

# Quadron

High Specification bench top soldering machine



Pillarhouse  
INTERNATIONAL

- Processes PCB's and multi-sided coils
- Rapid product change-over
- Proven solder pumped system
- Optional inerted soldering atmosphere
- Test and/or unload options



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flexibility versatility precision



# Quadron

A versatile rotary bench top soldering machine ideally suited for high or low volume production, the Quadron, combines well proven pumped soldering techniques with advanced micro-processor technology. Much of its versatility is owed to the specially designed programming system which allows the user access to all fluxing and soldering parameters at any time, in addition, rapid product change-over is achieved quickly and easily through simple tooling design and program identification. The machine is at home both processing coils / transformers or small PCB's in either small or large batches.

## Soldering

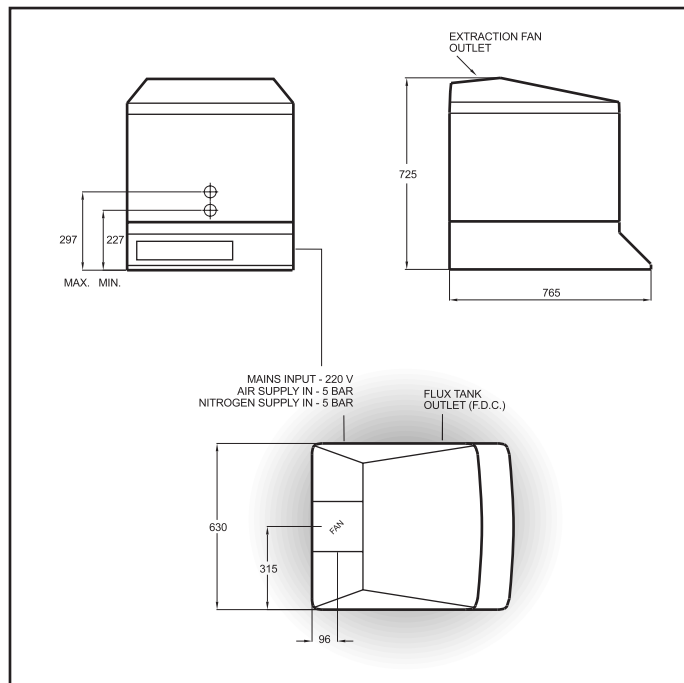
The Quadron uses a well proven solder pump system and incorporates a solder nozzle which can be of various designs to suit the product. Dross is removed from the nozzle prior to the next soldering operation by increasing the pump speed and bursting solder from the nozzle, this occurs during the index operation and does not impede the overall cycle time. The component is dipped in the solder by means of the precision stepper driven tooling slide, which provides precise, accurate and repeatable results. Also, for the optimum soldered joint, Pillarhouse is able to provide a Nitrogen shroud which makes the soldering operation totally inert and helps prevent bridging, reduces dross and provides an improved quality. One major advantage the Quadron has is the ability to tilt a component out of the solder, this facility will help to prevent solder bridging of fine pitched connectors and the like.

## Fluxing System

The flux is applied to the terminals via a crucible which is lifted from the bath to the component, this provides high quality and consistent repeatability. Flux application is of paramount importance, this is where the Quadron has an advantage, as it is able to control the application and avoid bobbin contamination by applying flux accurately. Excess flux and insulation residue is kept to a minimum by careful control of the dip height and immersion time, this being achieved through a microprocessor and stepper drive motors. The Quadron can be supplied with either a fixed flux bath or self contained recycling flux tank which helps reduce the evaporation of the flux thinners.

## Programming

The Quadron can be quickly and easily programmed to solder a wide range of different products, e.g. coils, transformers, wire terminations and small PCB's. The machine has a memory capacity for 40 programmes (This can be increased to 160). The fluxing and soldering parameters are entered via a keyboard, to give full control of: solder bath temperature (to within  $\pm 1^{\circ}\text{C}$ ), flux and solder dip heights (increments of 0.1mm), and flux and solder immersion time (to within 0.1 of a second). Additional operations can also be controlled, e.g. component test facility, component unload and adjustment of the cycle time etc. A twenty-four hour wake-up timer is included as standard equipment which enables the machine to be automatically powered-on and brought up to temperature prior to the start of a working shift.



## Optional Equipment

### Turnover

The optional turnover facility enables components with terminals on numerous sides to be handled on the same tooling, with fluxing and soldering performed at the same time without the need for the component to be re-loaded. Also, if a component has different soldering requirements on each side the Quadron will identify different programming parameters for each.

### Automatic Test/Unload

Optional test and/or unload facilities offer the ability for components to be tested for electrical continuity or resistance prior to the component being automatically or manually ejected as a pass or fail.

### Solder Top-up

This option ensures the solder level in the bath is kept constant, the level is continually monitored using a temperature differential system which instructs the system to automatically top-up the solder. The user can choose between two systems, both of which perform the same task, the difference being the solder supply i.e. wire or ingots.

#### - Wire feeder

This system uses a reel of 3mm diameter solder which is mounted on the rear of the machine, the solder is fed into the bath pneumatically.

#### - Ingot feeder

This system is similar to the above in that the solder is fed into the bath pneumatically, the difference being that the solder which is in ingot form is stored in a vertical stack.

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