

# Total Solutions

for Soldering Processes and  
Automated Production Lines

SEHO MaxiReflow

Reflow Soldering System SEHO MAXiREFLOW



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

- Winner of the Global Technology Award.
- Worldwide unique: Thermally invisible conveyor system.
- Highest process reliability: 100 % parallel conveyor system.
- Maximum productivity ensured with direct drive for width adjustment.
- Efficient residue management with cyclone or pyrolysis guarantees long maintenance intervals.
- Optimum, powerful heat transfer.
- Low, component-sensitive temperature settings.
- Flexible temperature management due to a high number of heating zones.
- Effective, multi-stage cooling area.
- Emission-free express exhaustion allows fast change of temperature profiles.
- High machine availability.
- Automatic recording of machine and process data with comfortable software tools.
- Nitrogen control ensures perfect results and low operating costs.
- The ideal system for each application: Different variants available.



## SEHO MaxiReflow: Maximum Soldering Results

SEHO MaxiReflow, which won a Global Technology Award, sets a milestone in soldering technology.

The system is equipped with a revolutionary, thermally invisible conveyor system, an effective and component-sensitive heat transfer technology as well as a highly efficient residue management and process gas cleaning.

**Maximum process reliability, maximum soldering quality and maximum machine availability arrive at one conclusion: SEHO MaxiReflow.**

## Maximum Parallelism: The LowMassConveyor

The innovative „LowMassConveyor“ is one of the technical highlights of the SEHO MaxiReflow.

This transport system features chain guide profiles that are carried by steel cables which are spanned through the entire system. This ensures an absolute parallel alignment of the profiles.

Extremely slender chain guide profiles which are „thermally invisible“ can thus be utilized at the same time.

Conveyor width adjustment and positioning of the center support are made with a fast direct drive system. The advantages are obvious: Highest precision, minimal maintenance requirements, lowest wear and, as a result, an even higher flexibility and productivity of the reflow soldering system.

Of course, the MaxiReflow soldering systems are available with a dual conveyor system as well to realize maximum production volumes.



*residue management with cyclone technology and water cleaning*

## Maximum Cleaning Results: The Residue Management

An efficient residue management with cleaning of the process gas is an absolute must for a modern reflow soldering system.

The MaxiReflow is equipped with a highly efficient process gas cleaning system with patented gas leading principle. It thus guarantees long maintenance intervals and a remarkable cost reduction in your production.

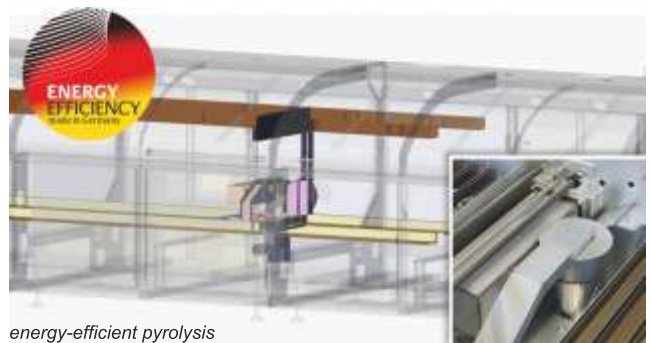
Special feature of both residue management systems from SEHO: The process gas cleaning is fully integrated in the heating cassette to eliminate heat losses.

Depending on the application and the materials used, the MaxiReflow alternatively can be equipped with two different cleaning methods.

In the standard version, the system is provided with a cyclone that ensures controlled condensation. This cyclone is also available with water cleaning.

As an alternative, a process gas cleaning method based on thermal decomposition by means of pyrolysis can be integrated.

With SEHO's innovative pyrolysis system, the cleaned and returned process gas is used to support the heating power. Therefore, this solution provides an outstanding high energy efficiency.



*energy-efficient pyrolysis*



## Excellent Reflow Soldering: SEHO MaxiReflow

### **Maximum Heat Transfer: Perfect Temperature Management for Perfect Soldering Results**

Equipped with the unique tangential blower technology and a perfect process gas leading system, the MaxiReflow systems exactly deliver what you expect from your reflow soldering machine: Excellent and repeatable soldering results.

A very homogeneous heat distribution combined with moderate gas velocity is ensured by a high volume of ventilated process gas and an optimum nozzle design. This gas leading concept completely excludes any shadowing or unintended movement of components.

The gas leading principle FDS (Flow Dynamic System) ensures ideal, highly efficient heat transfer to the PCBs and enables the most effective and component-sensitive heating of the product with temperature settings on a low level.

Flexibility of the MaxiReflow systems is given in terms of the temperature management. Depending on the application, the machine may be equipped with different heating zone configurations. This allows a very precise and flexible reaction to all material and process-related conditions - for perfect soldering results.

In case of frequently changing products and truly different temperature profiles, the emission-free exhaustion leads to remarkable time savings, thus contributing to a reduction in manufacturing costs. Here, the temperature in the process chamber is reduced to a significantly lower level within shortest time.

### **Maximum Efficiency: The Multi-Stage Cooling Concept**

The multi-stage, temperature-controlled cooling area of the MaxiReflow provides special flexibility and ensures stress-free cooling of your assemblies.

Cooling of the products is made evenly from top side and bottom side, with temperatures individually adjustable for each cooling zone. This will allow you to directly affect the cooling gradient.

If the regular cooling section should not be sufficient for your particular process, the cooling area can be expanded with additional zones.

### **Maximum Comfort: The Control Unit**

The modular control concept of the MaxiReflow is opened and consequently a system ready for new developments and additions to meet new challenges.

The software is easy to use and provided with a comprehensive management data tool for documentation and analyzing purposes.

The machine may be equipped with a nitrogen control system which ensures consistently high quality of your products and enables you to have manufacturing costs under control. The required rest oxygen value can be individually programmed for each product - everything else is regulated automatically by the machine.





## Technical Data and Options

### Heating Zones

process gas	N <sub>2</sub> or air
MaxiReflow 3.0:	number of heating zones top and bottom [pcs]
	7, 8 or 10
	total length of heated area [mm/inch]
	3150 / 124.0
	average working speed (lead-free)
	0.7 - 1.0 m/min.
MaxiReflow 3.6:	number of heating zones top and bottom [pcs]
	10 or 12
	total length of heated area [mm/inch]
	3750 / 147.6
	average working speed (lead-free)
	0.8 - 1.2 m/min.
MaxiReflow 4.5	number of heating zones top and bottom [pcs]
	11 or 13
	total length of heated area [mm/inch]
	4780 / 188.2
	average working speed (lead-free)
	1.1 - 1.5 m/min.
time for heating up [min]	approx. 20
emission-free express exhaustion - quick change to a lower temperature level	○

### Conveyor System

pin-chain conveyor - LowMassConveyor	○
combined conveyor (pin-chain and mesh belt)	○
max. working width [mm/inch]	500 / 19.68
dual lane conveyor - LowMassConveyor	○
working width programmable	●
chain center support with programmable positioning	●
parking position for chain center support	●

### Cooling Area

number of standard cooling zones [pcs]	2 - 3
MaxiReflow 3.0:	length of cooling area [mm/inch]
	900 / 35.4
MaxiReflow 3.6:	length of cooling area [mm/inch]
	1200 / 47.2
MaxiReflow 4.5:	length of cooling area [mm/inch]
	1800 / 70.9

### Residue Management

3-stage process gas cleaning system with cyclone	●
process gas cleaning system with pyrolysis	○

### Nitrogen Technology

SEHO oxygen sensor with nitrogen control	○
oxygen analyzer	○
average nitrogen consumption at 200 ppm residual O <sub>2</sub> <sup>1)</sup>	< 20 m <sup>3</sup> /h
nitrogen quality	5.0
pressure of nitrogen supply [bar]	6 - 8
nitrogen connection	1/4"

### Control Unit

modular control unit and operation via PC	●
individual adjustment of circulated convection volume (3 groups)	●
management data system according to ISO 9000	●
production statistics for every board	●
clock timer and interval functions	●
interfaces (SMEMA, IPC-HERMES-9852, PULSE etc.)	○
closed loop control of all relevant functions	●
PCB pass-through control	●
remote maintenance function	●

### Machine Dimensions

total length [mm/inch]	MaxiReflow 3.0	5610 / 220.8
	MaxiReflow 3.6	6520 / 256.7
	MaxiReflow 4.5	8340 / 328.3
total width [mm/inch]		1500 / 59.0
total height, depends on infeed height [mm/inch]		1490 - 1590 / 58.7 - 62.6

Further options upon request.  
<sup>1)</sup>depending on application

● Standard

○ Option

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