



Product Information

Repair System WQB 3000

The new WQB 3000 Repair System supplements the Weller product range in the SMD repair tool sector. A well thought-out design concept combines reliability and maximum process control with ease of use and technically mature detail solutions. Useful accessories increase the possible uses of this repair work station.

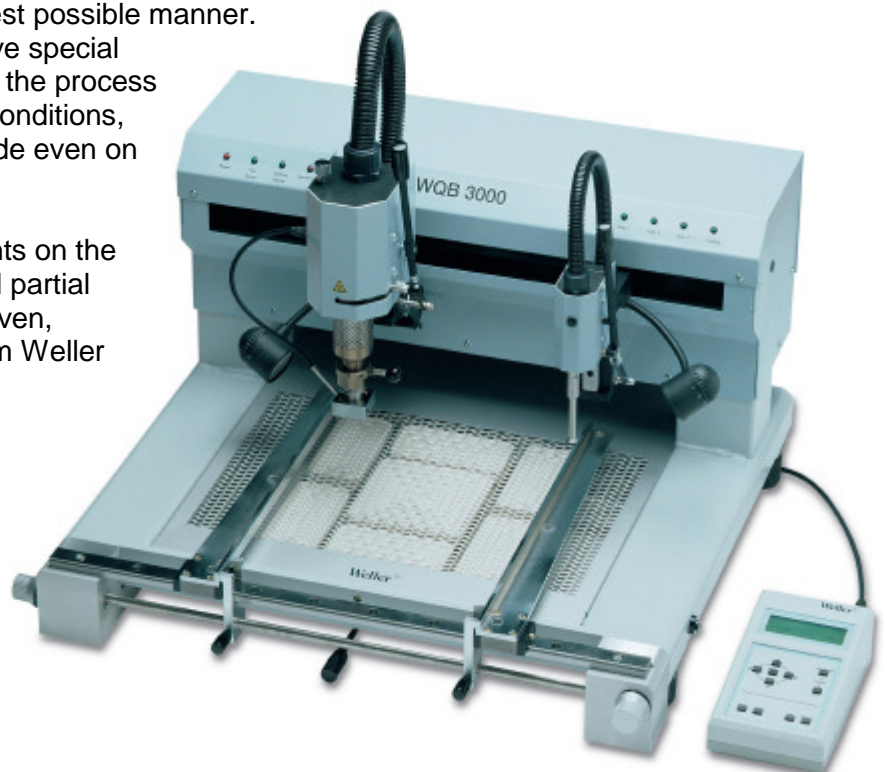


For the universal circuit board repair of SM components, it is necessary to effectively pre-heat the circuit board from below, and from above to precisely heat the components to be repaired to the reflow temperature, as well as to reliably control the process. On the WQB 3000 the temperature-regulated 2-zone infrared bottom heater provides rapid warm up and homogeneous substrate temperatures. The hot gas top heater, with digital control electronics for temperature monitoring and regulation of the air flow rate, facilitates the finely metered supply of heat to the components. A temperature sensor placed directly in the hot gas nozzle efficiently regulates the top heater and thus provides maximum process control.

On the digital data input unit all process steps can be programmed, saved, and, if necessary, protected against unauthorised use as required. The most important process parameters are optionally displayed on the LC display during operation. The data input unit assists with the determination of temperature profiles and in this way facilitates the definition of optimal soldering process data in the easiest possible manner.

The programming of comprehensive special functions permits the adaptation of the process to a very wide range of boundary conditions, and thus enables repairs to be made even on the most difficult assemblies.

For the re-positioning of components on the circuit board after de-soldering and partial application of solder paste, the proven, patented mini template system from Weller is available.





Product Information

Technical Data WQB 3000:

Dimensions (L x B x H):	Approx. 650 x 600 x 500 mm
Mains Voltage:	230V, 50Hz
Rating:	
• Top Heater:	700 W
• Bottom Heater:	1600 W
Temperature Control:	Continuous 50°C – 400°C Control Accuracy $\pm 15^\circ\text{C}$
Flow Rate Control:	Continuous 5 – 50 l/min.
Total Weight:	Approx. 40 kg

Items Supplied:

- Base unit with bottom heater, soldering head, placement head, control electronics and pneumatic unit
- Circuit board holder with precision drive in x and y direction
- Lighting for soldering head and placement head
- Data input unit with RS-232 connecting cable
- Nozzle changer
- 5 off vacuum inserts 4.5 mm
- 5 off vacuum inserts 10 mm
- Reducer insert for the vacuum pickup
- Mains cable
- 2 m connecting line for compressed air
- Instruction manual and service booklet

Accessories (Optional):

- Comprehensive hot gas nozzle and positioning template accessories
- Clamping set for small circuit boards (similar to the WMB 1000)
- Support for large size circuit boards
- Vacuum pickup with precision drive for Theta rotation of the component (QFP repair)
- Vacuum receptacle that can be used in the soldering head
- Manual control console for straightforward process control



Product Information

WQB 3000 Assembly Description

Base Unit:

- Robust, torsion-free welded design made of sheet steel section
- Antistatic, powder paint coating
- Height adjustable table feet
- 2 horizontal independent sliding arms with placement head and soldering head fitted to precision linear feed
- Pneumatically driven locking mechanism for the two arms, automatic operation by means of limit switches
- Unlocking by operation of button on the frame
- 2 additional thermocouples of type K can be connected for determining temperature profiles
- Control electronics and pneumatic unit are integrated into the rear steel sheet housing, tunnel-shaped duct for very long circuit boards
- Process state indication by means of light emitting diodes
- Manual control console can be connected for process operation
- RS-232 interface for data input unit or optional PC control

Soldering Head:

- Precision linear feed for Z adjustment, approx. 80 mm stroke
- Continuously adjustable depth stop by means of threaded spindle
- Fans with speed control for cooling at the end of the process
- Theta rotation of the heater head in the range from -5° to 95°
- Quick action nozzle fastener as on the WQB 2000
- "Vacuum-Lift" for the automatic de-soldering of components, vacuum tube can be continuously adjusted in height, 10 mm adjustment range
- Connection for the hot gas nozzle temperature sensor in the soldering head
- Heater element max. 700 W rating
- Damped lowering of the soldering head
- Enclosed design for industrial use
- Swivelling halogen light

Placement Head:

- Precision linear feed for Z adjustment, approx. 80 mm stroke
- Damped lowering of the placement head
- Attractive design, all cables protected and covered by trim
- Operation of the vacuum receptacle by means of button on the front of the placement head
- Reducer insert for vacuum receptacle for small components
- Swivelling halogen light



Product Information

Bottom Heater:

- High temperature ceramic lamp (long wavelength infrared radiation, $\lambda \approx 2 - 10 \mu\text{m}$)
- Small preheating zone: 400 Watt approx. 125 x 125 mm²
- Large preheating zone: 1600 Watt approx. 270 x 270 mm²
- Temperature regulation by means of thermocouples, integrated in the central lamp
- Protection against accidental contact by means of expanded metal cover plate
- Bottom heater can be moved in the longitudinal direction along the base table

Circuit Board Holder:

- Precision linear feed unit with 2 slides for the clamping arms
- Precision drive in x and y direction, adjustment range $\pm 10 \text{ mm}$, adjustment precision $\pm 0.05 \text{ mm}$
- Clamping range:

Width max.:	495 mm
Width min.:	30 mm
Length:	unlimited

Data Input Unit:

- LCD display with background lighting
- Key switch
- Connection to the base unit via RS-232 interface
- 30 programmable program slots
- 3 process steps and subsequent cooling phase. The following parameters can be separately programmed for each process step:

Temperature of the bottom heater:	50 °C - 400 °C
Temperature of the top heater:	50 °C - 400 °C
Air flow rate:	10 % - 100 % (5 l/min. - 50 l/min.)
Process time:	0 sec. - 999 sec.
Additionally:	
Cooling time:	0 sec. - 999 sec.
Size of the bottom heater:	Small – Large

- Special functions:
 - Fan speed can be adjusted
 - Standby temperature for top and bottom heater can be selected
 - Temperature offset for top and bottom heater can be selected
 - 2 different locking modes
 - Switch between °C and °F indication
 - Teach-In mode for the determination of the temperature profile
 - Temperature-regulated process control



Product Information

Overview of the Hot Gas Nozzles for the WQB 3000

Part No.	Nozzle Housing, Inside mm x mm	Nozzle Housing, Outside mm x mm
587 47 947	7.6 x 7.9	8.6 x 8.9
587 47 943	6.5 x 6.5	7.5 x 7.5
587 47 945	8.5 x 8.5	9.5 x 9.5
587 47 961	8.5 x 10.6	9.5 x 11.6
587 47 848	12 x 12	13 x 13
587 47 904	13.5 x 13.5	14.3 x 14.3
587 47 935	15.5 x 15.5	16.5 x 16.5
587 47 893	15 x 11	16 x 12
587 54 836	18.5 x 10	19.5 x 11
587 47 977	15.5 x 23.5	16.5 x 24.5
587 47 833	18 x 18	20 x 20
587 54 770	21 x 21	23 x 23
587 54 820	22 x 22	24 x 24
587 47 764	25 x 25	27 x 27
587 47 993	27 x 23	29 x 25
587 47 850	27 x 27	29 x 29
587 47 927	29 x 29	31 x 31
587 47 999	28 x 32	30 x 34
587 47 906	33 x 33	35 x 35
587 54 887	35 x 35	37 x 37
587 47 753	37 x 37	39 x 39
587 47 871	39.5 x 39.5	41.5 x 41.5
587 47 874	42 x 42	44 x 44
587 54 903	45 x 11	47 x 13
587 54 905	45 x 26	47 x 28
587 47 763	46 x 46	48 x 48
587 47 916	47 x 47	49 x 49
587 47 941	49 x 49	51 x 51
587 47 985	57 x 18.5	59 x 20.5

For further information please contact:

Cooper Tools GmbH
Carl-Benz-Str. 2, 74354 Besigheim, Germany
Tel.: +49-7143-5800, Fax: +49-7143-580108
E-mail: info@coopertools.de