



SMD Rework Technology

Simply More Achieved

Rework Made Efficient

All MARTIN rework stations use the principle of gentle simultaneous heating of electronic assemblies from above and below. Energy input into the surface mount components from above is always provided by hot gas, whereas for heating the printed circuit boards from below, MARTIN offers Hybrid as well as IR heaters, depending on the application.

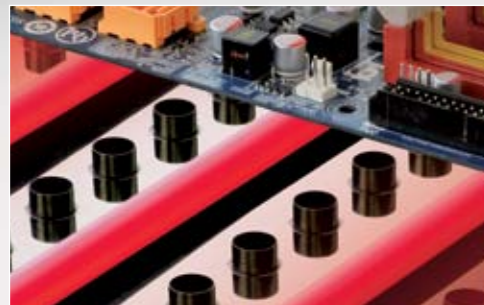
For Extensive Tasks: EXPERT 10.6

The rework station family EXPERT 10.6 has been developed for the reliable and precise rework of SMDs, sockets and connectors. Innovative technologies, such as Advanced Vision Placement (AVP), allow dependable soldering and removal without the need for users to intervene in the soldering process. These compact workstations can also be used for removing residual solder and dispensing fluxes and solder pastes.



Hot Gas from Above

Hot gas, as transfer medium, is very efficient, precisely controllable and is thus eminently suited to heating sensitive SMT components.



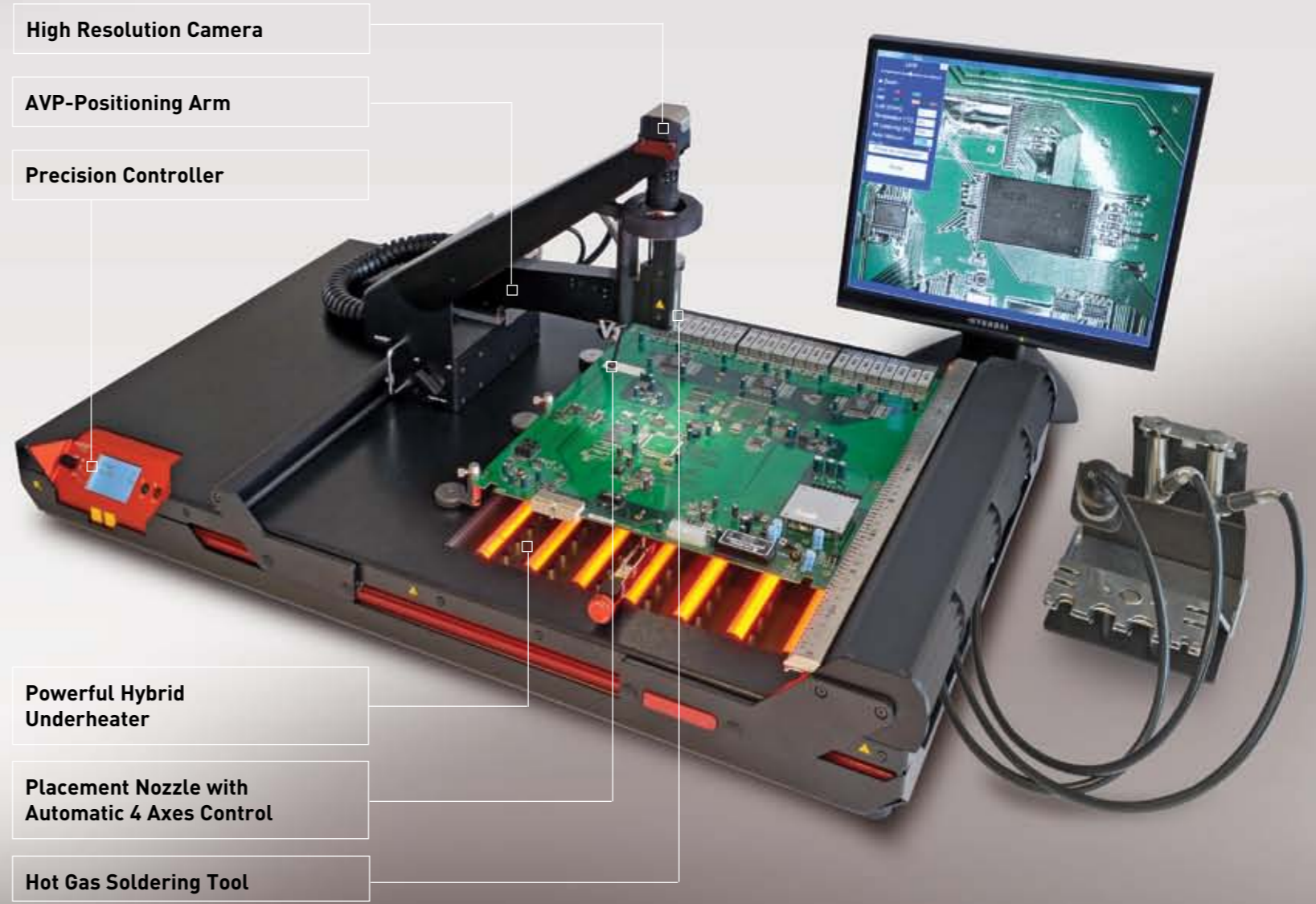
Hybrid from Below

By combining infrared and hot gas heating, energy can be transferred very efficiently to PCBs. There is uniform heat distribution across the whole area, which has the effect of reducing any temperature induced mechanical stresses to a minimum.



Infrared from Below

This technology represents a cost effective entry into manual rework. MARTIN IR heaters are finely adjustable, fast acting and, therefore, ideally suited to small PCBs.



Soldering Tools

Gentle energy transfer to components can only be achieved with optimized soldering tools. Specific nozzle designs direct the energy precisely to the solder joints (QFP) and protect sensitive areas (connectors). The result is a soldering process that is kind to components while at the same time providing maximum yield.



Optimal Temperature distribution of a BGA soldering tool



AVP - Positioning Arm with BGA

AVP - Automatic Placement

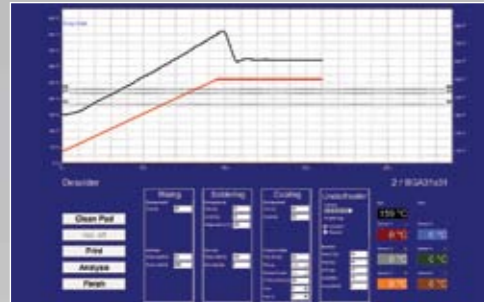
More assured processing with automated placement using the EXPERT 10.6. Just a few mouse clicks are sufficient to determine the component location and to start the placement process. This is followed by alignment and lowering of the component unto the board surface, without user intervention. During every stage the camera 'keeps an eye' on the component. The soldering process then proceeds automatically. Could there be a simpler way to operate a rework station?

Easy-Solder User Software

The soldering software "Easy-Solder" is the command centre of the whole rework process. All the steps: desoldering, residual solder removal, dispensing and reballing can be applied intuitively. Innovative functions, such as "Auto-Profiler" make life much easier for the user. Naturally, the integrated report function records all reflow parameters for quality control.

For Smaller Jobs: EXPERT 04.6

Rework equipment from the EXPERT 04.6 family is the optimal next step up from manual soldering. The compact design and ergonomic arrangement offers all the functions required for rework: desoldering, removal of residual solder, placement, soldering and dispensing. Reliable alignment and placement of components combined with the proven MARTIN heating technology guarantees superb soldering results.



Soldering and Desoldering

There are different profile generating tools, which support the user in establishing new processes and offer a high degree of flexibility. Easy-Solder facilitates straightforward profile generation and management – saving valuable time.



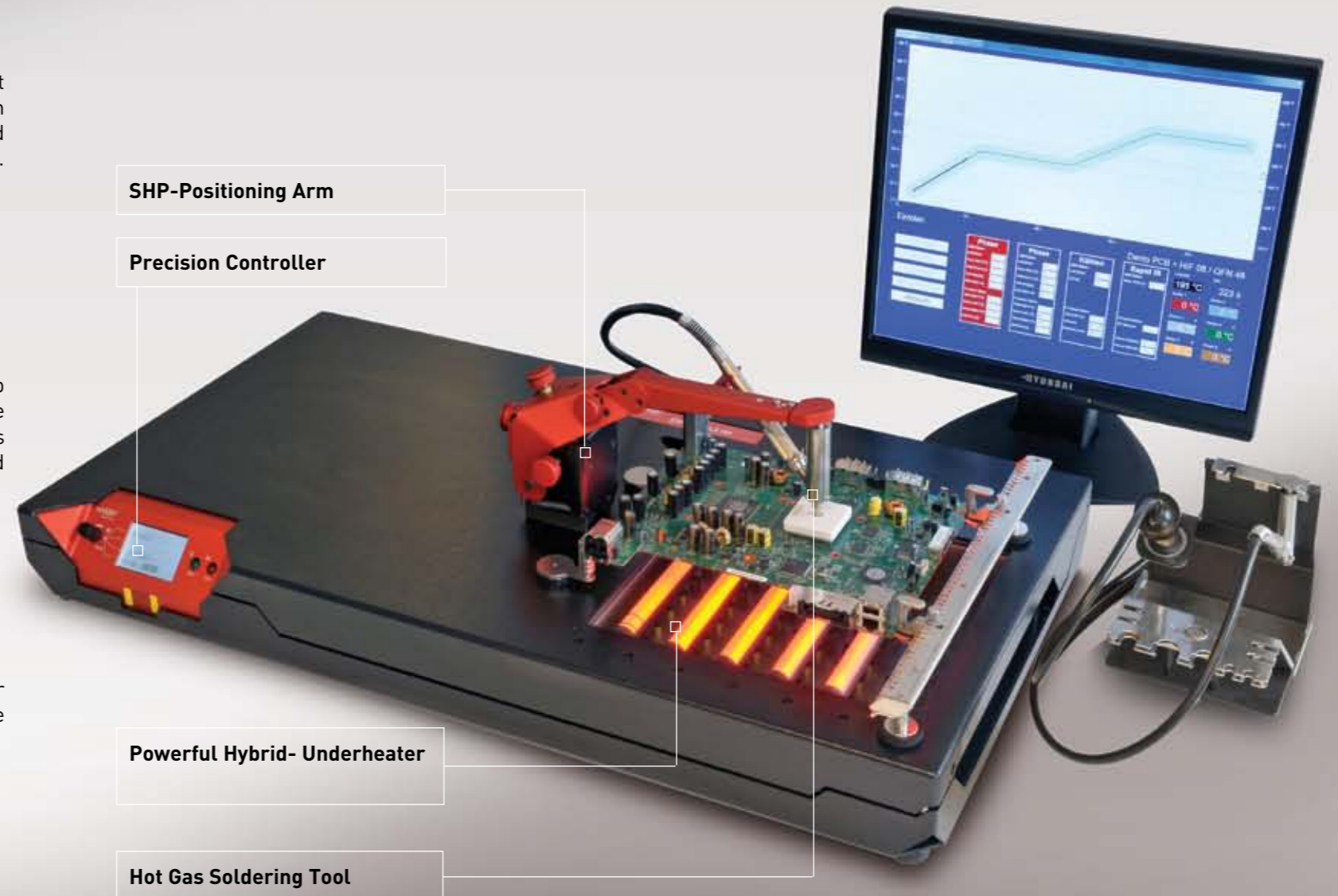
Removal of Residual Solder

Thanks to integration in the workstation this process step takes advantage of the remaining heat energy from the desoldering step. This saves time and energy. Process parameters are managed in the data bank and referenced to specific components.



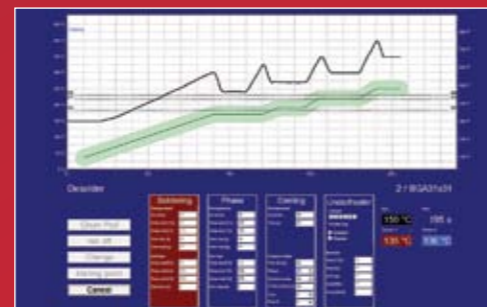
Dispensing

With Easy-Solder the application of solder paste, flux or underfill is a simple task. Viscosity and dispensing volume of each dot can be accurately set.

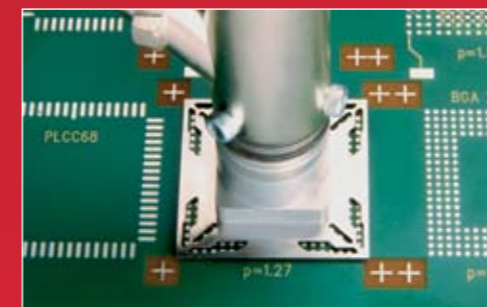


Auto-Profiler

When using "Auto-Profiler" most of the work is done by the software. This software module establishes optimum temperature profiles for soldering and desoldering SMT components, based on manufacturers defaults, thermocouples and a few key factors. All you have to do is to apply the final polish.



Profile Graph: Component specific parameters can be illustrated



Star-Tool for the precise alignment of a BGA

SHP – Rapid Placement

Manually placing components with the EXPERT 04.6 takes no time at all. The "Star-Tool" is lined up with the pads of the PCB. This position is then mechanically stored by the SHP Positioning Arm and the component accurately deposited. Simply ingenious!

An extensive range of immediately available tools makes the SHP, together with the Star Tool, a multi function instrument, even for unusual component types.

Reballing and Prebumping for Everyone

With the new Reballing- and Prebumping-Sets for the MINIOVEN 04 rework turns into a success story. Whether applying solder to small QFNs or Reballing especially large BGAs, the MINIOVEN 04 is well suited to almost any task, thanks to the extensive range of readily available accessories. When required we'll even make a custom mask – a service you'd expect from MARTIN.

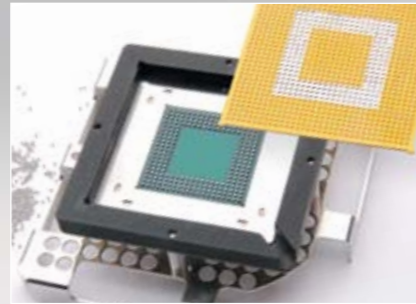
Precision and Quality as Standard

The MINIOVEN 04 offers well thought out functions, such as integrated air circulation, process gas support and a user-friendly menu structure. The optimal air distribution ensures that the MINIOVEN 04 heats components uniformly and, in combination with process gas, reduces the negative effects of oxidation. Advantages: optimal wetting of solder joints, increased surface tension and a significantly increased life expectancy of components.

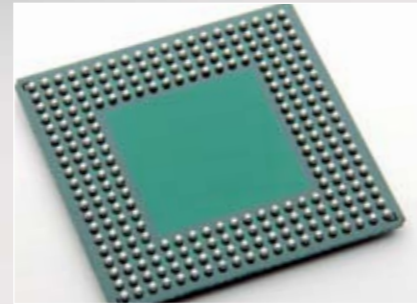
Reballing



Distributing balls in modified Universal Eco-Mask.



Reballing Holder with BGA after reflowing.



After Reballing the BGA is as new and ready to be used again.

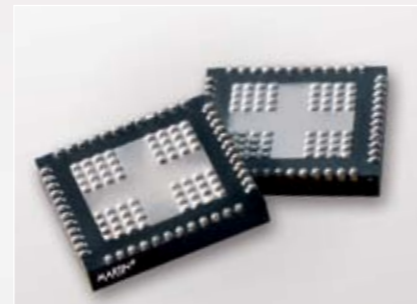
Prebumping



Insertion of a mask into the frame of the Prebumping receptacle.



Application of solder paste with the squeegee.



QFNs are equipped with fresh solder deposits.



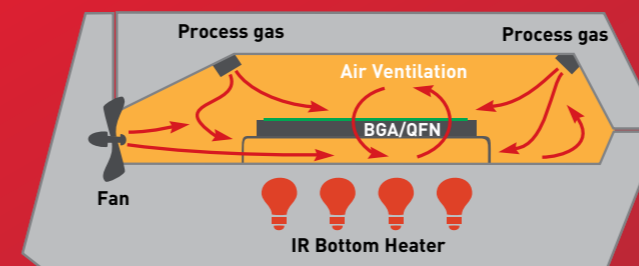
Powerful Infra Red - Underheater

Optimised Heat Distribution through Air Circulation

User-Friendly Display-supported Menu Structure

Process Gas Support for the Reduction of Undesirable Oxidation

N₂



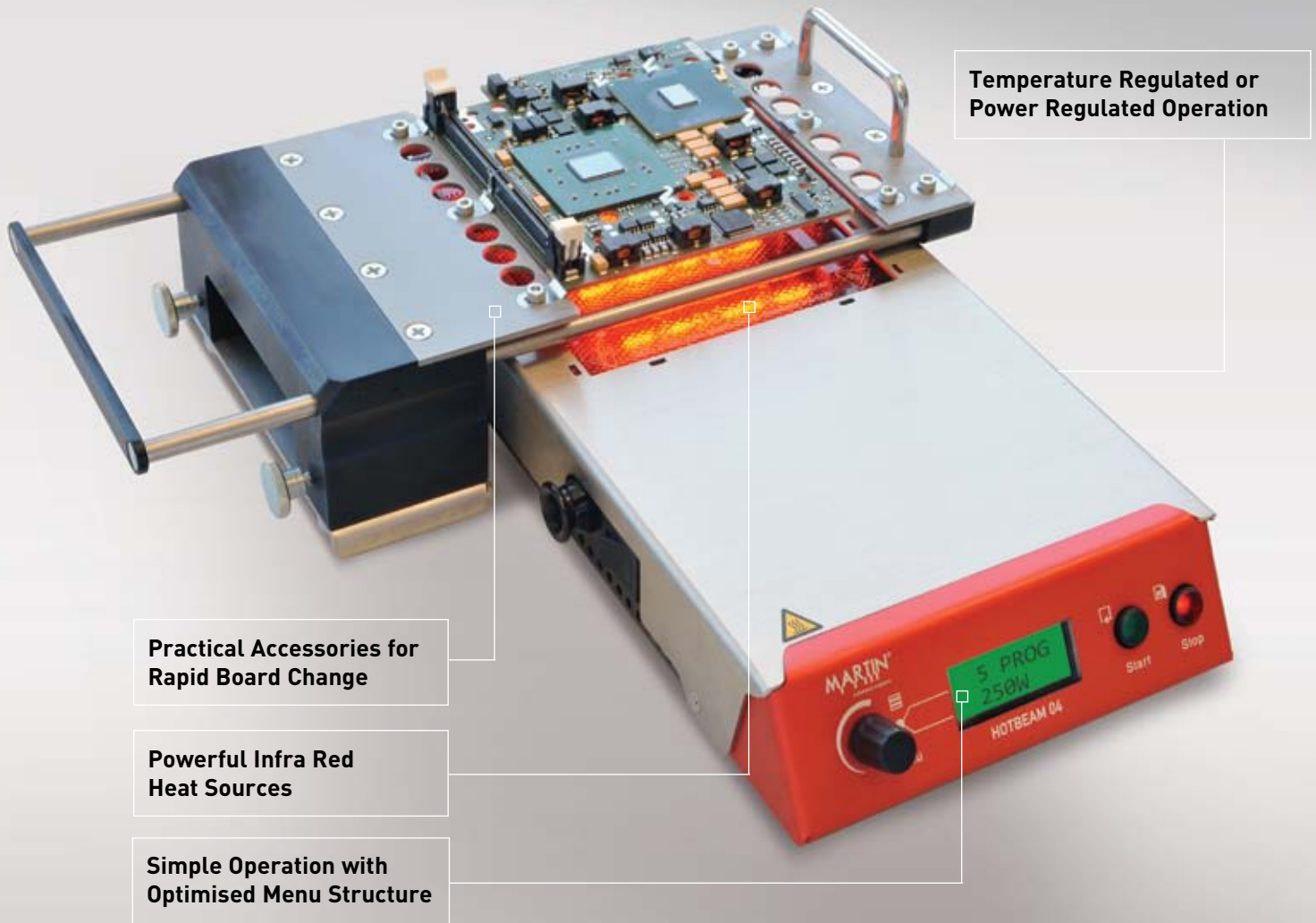
Uniform Heating

For improved and reliable heating of components the MINIOVEN 04 employs IR radiation as well as the novel air circulation.

Especially demanding applications can benefit from Process Gas, uniformly introduced into the chamber from our four built-in nozzles. The effect is to create an environment similar to a Reflow Oven.

For Preheating

Applications for Underheaters range from supporting manual soldering, preheating in preparation for subsequent rework processes, to curing or cracking of Underfill. MARTIN Underheaters vary in the size of heated areas, the heat output and the heating technology.



Temperature Regulated or Power Regulated Operation

Practical Accessories for Rapid Board Change

Powerful Infra Red Heat Sources

Simple Operation with Optimised Menu Structure



Height Adjustable Board Holders Handy-Fix-06 with 4 Magnetic Supports

Simply Achieve More

The new HOTBEAM Underheaters supply the energy required for manual rework from below. Heavy PCBs, especially, cannot be worked on without this essential provision.

Shorter process times and increased throughput are among the benefits of using MARTIN Underheaters, which are available as different models to suit any size of printed circuit board.