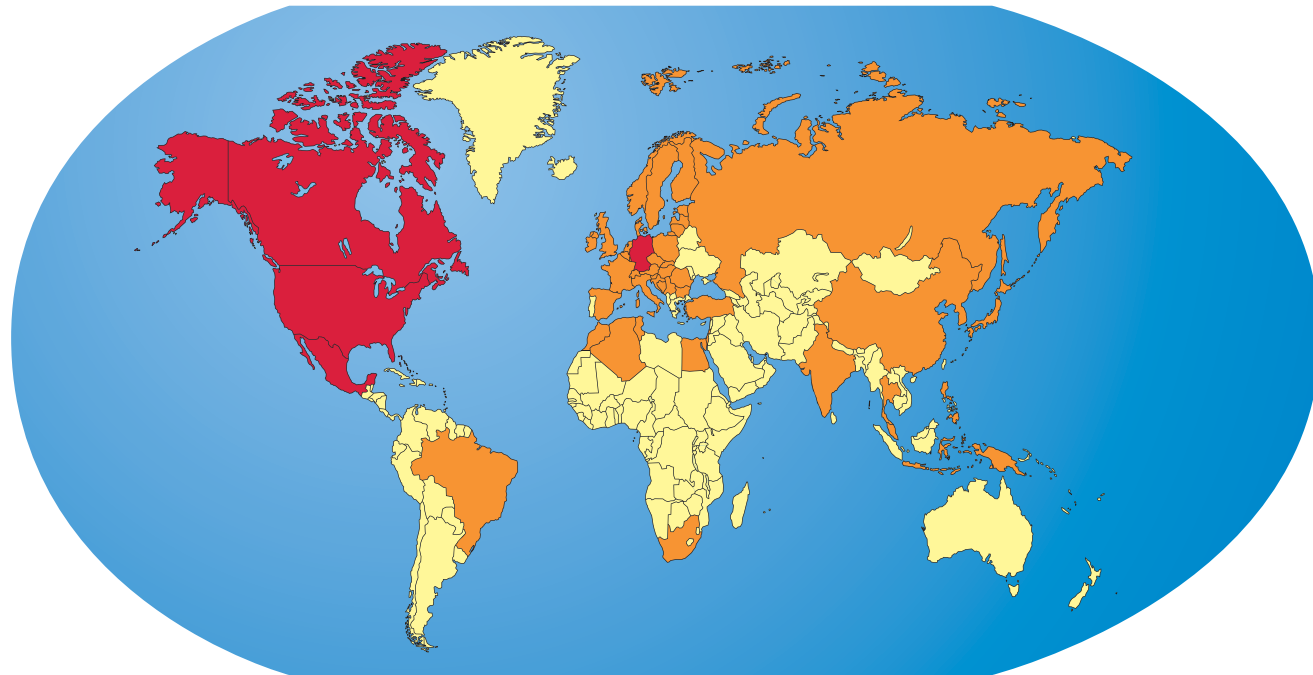


Sales Office / Representatives / Service



- = Sales and Service Offices
- = Representatives / Service on Site
- = Other Presence

Headquarters:

SMT Maschinen- und Vertriebs GmbH & Co. KG
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Phone: +49-9342-970-0
Fax: +49-9342-970-800
E-mail: info@smt-wertheim.de
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Phone: 001-804-360-0144
Fax: 001-804-205-0559
E-mail: info@smtna.com
www.smtna.com

SMT-Hotlines:

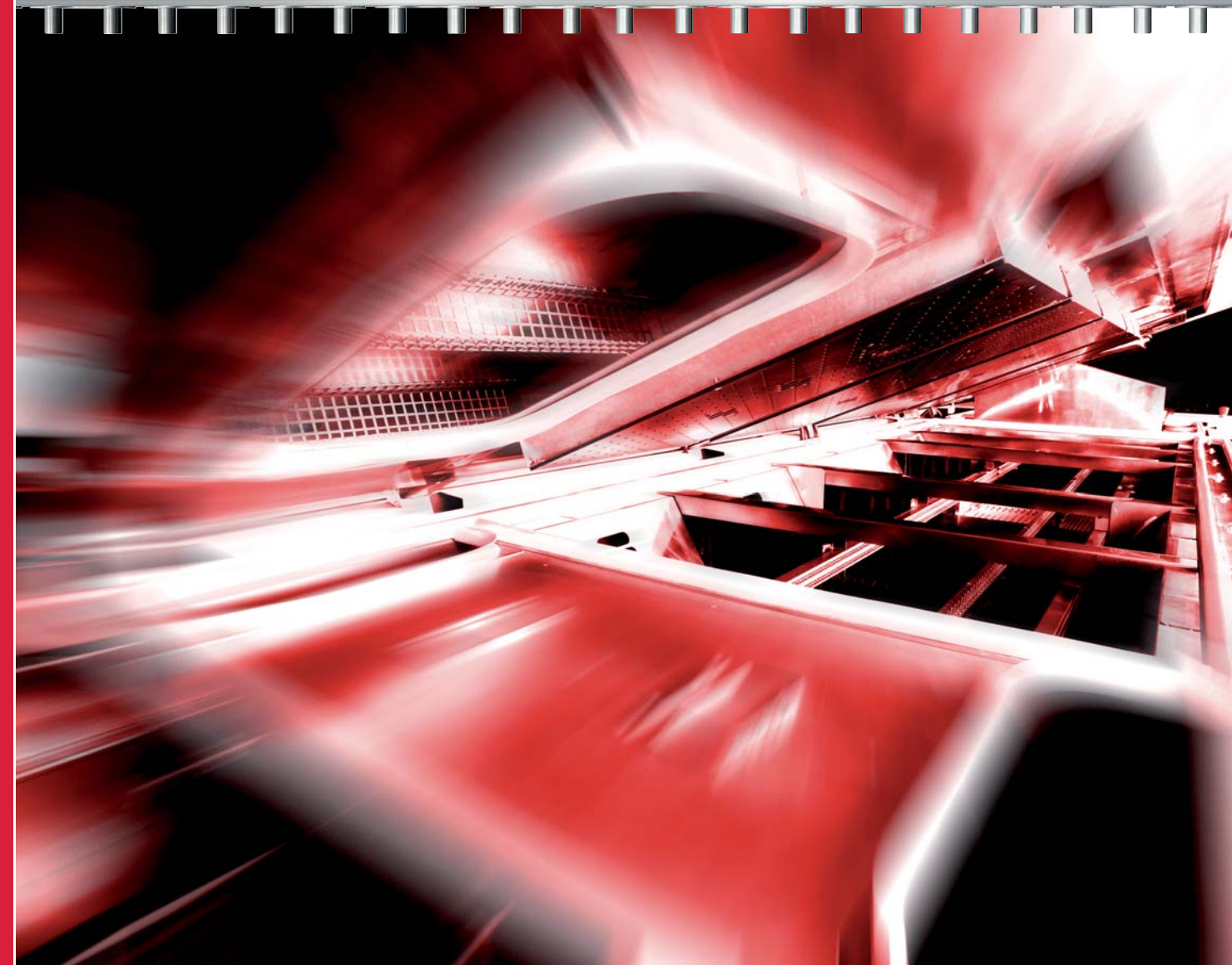
Reception Phone: +49-9342-970-0
Service Phone: +49-9342-970-200

SMT

Maschinen- und Vertriebs GmbH & Co.KG

Know-how in Thermal Process
Know-how in Thermal Process

2009



Reflow soldering, drying, curing
all from one source

Reflow Soldering Systems · Curing Systems · Drying Systems · Custom Design Systems

www.smt-wertheim.de

SMT

Maschinen- und Vertriebs GmbH & Co.KG

SMT History



Hans-Günter Ulzhöfer

In more than twenty years since its foundation in 1987, our family-owned enterprise has grown into a world-leading manufacturer of equipment for the optimization of thermal processes.

Key topics such as energy savings and consumption optimization have guided us right from the beginning, and these issues will gain even more importance as resources continue to become scarce.

At that time, soldering systems were based on infrared technology, but very early on in company history, this principle had to make way for highly efficient full convection soldering systems that exclusively use forced-air techniques.



Administration / Factory I



Technology center / Factory IV



Factory II / Factory III



Then and now, we repeatedly defined and drove trend-setting standards through a combination of technical evolution, innovation and vision. Many patents and awards are proof of our company's design capabilities and performance.

We don't copy – we innovate!

Copies, however, are invariably ridden by a loss of quality. SMT understands them as a compliment by its competitors, and will continue to do its very best to offer a quality that is second to none. And this quality is not just limited to reflow soldering.

In the course of modern corporate development, we have extended our claim to be one of the world's technology leaders to the entire spectrum of thermal processes. The following vision applies both for the frontend and backend areas of electronics production, and lately also for solar technology:

We are and will remain to be passionate about economical, technically outstanding and ecologically viable solutions.

At SMT, we focus on customers, quality, service, environment and personnel management, both in our headquarters in Wertheim or in one of our subsidiaries/representations.

Cordially yours,
Hans-Günter Ulzhöfer
Founder of SMT

SMT and the Environment

It is a well-known fact that better is the enemy of good. You can apply this insight freely to all areas of our daily lives. Solar power versus coal-fired power station, low-energy houses versus lightweight construction, hybrid engines versus petrol engines etc.

The principle applies equally to SMT state-of-the-art production lines. Only those who manage to harmonise ecological and economical questions and to simultaneously integrate these aspects into their system conceptions will be accepted by industry as serious partners in future. As you know, SMT in Wertheim has always made a decisive contribution in this respect. The environmental philosophy embedded in our corporate statutes is based on three pillars:

- The quest to achieve the **lowest possible energy consumption** thus saving and conserving environmental resources
- The quest to achieve the **lowest possible nitrogen consumption** thus saving and conserving environmental resources
- The quest to achieve the **lowest possible maintenance requirements** thus saving and conserving environmental resources

A decisive contribution can be made to environmental protection in particular with regard to the maintenance of reflow soldering systems. What could be simpler than avoiding the hazards involved in manufacturing, transporting, storing, using and disposing of the auxiliary materials required?

Using the innovative and time-tested ABS process gas cleaning system from SMT!

As the system requires no liquid auxiliary materials it follows that these do not need to be manufactured, transported, stored or disposed of. Merely the "dry" operating materials need to be disposed of in compliance with the respective standard regulations. And even in this case there are fewer waste products requiring extensive disposal measures, resulting in a permanent unburdening of the disposal chain. We at SMT talk about a dual environmental concept:

Avoidance of the environmental burden and protection of the resources from start to finish in the process chain.



Special system properties of SMT reflow soldering systems

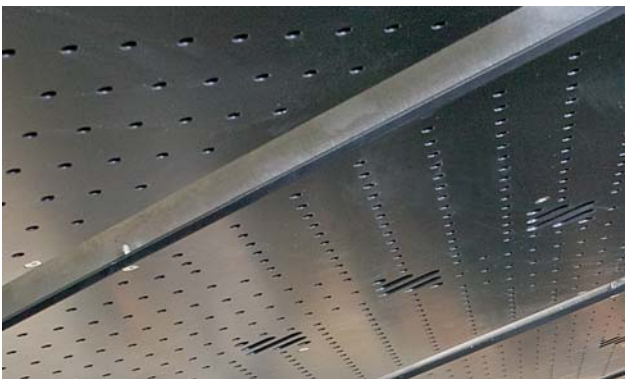
Process Know-how

The demands you place on your future reflow system are run of the mill for us. Let us know what specific ideas you have as early as the planning phase. We have the answer to all your questions. We develop economic solutions that are tailor-made to suit your requirements.

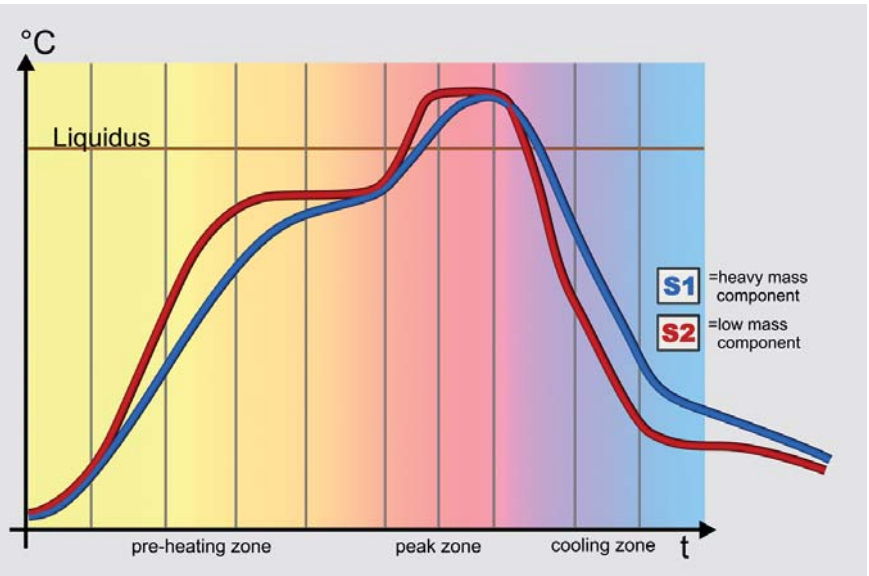
We support you during the whole life cycle of your reflow systems, with the development of new temperature profiles, the implementation of lead-free soldering processes as well as with the recognition and removal of soldering errors.

Know-how in thermal process, an innovative approach and masses of experience are our contribution to the manufacturing results you wish to achieve.

Thanks to unique system benefits, SMT is also a leader when it comes to the processing of lead-free solders as well as special pottants. An effective transfer of heat, for example, depends to a large extent on the efficiency of the air flow. This is where SMT gains double points: firstly with its patented, continuously improved nozzle system and secondly with its time-tested and also patented multi Peak concept (enhanced with the innovative Quattro Peak® Plus concept). The lowest Delta-T-values hereby achieved guarantee perfect production.



The SMT nozzle system with its local air flow and extraction prevents cooled air from flowing over the products and impairing the process.



Correctly dosed heat

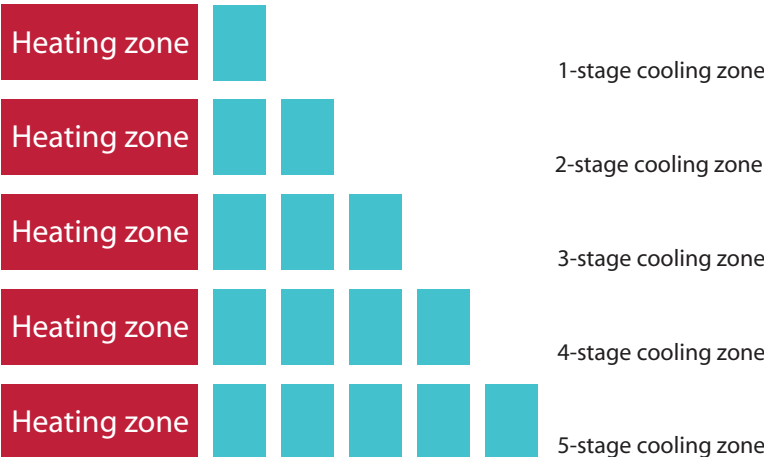
SMT stands for efficient heat transfer that is based primarily on the following factors: perfect process gas flow thanks to the power nozzle technology, high fan performance and at the same time low flow speeds, absolute temperature stability and consistent warming even of complex modules. The result is gentle, faultless thermal treatment of all modules.

Inlet Condensation Trap



Integrated inlet condensation trap removes contamination at its formation point. Advantage: Fewer and most competitive service intervals.

Incremental Cooling Concept



Quattro Peak reflow systems accommodate the integration of our innovative multi-stage cooling concept. Depending on the required cooling performance the number of cooling zones can be individually selected. Consequently, all Quattro Peak reflow systems can be freely configured with up to 5 cooling stages.

Cooling

Constructive features in the separation of peak and cooling zones ensure that the heat stays in the peak zone. In combination with the highly efficient cooling elements, the standard SMT soldering system can operate without active cooling. Enormous additional expenditure for water flow systems and energy consumption is unnecessary. We have developed a modular cooling system for special customer requirements that can even supply PCBs that are „lukewarm“.



Innovative modular cooling concept for efficient and gentle PCB cooling.

Economy



A cleverly designed seal system saves energy, reduces the consumption of nitrogen and prevents contamination.

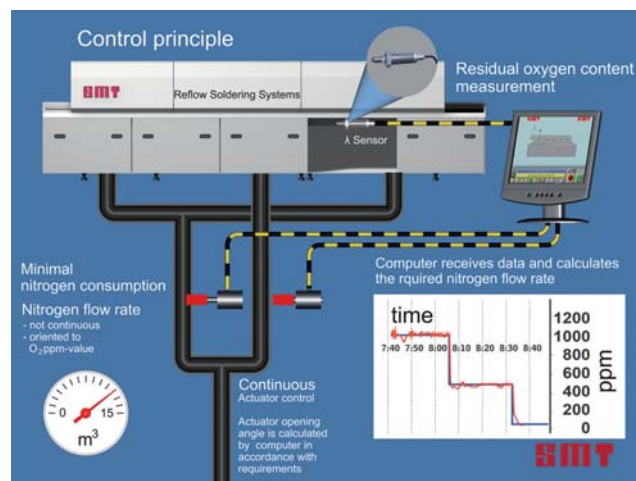
Minimum consumption

SMT soldering systems are a step in the right direction to reduce operational costs. Low processing temperatures, effective insulation and systems that require only low air extraction mean that extremely low energy consumption has already been built into the concept of the system. There is saving potential here that we can help you exploit to the full.

As far as energy and nitrogen consumption are concerned, SMT soldering systems have always been counted among the most economical reflow soldering systems in the world.

One example of this is the intelligent nitrogen control that reduces the consumption and thus also the operational costs considerably. The saving effect is achieved with such technical features as the automatic adjustment of the pass-through apertures and the nitrogen flow in the case of different PCBs combined with a flow tunnel at the inlet and outlet as well as an integrated sleeping mode.

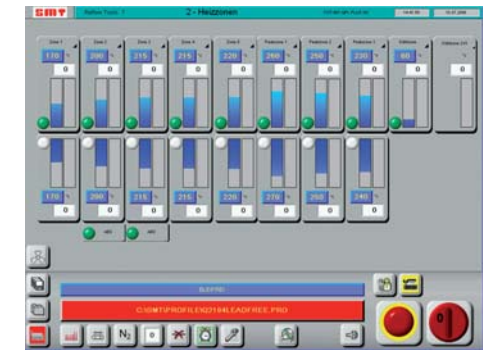
Intelligent Nitrogen Control



An intelligent nitrogen control with optimum control properties reduces the nitrogen consumption to a minimum. We also provide a utilisable nitrogen parameter for traceability.

Operation

The clearly laid out (available in the respective language required) user interface directs the way to all process-relevant parameters of the SMT soldering system. Optionally you can record all control parameters such as Cmk value measurement, management data system (also graphically) and batch reports. Whereby it makes no difference whether we are talking about a starter model or the high-performance model Quattro Peak® Plus - all functional groups are identical and clearly arranged. Training times are minimised, operational errors are impossible.



Display



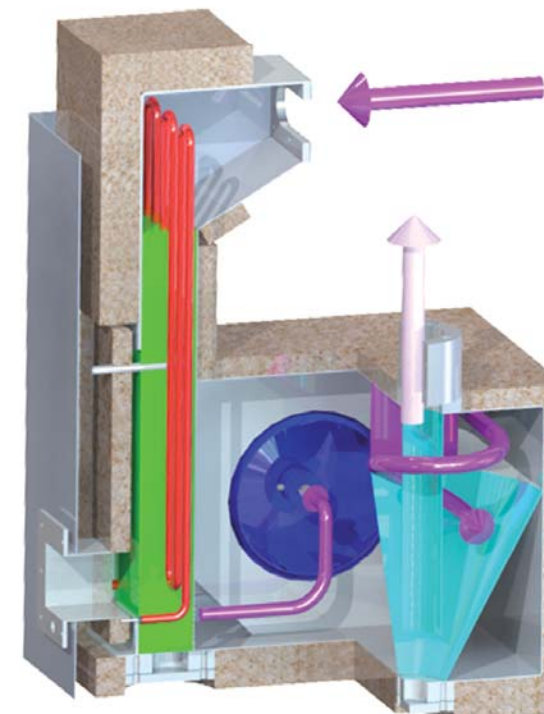
Mesh belt conveyor



Chain conveyor: Enclosed width adjust module guarantees operation also under full load production conditions.

ABS Process gas cleaning

The new dual chamber ABSorption system keeps the inside of the soldering system free of deposits and reduces cleaning times considerably.



Maintenance

Innovative developments lead to convincing solutions. For cleaning, for example, we offer a revolutionary ABSorption system instead of the standard condensation method with all its well-known disadvantages. The unavoidable outgassing from PCBs, paint and flux residues are cracked and absorbed in a special granulate. The granulate has to be replaced after every 3,000 hours of operation only! An automatic drip oiler and a software-supported maintenance calendar reduce time and costs dramatically and increase productivity sustainable.

Product Range – Reflow Soldering Systems

The extensive range of SMT products offers exactly the right solution for your specific requirements.



The small but powerful

Forced Convection
Reflow Soldering System
SMT XXS (N₂)

Your ideal solution for lower up to mid-range throughput in production, in laboratories, test tracks and manufacturing of prototypes.



The multiple proven

Forced Convection
Reflow Soldering System
SMT XS (N₂)

Perfect mid-range throughput performance even in production. It has various fields of application because of high flexibility and high performance.



The perfect choice for first time buyers

Forced Convection
Reflow Soldering System
SMT Quattro Peak® S (N₂)

The smallest unit with the time-tested Quattro Peak® technology. Ideal for the highest demands on quality and efficiency for medium throughput.



The Top-Performer

Forced Convection
Reflow Soldering System
SMT Quattro Peak® L (N₂)

Strongest throughput. With patented Quattro Peak® concept for high capacities within the serial productions environment. Fulfils the highest requirements in terms of flexibility.



The Top-Performer - Plus

Forced Convection
Reflow Soldering System
SMT Quattro Peak® L Plus (N₂)

With the new developed Quattro Peak® Plus concept for very complex devices within a large batch production environment. Guarantees highest equipment utilisation, with the maximum of stability at highest throughput.



The high efficiency multi variants

Forced Convection
Reflow Soldering System
SMT Quattro Peak® M (N₂)

Proven and tested for mid-range up to high serial throughput and for high performance. With patented Quattro Peak® concept. Accurate and easy adjustment to variable tasks.



	XXS	XS	QPS	QP M	QP L	QP L Plus	QP XL	QP XL Plus
average conveyor speed (m/min)	0.24 - 0.39	0.33 - 0.53	0.41 - 0.68	0.50- 0.83	0.62 - 1.04	0.72 - 1.21	0.8 - 1.34	0.91 - 1.53
max. working width (mm)	300	500	510	510	510	510	510	510



The High-End-Performer

Forced Convection
Reflow Soldering System
SMT Quattro Peak® XL (N₂)

Strongest throughput. With patented Quattro Peak® concept for high performance, high speed and serial productions. Fulfils the highest requirements in terms of flexibility.



The High-End-Performer - Plus

Forced Convection
Reflow Soldering System
SMT Quattro Peak® XL Plus (N₂)

With the new developed Quattro Peak® Plus concept for very complex devices at the large batch production rates. Guarantees highest equipment utilisation and maximum of stability at the highest production volumes.

Important Similarities

All SMT reflow soldering systems assure an optimum of process stability by innovative technology and are equipped with the following advantages:

- Special power nozzle system for optimal heat transfer
- Sophisticated control concept for lowest possible energy and media consumption
- Multi-stage condensate filter at the cooling zone for efficient cleaning
- 15" touch screen with user-friendly operator interface
- Process chamber made of stainless steel
- Suitable for temper and curing processes

All systems are available as air or nitrogen version and are suitable from small batch up to three shift operation.

We will design and build YOUR customised reflow soldering system on request!

Product range Reflow Soldering Systems - Dual Lane

The extensive range of SMT products offers exactly the right solution for your specific requirements.

The mature dual lane concept includes not only an independently adjustable centre support per lane but also additional individually adjustable drive motors. This can result in synchronized processing of different electronic modules as well as leaded und lead-free temperature profiles – at the same time it significantly increase production flexibility and secure our customers a decisive market advantage versus their competition.



	OP S	QP M	QP L	QP L Plus	QP XL	QP XL Plus
average conveyor speed (m/min)	0.41 - 0.68	0.50- 0.83	0.62 - 1.04	0.72 - 1.21	0.8 - 1.34	0.91 - 1.53
usable working width:	2 x 60 ... 280 mm, 1 x 60 ... 510 mm					



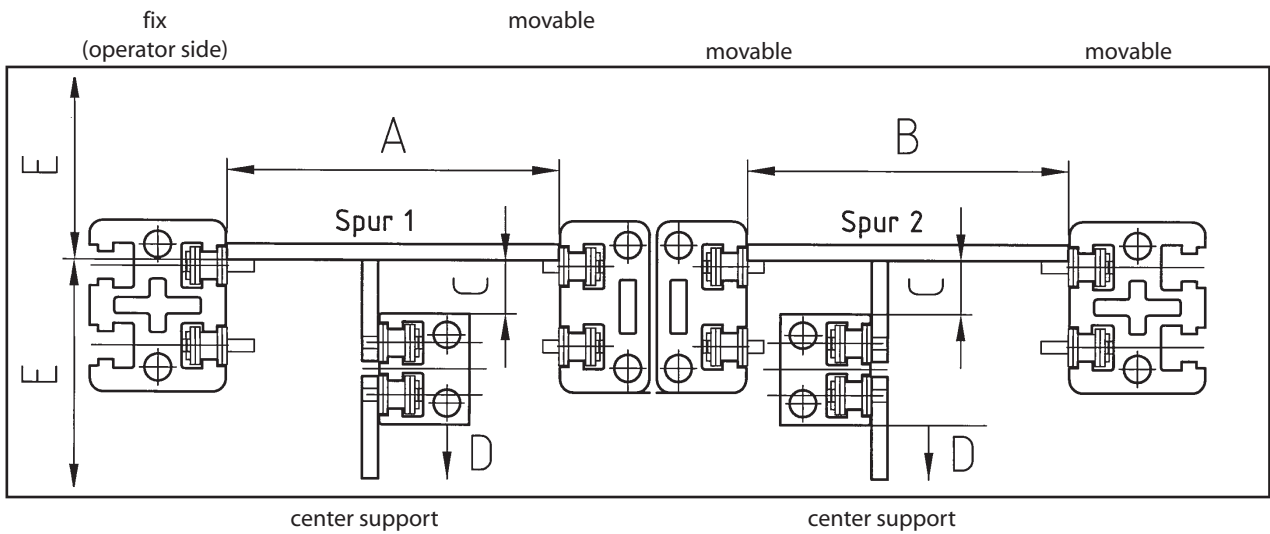
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We will design and build YOUR customised reflow soldering system on request!



A: conveyor width: 60 ... 510 mm
B: conveyor width: 60 ... 280 mm, if A max. 280 mm
C: free space: 10 mm

D: adjustment of center support: 15 mm
E: pass through height top/bottom: 30/30 mm

Product range High Temperature Temper Systems

The extensive range of SMT products offers exactly the right solution for your specific requirements.

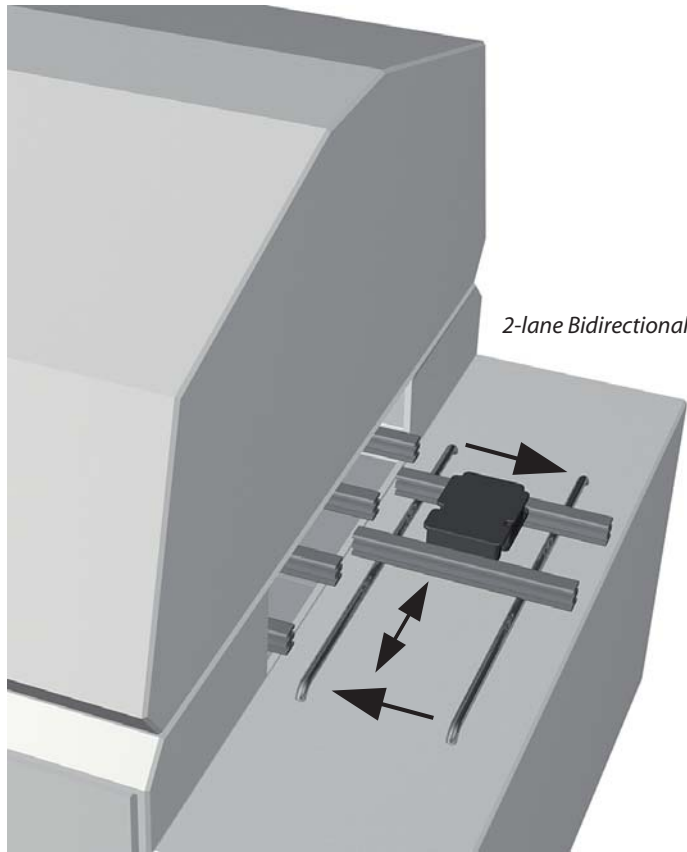
The Variable

Perfect heat pre-treatment of electronic components and modules. Product specific curing of pottant and tempering in preparation for the Hot Function Test.

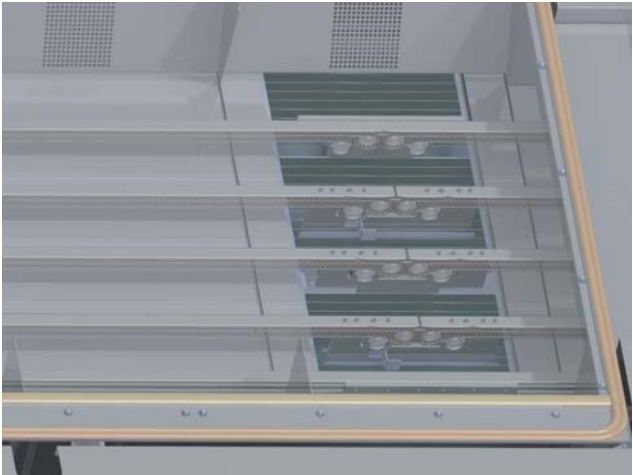
Individual adaptability in the lane geometry as well as the type of drive depending on product and production requirements make these system a perfect performer in the backend section of any modern electronic production facility.

Whether a unidirectional multi-lane concept or bidirectional two-lane concept, we can meet most demanding requirements.

Most system features and properties have been derived in its entirety from our proven and well-tested reflow product line. Our products represent state-of-the-art technology thanks to our continuous efforts in development and design engineering.



HTT	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Zone (each 500 mm)	3	4	5	6	7	8	9	10	11	12



Significant Common features
 All HTT systems guarantee perfect heat transfer, outstanding energy efficiency and optimum process reliability. They impress with a well thought-out modular „size concept“ and a particularly innovative, flexible track concept.

- 1-lane to 5-lane
- Unidirectional
- Bidirectional
- Inlet and outlet extension
- Accelerator belt
- Stop function
- Interfaces

All variants are available in 1/2-metre steps from 1.5 to 6.0 m. This not only improves throughput but also saves space. Savings in energy consumption are therefore supplemented by savings in the cost of installation space. An economic and resource-saving alternative to existing systems.

Please give us a call - we have the solution for your backend requirements.

Maintenance and Service

Proximity to the customer and competence - at all times

From the word go, SMT products are designed in such a way that there are as few failures as possible and that contamination is kept to an unavoidable minimum. In this way optimum reliability and the lowest number of standstills are permanently ensured.

Our qualified service team ensure the high reliability of your SMT system with a 24-hour standby service (7 days a week), calibration and measurements.

Provision of training courses and seminars for your staff round off our range of services.

We would gladly guarantee our maintenance services with an individual maintenance contract.



A well thought-out design simplifies maintenance and service.

Seminars

SMT is not satisfied with just installing the system. We hold practically orientated user seminars on a regular basis featuring such topics as lead-free soldering, precise creation of temperature profiles, error recognition, PCB and measurement preparation with all tips and tricks of the trade as well as logging and documentation within the framework of accountability.



For seminar data please see
www.smt-wertheim.de



Optimise Output with well thought-out Technology

This target will be achieved with SMT

- Top process reliability thanks to innovative technology.
- Optimum heat transfer for best results.
- Lowest Delta T-values in performance and cross profiles.
- Our ABSorption system and complete covering of process chamber reduce contamination and thus cleaning costs.
- State-of-the-art nitrogen control technology that is designed for continuous operation guarantees an exceptionally consistent residual oxygen value.
- Lowest consumption of nitrogen and energy reduces operational costs considerably.
- User-friendly operation of the system via touch screen.
- Our extensive range of products and special or customised developments offer solutions for complex soldering tasks.
- The modular design allows you to retrofit the options thus creating flexibility and extending the life span of the systems.
- A maintenance-friendly design and experienced SMT service technicians reduce down times to a minimum.
- Training courses and seminars enhance the qualification of your staff.
- Support with process optimisation from the SMT reflow team of experts.

