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Bergen Systems

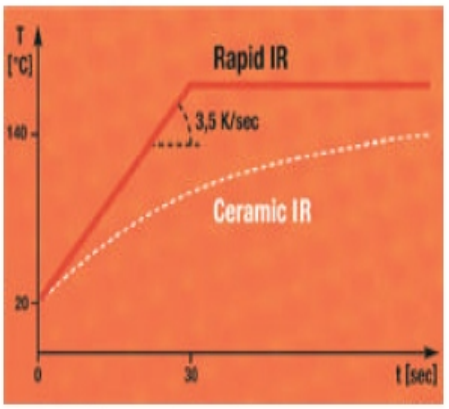
Company Profile

MARTIN GmbH, started in 1982 by Bernhard Martin, is numbered among the leading suppliers of rework and dispensing equipment. It is globally represented and achieves around 20% of its turnover in Germany. From 2003 the company, currently with 30 staff, has been occupying its own premises in the High- Tech commercial district of Weßling near Munich. The building is designed for extreme energy conservation and mirrors the company innovation philosophy.Bernhard Martin opened new perspectives on small dots with his
invention of an Adhesive Measurement gadget in 1982. 1989 saw the introduction of the microprocessor controlled SMD Compact Unit DBL-01 for soldering, dispensing and placement of components on printed circuit boards. In 1991 the key technology for rework was launched in the innovative IR Underheater. With the introduction of the Dot-Liner a milestone in the automatic dispensing of microdots and lines was reached.1999 MARTIN presented a revolutionary semi automatic rework station, the Auto-Vision-Placer, whose intelligent control allows the precise and rapid placement of Surface Mount Devices (SMDs).

The new Underheater Hot-Beam-03 - ideal for Lead Free hand soldering

MARTIN has developed a new underheater, which distinguishes itself not only by its compact size but also by the new, patent applied for, Rapid-IR technology. The new Underheater Hot-Beam-03 heats the PCB at the maximum allowed rate of temperature rise - clearly faster than a ceramic IR heater - and consistently maintains the set temperature of up to 150°C . The use of this Underheater allows significantly faster work rates in manual soldering, avoids overheating components, improves wetting and prolongs soldering iron tip and flux life.

The new underheater Hot-Beam-03



Rapid-IR temperature profile

An advantage arising from this is more relaxed Lead Free hand soldering. Lead Free manual soldering has up to now meant tip temperatures increased by about 50°C, which creates difficulties for the tips. The new underheater Hot-Beam-03 takes the pressure off soldering tips, as 50% of the required heat energy for soldering is provided from below.

Rapid-IR technology is a controlled and accelerated radiated heat energy transfer process, where printed circuit boards are heated to a set temperature at the maximum permitted rate. To make setting up easier the new underheater Hot-Beam-03 offers an auto mode with up to 11 user programs where temperature sensors are only needed for programming - more effective use of the equipment. When using the Hot-Beam-03 the tip temperature of a soldering iron can be lowered. This not only prolongs the tip life but also that of the flux, which is not used up as quickly and is still available in the wetting phase. The Hot-Beam-03 can contribute significantly to cost reductions for Lead Free soldering.

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The New Auto-Vision-Vision-Expert -09.6 - even more user friendly, precise and effective

The expectations of PC controlled rework systems have not only changed because of the introduction of Lead Free solder. Users expect to be able to count on the reliability of the processes and to operate a rework station intuitively, without extensive training. The new Auto-Vision-Expert - 09.6, therefore, concentrates on what is important and ensures that even the most demanding processes turn into easily performed tasks. It is the result of decades of experience at MARTIN and again sets new standards. Wide-ranging requirements of rework experts throughout the world have been taking into account to cover all the functions needed in rework:

- Desoldering
- Removal of residual solder
- Precision placement
- Soldering
- Dispensing
- Reballing

The Auto-Vision-Expert -09.6XL can handle boards of up to 600mm length because of the flexible PCB support and the size adjustable area underheater IRF or the smaller IR radiator. In just a few seconds the work station can be adjusted to suit any SMD type or size. In the range from 1mm to 55mm only the pick up tool, the soldering nozzle and sometimes the lens have to be changed.The Auto-Vision-Expert - 09.5 is easily operated, extremely accurate, reliable and effective at the same time thanks to Auto-Vision-Technology, Easy-Solder-Software, Zero-Risk -Principle and Rapid-IR-Underheating.

The Auto-Vision Technology

All placement systems that rely on Split Field technology have one problem in common; the actual accuracy of alignment relies on how well the optical path has been calibrated and remains so. In addition, the placement itself cannot be controlled and has to be carried out 'blind'.

How the AVP works: precise establishing of the target area (left), continuous monitoring (middle) and controlled placement (right).