

Weller owning the bench: 360° solutions for electronic processing

Talking about Weller soldering irons only is simplistic because, with its numerous solutions, often tailor-made for each application, it completes the range on every work bench, be it production, rework or research and development labs

by Luca Conte

The technology developed in Besigheim (Weller's headquarter in Germany) has covered a long road since the first patent filed by Carl Weller in 1940! With the Magnastat soldering irons of the Fifties/Sixties, based on the Curie effect of the magnet on the tip, Weller has accompanied the development of electronic production down to micro-electronics and lead-free alloys, continuing to design new products to face the renewed requirements of heating power and speed of response. This qualifies Weller as a partner for all electronic productions and laboratories, with an of-

fer providing multiple solutions for the same application.

A wide and complete range of products

Starting from soldering irons directly connected to the network supply, where the working temperature depends on the tip that is fitted, going through control units with just the possibility of changing the temperature, you get to the high performance WX family. Fully digital and with a wide touch screen display, it uses tools with in-

built memory and a movement sensor to manage automatic standby function whose status is marked by a LED ring.

All soldering irons are divided into three heating technologies: Silver-Line, Power-Response and Active-Tip. Different tools can be connected to each control unit, with power ratings from 65 to 200 Watts.

ESD protection is guaranteed for all stations, with 4 different alternatives of equipotential bonding available (hard grounding, equalisation at the work bench, potential-free or accordingly with DOD or MIL standards). Calibration is not even required,

since Weller systems are the only ones that can guarantee they will always work within the tolerances stated in the IPC J-STD 001D standard; this is possible thanks to the closed loop communication between control unit and tool. Sensors too (in silver-platinum) are made with high quality processes and materials. If ISO procedures require periodic checks anyway, it is possible to calibrate digital units and set the offset value.

Weller is providing a wide range of rework:



from the two 80 W and 120 W desoldering irons with the new nozzles with longer tail and standard or vertical design, to the hot air units from 100 W to 700 W. These solutions are available for connection to the compressed air network or with pump integrated in the control unit.

To maximize the multi-connectivity of its control units, Weller offers thermal wire strippers, soldering bath for wire and cable pre-tinning or PTH component desoldering. Pre-heating plates are available in various sizes and powers with infrared radiation for the classical pre-heating on FR4, or direct contact for aluminium or ceramic circuits (LED lighting, automotive, military, etc.).

There are also systems with automatic feed of the soldering alloy, with 80 W or 120 W soldering irons; the operator has a hand free, which increases his work comfort, speeding up operating times and guaranteeing maximum operation repeatability. Settable delivery speed and two different use methods: pulsing, activated by the micro switch on the soldering iron handle or by the foot switch, and with timed delivery.

The line of Weller dispensers for fluxes, soldering pastes, glues, sealants, gels, masking agents, consists of three versions: a pedal version, a single channel and a double channel, with settable dispensing time and anti-drip function, through vacuum generation at the end of the dispensing stage.

The WellerFT Zero Smog Line is a complete range of extractors with solutions for exhaust & filtering the fumes and gases generated in various production processes. For soldering fumes and gases there is volume suction with arms and hoods fixed to the bench or, alternatively, suction extracting fumes straight from the soldering tips. Some versions can be connected to the WX series stations, so that they can be activated, deactivated or vary speed according to the number of soldering irons connected and active (not switched off or in stand-by). Connected to the WX, extractors warn when filters start being stack. Apart from soldering applications, there are solutions dedicated to laser machines, for VOC (solvents, glues) and MEK processing.



From tips to alloys

The available range of Weller tips is probably the widest and most complete on the market; the classical solutions are available: conical, chisel, for gull wings (for in line soldering), knife (for PLCC or to remove shorts), non-wettable tips for micro-electronics and many more, customisations included.

All tips undergo galvanizing treatment suitable to lead-free applications, to optimize the duration/performance ratio. Working with lead-free alloys is often difficult, sometimes you increase the operating temperature causing the tip life to be reduced, risking both flux splattering and its carbonisation on the tip, or even damage to components or printed circuit boards.

To make processing easier, Weller has introduced its own line of welding wires, consisting of SnCu and SnAgCu alloys, with diameters from 0.3 mm to 1.6 mm. The content of no-clean flux is 3.5% with L0 (halogen-free) and M1 (content < 0.5%) activation levels. The content of deoxidizing microadditives increases wettability and decreases the tip wear and tear.

Cutting and screwing

Benches always have cutters and tweezers. Erem is the Weller brand recognized worldwide for the high quality of its tools (produced in Switzerland): Erem provides the complete range of solutions for the most diverse applications.

Extra-fine tips for maximum precision and maximum seal in all working conditions, to cut and handle micro-components and very fine wires.

Strong tools that can meet the strictest requirements of the professional electronic industry, covering the need for utmost precision for laboratory applications, rather than the maximum strength required in production for the continuous and hard phases of shearing the terminals. Available in three different dimensions (micro 600, medium 500 and 2400, maxi 800), cutters work on three cutting levels: semi-shearing, shearing, super-shearing. The cutters are designed to reduce hand fatigue and carpal tunnel inflammation thanks to their ergonomic handle, the core integrating the return spring to ensure opening is never excessive. Maximum comfort is given by



very high quality materials. Pneumatic cutters are also available, to connect to compressed air, with various types of interchangeable heads.

Analogue or digital electronic control electrical screwdrivers are specially designed for assembly in series, where precision and care are required, with torques ranging from 0.05 Nm to 3.5 Nm. Ergonomically designed, they are stress-free, fully ESD and positively quiet.

The productronica novelties

In this edition of productronica too, Weller plays a leading role; the latest breakthroughs and all the consolidated products will be displayed in Hall A4, in stand 241. In particular a new soldering platform will be presented: the new Technology Line

platform (mid-range), with two digital single channel (WT 1 and WT 1H) soldering stations, for 90 W or 150 W standard tools. These products stand out for their innovative design but keep the characteristic colours that have been identifying Weller for ages. A new soldering iron, the WTP 90, has been developed for the new platform. It is a 90 W, small-sized, soldering iron that combines fast heat up time with quick replacement of the active tips; the combination of an active tip technology which is easy to be replaced plus the usage of the low cost XNT tips allows efficient working with lowest possible total cost of ownership by one tool. It will be possible to choose the WTP 90 for its easiness to quickly change tips according to the application; preparing beforehand multiple heating elements with different tips contribu-

tes to an increase in productivity. The choice can also refer to the superb performance deriving from active tip technology, keeping operating costs down at the same time. Also belonging to the Technology Line platform, the 900 W WTHA 1 hot-air, digital unit will be presented in Munich, with a built-in pump delivering 100 l/min (expanded air), a newly designed handle with finger switch, and an excellent display, it's capable of generating and storing the thermal profiles.

www.weller-tools.com

Hall A4 Stand 241