



The modular Soldering System

which Grows with Your Needs.

Greater Thermal Process Control over other Wave Soldering Systems - Ideal for Sensitive Components
Great technological advantages over Wörtmann / single wave / and double wave systems. Only one Jet Wave with a short-term temperature peak.



The Kirsten Process is Kind to Sensitive SMD Components

The Kirsten wave spares components which are sensitive to temperature. Thanks to the possible combination processes, THT/SMD components below and SMD components above are exposed to only one thermal shock.

Shortest Wetting Time

Low thermal stress of the components due to high flow speed of the hollow wave, with intensive and short-term heat transfer.

Fastest Soldering Wave - Best Soldered Joints

Suitable for high density close pitch with less shadow formation and minimal risk of short circuits, due to the Bernoulli Effect.

Highest Thermal Energy Output of all Wave Types

All soldering processes can be combined, for example for mixed assemblies (THT + SMD).

Solvent Flux

All sensitive components and boards are subject to shorter exposure to flux wetting.

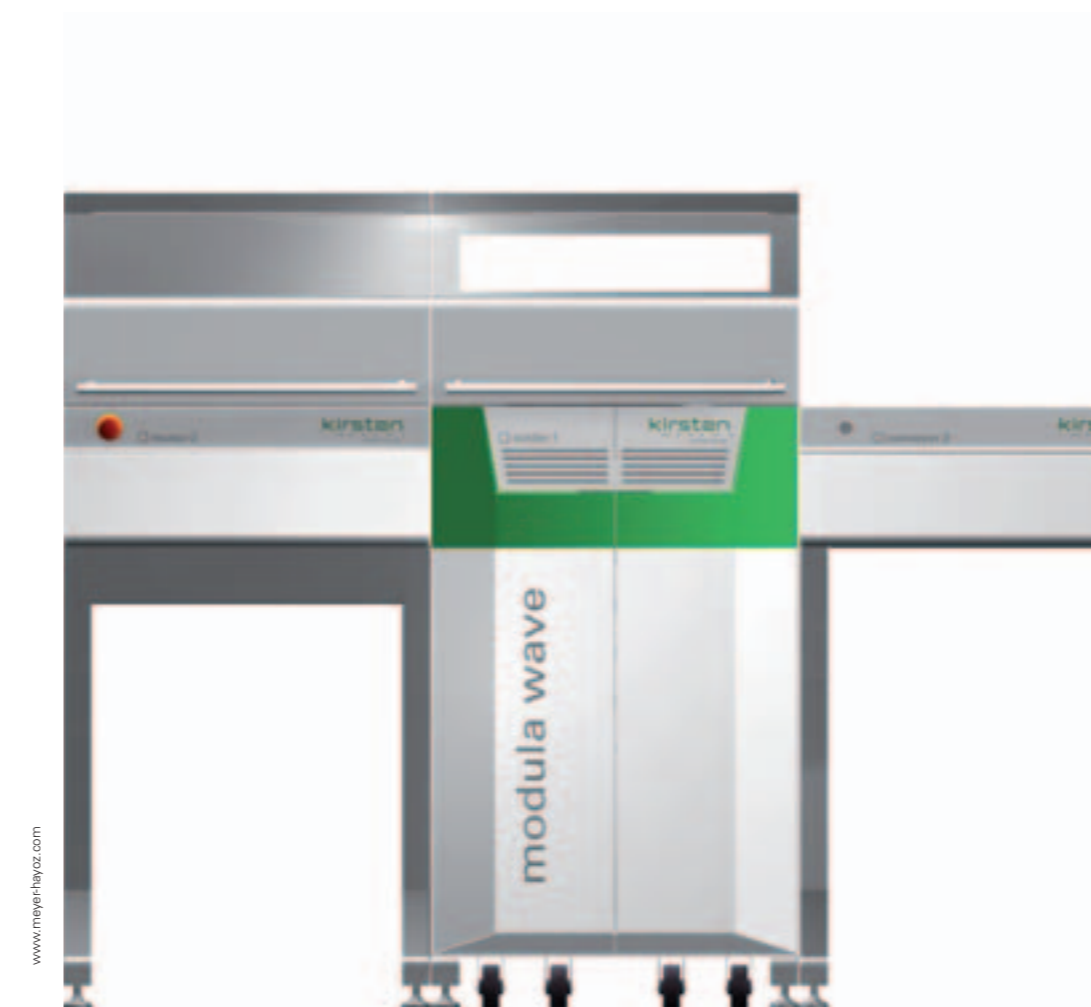
Process Dwell Steps are Infinitely Variable

The transportation speed can be individually regulated for each process step in each module.

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Energy-Friendly / Low Operating Costs

Kirsten machines are optimised in terms of energy consumption, to reduce operational costs.

Short Warm-Up Time

Kirsten machines heat up and are ready for operation within one hour.

Compact Design / Minimum Area Costs per m²

Thanks to the compact construction, a considerably smaller space requirement is necessary compared to conventional wave soldering systems.

Short Changeover Time

Thanks to the possibility of maintaining a second, independent soldering module in a docking station, a solder change over is possible within a short time.

Smallest Soldering Bath

Solder and covering mediums can be changed quickly and create little or no impurities to the solder thanks to the small solder pot.

Revolutionary Linear Motor – Soldering Pump

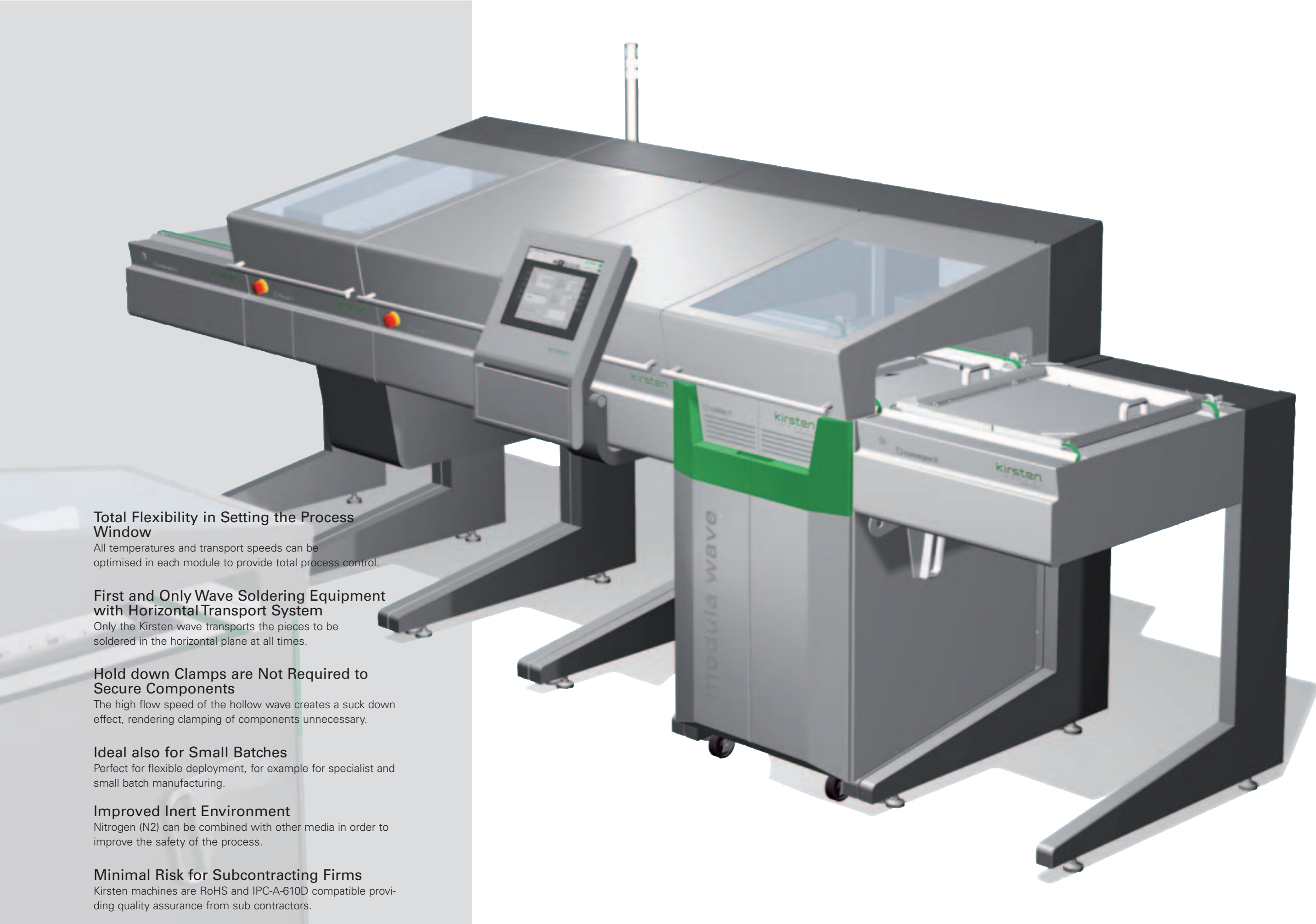
The soldering pump, with no moving, mechanical parts, is long lasting with minimal maintenance.

Advantage by Experience

An enterprise which is able to successfully confront continually changing customer demands and market requirements also creates for itself an advantage in experience.

As Kirsten Soldering AG has been able to meet the demands imposed by "lead-free" for a considerable time now, the enterprise, specialised in high-precision soldering systems that protects components and can dedicate itself wholly and completely to the realisation of new technological innovations.

In this respect, the restructuring and realignment of Kirsten Soldering AG, carried out in 2006 has proved to be beneficial. Since that time, the majority ownership of the company has been held by the Future Finance Corporation SA in Zug (Switzerland). In this way, Kirsten Soldering AG can count on active support in further and new developments of its products as well as a strengthening of efforts in managing its targeted growth phase.



Kirsten Soldering AG

Since its foundation almost 30 years ago, Kirsten Soldering AG has installed more than 2000 systems world-wide. Many of these machines are still in daily use, thanks to the high level of build quality. As a result of a forward-thinking, the changeover to lead-free soldering in 2006 did not present any special technology challenges for Kirsten systems.

Kirsten systems distinguish themselves by an extremely high and constant output quality, due to a very low error rate under operating conditions. This has led to us gaining the confidence of leading manufacturers and suppliers in the electronics market. References from all over the world in the fields of automation, measuring and control technology, automobile accessories, consumer electronics, medical technology and telecommunications all confirm the process quality of our products.

As a result of foresight and a comprehensive knowledge of the system, with which problems can be tackled and solved, Kirsten has developed from a technological pioneer to the leading enterprise in wave soldering.

The first, product release since the Kirsten realignment is called:

Modula Wave

In less than three years the highly motivated design and engineering team, have

introduced a new concept and technology innovation to the wave soldering process. The only previously existing component that has been onwardly developed and integrated into the system, was the as yet unsurpassed patented Kirsten soldering pump. Among other reasons, the Modula Wave distinguishes itself from other systems by the completely horizontal plane of all the individual transport units, realised for the very first time in wave soldering. This makes the appearance of the system as a whole not only more elegant but also the horizontal transportation throughout the entire system enables a greater degree of precision.

A further advantage is to be found in the completely modular construction method of the Modula Wave. This enables the initial purchase of an entry level configuration to be upgraded at any point as expansion and production output increases.

Efficient thanks to optimal process conditions

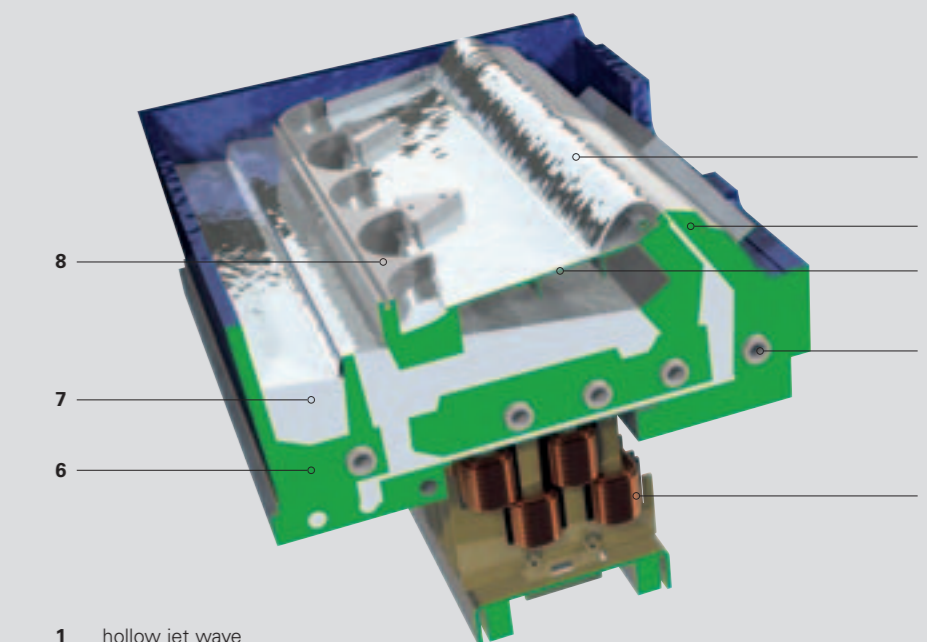
The regulation and control management across the whole system represents a substantial innovation. A logical, graphical menu is available to the user via a touch screen. All the information regarding the current status in the individual modules is displayed and can be called up from a log file at any time. All of the maintenance steps which have to be carried out at regular intervals are displayed to the user, in this way a high degree of up time is guaranteed.

Technical Data

Soldering width	360 mm
Pre-heater length	1 x 650 mm (standard) 2 x 650 mm (option) 3 x 650 mm (option)
Max. throughput height	120 mm
Solder angle	0°
Throughput speed (soldering speed)	0.1 - 6 m/min
Max. PCB dimensions	320 mm x 490 mm
Production capacity	min. 140 frames/hour (4 PCB's 100x160 mm/frame; soldering speed 0.9m/min; 2 Pre-heater)
Solderwave height	5 – 30 mm, adjustable in 0.5 mm steps
Approx. wave speed	0.8 m/s
Approx. solder pump capacity	280 kg/min
Approx. solder bath content	60 kg
Max. solder temperature	290 °C
Approx. heat up time	1 hour
Solder bath covering system	alternatively liquid medium or nitrogen N2
Approx. covering medium content	40 litre
Approx. usage of nitrogen N2	approx. 15 m³/h
Requested air exhaust of machine (measured at exhaust exit of machine)	2200 m³/h (incl. Fluxer)
Requested air exhaust of fluxer module only	1100 m³/h
Exhaust pipe - Ø machine	1x250 mm
Electricity supply *	3 Ph 380/415 Volts; 50/60 Hz
Hook up method *	max. 3 x 52A (with 3 Pre-heater)
Requested power capacity	18 kW (with 1 Pre-heater) 27 kW (with 2 Pre-heater) 36 kW (with 3 Pre-heater)
Power consumption in standby mode	approx. 4 kW
Requested compressed air	4-6 bar; approx. 0.1 m³/min.
Length of machine	3250 mm (one Pre-heater included) + 650 mm per additional Pre-heater
Width of machine	1100 mm (+300 mm for Kirsten exhaust pipe connection)
Height of machine	1450 mm
Max height with open cover	2010 mm
Height of transport	1110 mm
Operating Temperature	15°C - 25°C (59°F - 77°F)
Max. weight incl. solder	approx. 650 kg

Sustainable Advantages

Technology is advancing rapidly. More and more products with increasingly shorter life cycles are a result of this. At the same time, environmental compatibility must be taken increasingly into account; this is valid also for soldering technology.



- 1 hollow jet wave
- 2 titanium wave nozzle
- 3 deflection sheet
- 4 heating rods
- 5 linear motor
- 6 solder pot (enamelled)
- 7 solder
- 8 solder runback

With its universally patented electromagnetic soldering pump, the Kirsten Soldering Company has created an essential pre-requisite for a high-quality and energy-saving soldering system.

The pump, which operates according to the rotor/stator principle, does not contain a single moving part. In this way, the whole soldering pot construction can be kept to a very compact size. Therefore, the Kirsten soldering pump has a considerably smaller tin bath volume than conventional wave soldering machines, which means considerably less tin costs.

This means substantially lower energy consumption. A considerably shorter wetting time for the individual soldering joints is yet another great advantage.