

Please read important unpacking instructions



1. Carefully consider where the unit will be located. It should be close to any necessary services.
2. Remove unit and ancillary items from the packaging:

3. Using the M8 Bolts and Nuts, fasten the Rota-Spray

Lid & Basket Assembly x 2	Washing Machine Hose x 2 Cold x 1 Hot
Plastic 'Y' piece x 1	Drain Assembly x 1
Rota-Spray Power lead x 1 *	Rota-Spray Stand Attachment x 1
*maybe connected to rear of Control Panel	M8 Flange Nuts x 2
M8 x 70 bolts x 2	M6 Flange Nuts x 4
M6 x 25 Bolts x 4	7.5mm Drill x 1
M6 Washers x 4	Drill Template x 1
Door Lock Key x 1	Rota-Spray Drain Assembly
Swan Neck for Mixer Tap x 1 (removed for transport)	

Stand to the Right-hand side of the unit. (see above)

4. All 6 feet are adjustable on screw threads, so the unit can be levelled, using a spirit level.
5. Place the Rota-Spray unit on the stand, fold up the 4 tabs on the top of the stand, so that they fold up into the base of the Rota-Spray. The holes in the tabs should line up with the holes in the base of the Rota-Spray. Use the M6 bolts and nuts to fasten the Rota-Spray to the stand. Fit the bolts and washers from the outside and fit nuts on the inside.

PS: If you have an earlier model of the Rota-Spray unit, it will not have the holes in the base of the unit for the M6 bolts to be fitted. You will therefore need to drill 4 holes in the base of the Rota-Spray, using the 7.5mm drill bit, together with the Drill Template provided.

- A) First place the Rota-Spray on a flat surface.
- B) Gently pull off the drain valve handle



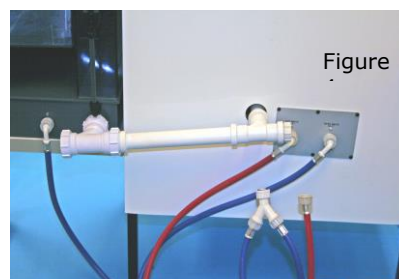
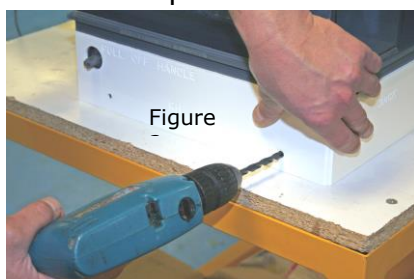
C) Wrap the Drill Template around the base of the Rota-spray as shown in **Figure 1**. It is polarised by the Drain, Drain Valve and Water Connection. The bottom of the Template should match up with the bottom edge of the Rota-Spray base.

D) With the Template in direct contact with the base, drill through the 7.5mm holes in the template and through the walls of the base.



There is 1 hole to drill in the front and 1 one hole to drill in the back (see **Figure 2**) and 2 holes in the Right Hand Side. (see **Figure 3**)

- E) Remove Template and refit Drain Valve Handle



6. Fit the Drain Assembly from the Rota-Station to the Rota-Spray (see figure 4)
7. Position the unit in the selected location, adjacent to the services required. Check the levels and adjust as necessary
8. Connect Drain (40mm Compression fit) and Water, as the Rota-Station and the Rota-Spray both require connection to a cold water supply, there is a plastic 'Y' Connector provided to split the supply at a Valve with a ¾" male thread (washing machine tap).

Ensure all water services are connected in accordance with local water bylaws. For effective washing of panels, we recommend a head pressure of 2 bar minimum. Drainage Pipe and Fittings should be in PVC or Polypropylene. Avoid ABS or Metal.

9. Before connection of The Rota-Station to mains power, read the Electrical Safety notice on the rear of this sheet. Before filling the process tank, ensure the drain valves are closed. Ensure the tanks are filled with liquid to the level 5-10mm below the shoulder on which the lid rests.
10. The mains electrical supply must be via a 'Residual Current Device' (RCD). Available from Mega (part No: 161053) if required.

The Rota-Station is designed to use:-

- 1) Ferric Chloride to etch Copper, Brass and Stainless Steel
- 2) Ferric Nitrate to Etch Silver
- 3) Water Based Photoresist Developer to develop Photoresist coatings.

If you wish to use any other Chemistry to process different materials, please contact your Supplier for advice before proceeding.

Failure to do this may cause serious damage and will invalidate the warranty

PLEASE READ THIS VERY IMPORTANT NOTICE **PLEASE DO NOT LEAVE THIS UNIT UNATTENDED WHEN IN USE**

The Rota-Spray is constructed in PVC Plastic with welded seams and joints. This practice has been widely used throughout the Chemical Processing Industry for many years. It is physically very strong and extremely resistant to many corrosive chemicals. The only disadvantage with this technique, is that it make the construction hard and brittle. Therefore extreme care should be taken when placing the unit on any surface.

When removing from packaging, ensure the unit is lifted evenly and gently and placed very gently on to a flat surface. Please avoid any heavy landings on corners, as this will induce a shear action which can cause cracking in the carcass.

Selecting Chemistry

The Rota-Spray is designed specifically for use with the Mega range of PCB chemistry. The carefully selected range of compatible chemistry has many safety features. The developer does not, unlike others, contain Sodium Hydroxide (Caustic Soda). Liquid Ferric is recommended for best results.

Fine Etch Crystals cannot be used in the Rota-Spray, as they are not effective in this type of process.

The following chemistry, available from Mega is recommended:

Developer For pre-coated boards	600-007	500g = 10 litres (more with Fotoboard 2).
Developer For pre-coated boards	600-010	1 litre concentrate = 10 litres (more with Fotoboard 2).
Developer For dry film resist	500-164	4615 Dry Film 1 litre conc. = 25 litres
Developer For dry film resist	500-162	4615 Dry Film 5 litres concentrate
Stripper	600-019	Photoresist Stripper 1 litre for 15 litres
Immerse Tin	600-021	Immerse Tin 450g for 5 litres.

Temperature control

The temperature controller is a microprocessor-based digital electronic regulator used to control temperature with ON/OFF control of the heater. The liquid temperature is displayed on a 2 digit red led display while the heater state is indicated by a LED (OUT/SET).

When the unit is powered up °C is displayed for ten seconds, then the temperature of the liquid will be displayed. The heater will be activated if the liquid temperature is below the set point. The factory pre-set is 45 °C.

Please note – If the unit reaches set point and is then turned off and on again the heater will not operate until the temperature is 3 °C below the set point.

If there is insufficient liquid in the tank the temperature display will not operate.

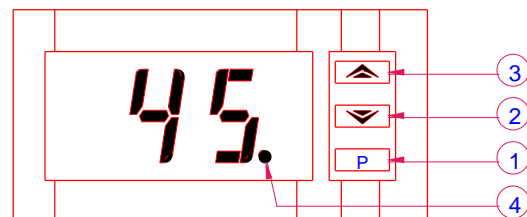
IMPORTANT The maximum temperature that can be set is 50°C.
NO ATTEMPT SHOULD BE MADE TO INCREASE THE TEMPERATURE BEYOND 50°C, AS THIS WOULD CAUSE SERIOUS DAMAGE TO THE UNIT AND INVALIDATE ANY WARRANTY

Setting temperature mode

Setting the temperature is achieved by programming the set point.

1. Push the **P** key and keep it pushed for one second
2. **SP** will be displayed and the out/set led will blink rapidly
3. Release the key and the set point will be displayed
4. Press up key to increase temperature
5. Press down key to decrease temperature
6. Not pressing any key for five seconds will automatically leave set temperature mode
7. The liquid temperature will now be displayed.

Figure



1 – KEY P: Is used to program the set point.

2 – KEY DOWN: Is used to decrease the programming values.

3 – KEY UP: Is used to increase the programming values.

4 – LED OUT/SET: It indicates when the output is **ON** (light on), **OFF** (light off) or if in Programming Mode (blinking rapidly).

Lid & Basket Assembly

The Lid & Basket assembly enables the operator to move the PCB laminate into a separate integral spray wash tank for cleaning without coming into contact with the chemistry.

It maybe loaded with a 10" x 12" panel or several smaller panels. Use the yellow basket clips to stop small panels from falling out.

Processing

When the Pre-set temperature is reached, the unit is ready to use. Insert the loaded basket into the selected tank . After processing has finished it is best to lift the loaded basket, slowly and carefully upwards and let any liquid drain into the tank before lowering it into the wash tank.

Spray Wash

Switch ON the spray wash on the Control Panel, this will open a solenoid valve and allow water to pass through the spray wash bars. Then gently lower the basket into the Spray Wash Tank. Ensure the basket and panel(s) are completely clean before switching off, and removing the panels.

It takes no more than 30 seconds to clean a panel so after cleaning switch 'OFF' to conserve water. The duty cycle of the spray wash unit is 3 minutes 'ON' followed by 1 minute 'OFF'.

Emptying Process Tanks.

The process tanks have flexible drain hoses fitted at the bottom. Drain into a suitable container, by turning the Drain Valve through 90 degrees and then unfastening the ratchet clip.

Wash out with water and before refilling.

Ensure the Drain Valve is fully shut off and that the Ratchet Clamp is done up and in place.

Cleaning

Always remove any drips or splashes of processing chemistry when they occur with a damp cloth or sponge. Never let them dry.

The outside plastic surfaces should be kept clean with non abrasive cleaner.

Any Ferric Chloride staining can be removed with Mega's Ferric Chloride Stain Remover (600-039).

When spent chemistry is removed, always wash the unit through thoroughly with water before adding new chemistry. If Ferric chloride has been used, the inside of the machine can be cleaned with a 5 litre solution of Ferric Chloride Stain Remover (600-039). Ensure this is mixed outside the machine, 500grams to make 5 litres is ideal.

Never use any solvents to clean the unit.

Electrical Safety Notice

CONNECTIONS TO MAINS ELECTRICAL SUPPLY

This equipment is designed to safety class 1

Before connecting this equipment to the mains electricity supply, examine the information on the apparatus rating label.

Ensure that the mains supply is single phase alternating current (a.c.) of the stated frequency (Hz), with neutral nominally at earth potential.

Check the supply voltage is within the stated range.

The equipment rating label states the value of the fuse fitted to the

apparatus itself. Ensure that the plug or supply circuit is fitted with an appropriate fuse of higher value.

WARNING THIS APPARATUS MUST BE EARTHED.

The wires in the mains lead are coloured in accordance with the following code:

Green/Yellow - Earth (E)
Blue - Neutral (N)
Brown - Live (L)

If a moulded fused plug is not fitted connect the wires to a non-reversible 3 pin plug as follows:-

Green/Yellow wire to terminal marked:

E (earth) or G (ground) or coloured Green or coloured Green/Yellow.

Blue wire to terminal marked:

N (neutral) or Common or coloured blue.

Brown wire to terminal marked:

L (live) or Phase or coloured Brown.

1 AMP POWER SOCKET: Please note: There is an IEC chassis socket fitted under the control panel. This is only utilised when an external pump is fitted for the spray wash chamber. The spray wash switch controls power to the socket. The socket is rated at 1 AMP maximum.

NO SERVICING OR MAINTENANCE SHOULD BE CARRIED OUT UNTIL THE UNIT HAS BEEN SWITCHED OFF AND ISOLATED FROM THE MAINS ELECTRICITY SUPPLY.

Any spare parts which may be required, are supplied on the understanding that the replacement of these requiring the exposure of live electrical connections will be undertaken by an electrically qualified person.



MEGA ELECTRONICS LTD.,

Mega House, Grip Industrial Estate, Linton, Cambridge, England, CB21 4XN

Tel: +44 (0) 1223 893900 Fax: +44 (0) 1223 893894

email: sales@megauk.com

web: www.megauk.com