particularly effective and component-sensitive. They guarantee a very homogeneous heating of the assemblies and they are ideally suited for processing of water-based fluxes as they perfectly evaporate the water content.

In the case of high-mass printed circuit boards, top-side heating modules may be installed additionally.

Of course, each preheat zone can be adjusted individually and is separately monitored and controlled.

### The Soldering Area: open for all challenges

The heart of the PowerWave N2 - the soldering area - offers a flexible configuration which leaves nothing to be desired.

Innovative, up-to-date wave formers combined with an ideal nitrogen atmosphere ensure optimum soldering results. An active, automatic control of the exhaust, balances out asymmetrical flows in the tunnel and keeps the nitrogen atmosphere stable.

A programmable, automatic height adjustment of the solder nozzles and the programmable sectorial soldering mode make for highest flexibility in the soldering area.

Of course, the PowerWave N2 also is ideally suited for processing of lead-free solder alloys.

The controlled reduction of solder balls and many other innovative features bring the PowerWave N2 to perfection.

### The Control Unit: powerful and easy to use

The PowerWave N2 is equipped with a modern control unit concept that exhibits state of the art and which highlights many features that ensure comfortable and continuous control of the machine and process data.

Operation is made especially easy, featuring process visualization and an interactive graphic user interface.

Up-to-Date Technology

+ Perfect Soldering Results

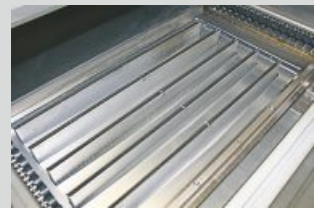
= High Profitability: SEHO PowerWave N2



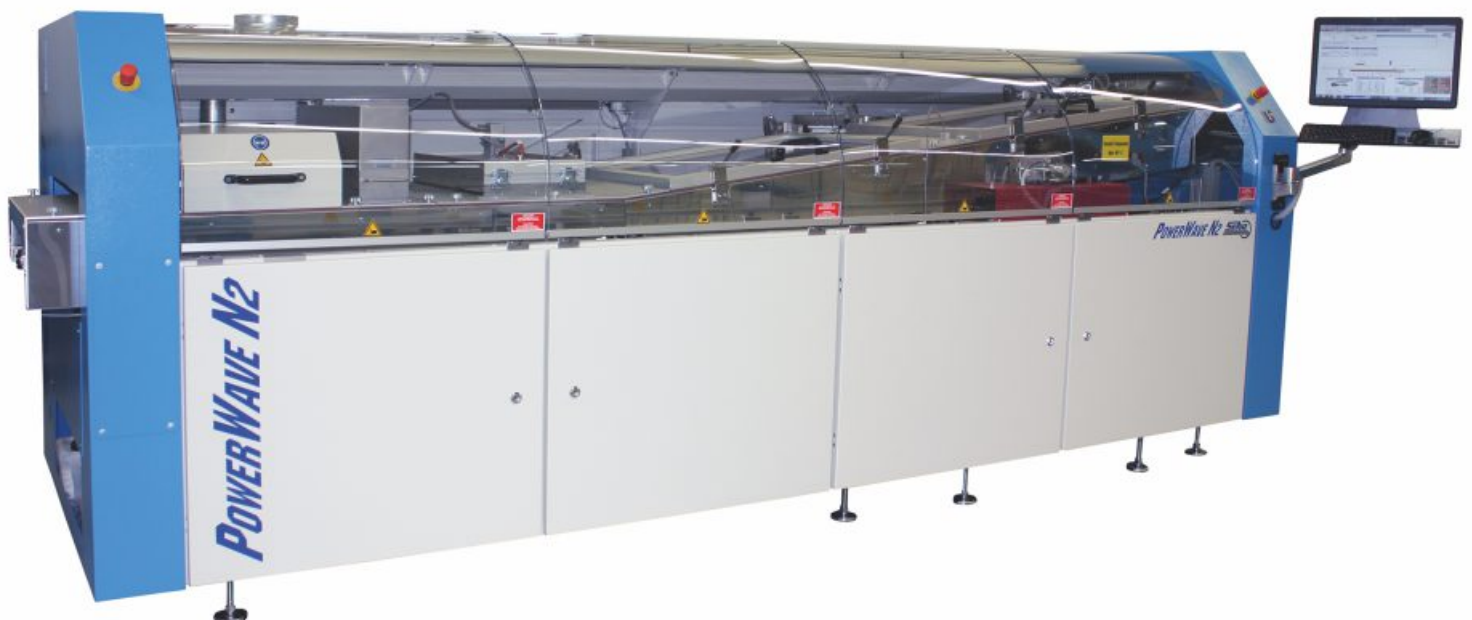
*infrared preheat zone*



*quartz preheat zone*



*convection preheat zone*



## Technical Data and Machine Options

conveyor width	400 mm / 15.74"
max. assembly height	90 mm / 3.54"
stainless steel nitrogen tunnel	●
energy efficient tunnel insulation	●
high precision CAN bus motors	●

### Conveyor System

number of conveyor segments splder frame conveyor / finger conveyor	2 / 3
pass-through direction from left to right	●
conveyor angle	7°
conveyor speed	0.5 - 2.5 m/min.

### Fluxer Area

ATS spray fluxer with HVLP technology	●
offset and spray width individually programmable	●
flux dosing system	○
flux quantity monitoring system	○
exhaust units with stainless steel filter on top and next to fluxer	●

### Preheat Area

total length of preheat area	1800 mm / 70.86"
number of preheat zones	6
power rating IR preheat module	3.00 kW
power rating convection preheat module	10.00 kW
power rating quartz preheat module	3.75 kW

### Soldering Area

composit coating for processing of lead-free alloys	●
power rating solder pot	9 kW
programmable nozzle height adjustment (solder pot)	± 10 mm / 0.39"
sectorial soldering	●
solder level control	●
automatic solder bar supply	○
solder nozzle units as single nozzle concept	○
solder nozzle units as dual nozzle concept	○

### Control Unit

up-to-date control concept and operation with PC	●
board dimensions programmable	●
pass-through control	●
throughput optimization with separately controllable conveyor segments	●
machine and process data logging	●
interfaces	●
communication interfaces, connection to MES	○
hinged control cabinet	○
efficient rest oxygen measurement and nitrogen economy mode	○
management for controlled addition of air	○
automatic exhaust control	○
consumption measurement of energy and nitrogen	○

### Dimensions and Connections

dimensions l x w x h, weight	4400x1625x1410 mm / 173.2x64.0x55.5", 1500 kg
nitrogen supply	to be provided onsite
nitrogen connection	R 1/2"
required pressure	7 bar
required particle cleanliness	5.0 recommended
compressed air connection	R 1/4"
required pressure	6 bar
variants - connection voltage:	
European standard	230/400 V, 240/415 V
US standard / CSA standard	120/208 V, 3 x 220 V
exhaust rate	1 x 1000 m³/h at 6 mbar negative pressure

Further options upon request.

● Standard ○ Option



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