

Etching

Order code	Manufacturer code	Description
34-0760	n/a	PA104 PCB BUBBLE ETCH TANK (RE)
34-0764	n/a	PA210 TWIN TANK PCB ETCH TANK (RE)
34-0765	n/a	PA310 3-TANK PCB ETCH TANK (RE)

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 12/12/2006

PA series PCB Processing Tanks

PA103, PA104, PA107, PA207, PA210 & PA310

Installation

1. Carefully consider where the tank(s) will be located. They should be at a reasonable working height, close to any necessary services and preferable secured to a **Process Tank Workstation Tray with fitted Splash Back.** (See Mega's catalogue for details).
2. Remove unit and ancillary items from the packaging. Ensure the following parts are included:-

Description	103	104	107	207	210	310
Lid/Basket	1	1	1	1	1	2
Syphon	0	1	1	1	1	2
32mm Bend	1	0	0	1	1	1
Water Inlet Tap	1	0	0	1	1	1
Washing machine hose	1	0	0	1	1	1
Mains power cable	0	1	1	1	1	1

3. Where applicable ensure all water services are connected in accordance with local water bylaws. For spray wash tanks minimum water pressure of water inlet should be 2 bars. Where applicable connect spray wash water inlet to water supply via washing machine hose and threaded washing machine type tap, designed to fit standard 15mm copper cold water mains pipe by means of a compression joint.

WASTE WATER OUTLET TO MAINS WASTE IS VIA THE 32mm PUSH FIT BEND

4. All but the PA103 spray wash require mains power. Before inserting mains lead **ENSURE ANY HEATED TANK IS FILLED WITH WATER TO 5 – 10mm below the shoulder on which the lid rests.**
NEVER TURN ON ANY TANK WHEN IT IS EMPTY.

5. Always use a Power Cut-Out (RCD) device with the tanks, (Mega part No 161053). Having read electrical safety notice on reverse (or attached) insert plug into 13amp socket. Turn on the mains switch on the front of the unit and ensure it illuminates to confirm power is on.

6. Read the chemistry instructions to determine what temperature each tank should be set to. As a guide developer is normally 20 – 25°C, Etchant 45°C, Stripper 45°C and Tin 20°C. Keeping each tank filled with water, set each tank's temperature by rotating the control knob clockwise to turn the heater on (the heater neon will then illuminate) and anti-clockwise to turn the heater off.

The range of temperature the dial can be rotated covers approximately 20°C to 50°C. Adjust the dial to an approximate position for the appropriate chemical. Once the temperature has stabilised the liquid temperature should be checked with a thermometer and final adjustments made. When this is done, turn the heater and mains switch off and disconnect from mains. Syphon off the water and fill with the appropriate chemistry, reconnect to mains and turn heater on.

Selecting PCB Chemistry

Mega PA Process Tanks are designed specifically for use with Mega's 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) and a recent report by any occupational hygienist concluded that, under the test conditions, **NO LOCAL EXHAUST VENTILATION IS REQUIRED** using Mega's PCB chemistry and tanks. Copies of the report are available upon request.

The following chemistry, available from Mega is recommended:

Developer	600-010	1 litre Conc. (10 litres)
Etchant	600-013	Etchant 2.5 Kilos (5 litres)
Etchant	600-015	Liquid Etchant (5 Litres)
Etchant	600-016	Liquid Etchant (25 Litres)
Fine Etch	600-013	Fine etch Crystals (5 litres)
Stripper	600-019	Resist Strip 1 litre =(5 litres)
Tin	600-021	Immerse Tin 450g=(5 litres)

Instructions on Use

The combined lid and basket holder enables the operator to move the PCB laminate into a separate or integral spray wash tank for cleaning without coming into contact with the chemistry.

Processing Times:

The time the board is left immersed in a process tank should be determined from the relevant chemical processing instructions. As a guide, developing normally takes 30 – 60 seconds, etching 5 – 6 minutes, resist stripping 2 – 3 minutes and tinning 5+ minutes.

Spray Wash:

Boards should be washed in a spray wash tank for at least 60 seconds. The spray wash tanks have a solenoid valve operated by an illuminated switch on the control panel. When the switch is on water is forced out of the two spray wash bars at the top of the tank.

Etching:

The etch tank has an integral air pump operated from the front control panel. **Do not operate the pump unless a lid / basket is on the tank.** For optimum results panels should be inverted half-way through the etching cycle.

Fault Finding:

If you have a problem with your unit – Check the following:- If the problem persists, please contact Mega's repair department quoting the model number and serial number of your unit..

Problem	Solution
No power to the tank, mains switch does not light up.	Check fuse in the tank and mains plug.
Heater light to Developing tank does not light up.	Check that room/water temperature is not already close to 25°C
Heater light is on, but liquid does not heat up.	Contact Mega.
Liquid becomes too hot.	Check liquid level. It should be 5 – 10mm below top of tank

Servicing and Spares

Before cleaning or servicing any tank ensure the power is switched off and the mains cable is removed.

Each time the chemistry is changed, clean and rinse the tank before replenishing.

Ferric chloride (Etchant) stains can be removed with Mega's Ferric Cleaner (Part No. 600-039).

The following common spare parts can be ordered:

160001	Heater
160032	Heater
160056	Thermostat
167004	Amber Indicator
167111	Green Latching Switch
167112	Yellow Latching Switch
291000	Bubble Bar Assembly
900-041	Lid / Basket 12" x 18"

Associated Products

A range of products available for use with this unit are detailed in our free product catalogue. The fully priced catalogue features all that is required for Printed Circuit Board and Label products.

Please telephone us for your copy

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.

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.



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