

Chloromatic® ESC-pH SYSTEM - MANUAL ADDENDUM

The ESC-pH system is a combination of a Chloromatic® ECLSC Salt Water Pool System and automatic pH Monitor/Controller. Please refer to the ESR/ESC Manual for information on how to operate the Chloromatic®. This manual covers the pH Control Features of the ESC-pH system. In the instrument panel the pH Control system controls are located in the dark-coloured area marked “**pH CONTROL**”. It should be noted that the Chloromatic® operation is similar to but not exactly the same as the ESC system described in the ESR/ESC manual, for example a display of the output control setting is not available.

THE DIGITAL DISPLAY

- The digital display is used to provide information on the Chloromatic® output, pH and pH set point.
- The display will alternately show the chlorinator production and pH
- When the pH Control switch is placed in the SET position the display will show the pH set point

FEED & pH STATUS LEDs

The pH STATUS LED is used to indicate if the pH is within a range of ± 0.4 pH of the set point. If the pH is more than 0.4pH above the set point the LED will flash red/green. If the pH is less than 0.4pH below the set point the LED will flash red

The FEED STATUS LED is used to indicate the operation of the acid dosing pump:

RED	ACID PUMP OFF
GREEN	ACID PUMP AVAILABLE
GREEN FLASHING	ACID PUMP IS DOSING

pH CONTROL

The control switch has three positions:

- **RUN** In this position the acid dosing pump will operate according to the value of the pH set point and measured pH
- **SET** This will allow adjustment of the controller set point using adjustment tool. Turn clockwise to increase the set point. Note that acid pump is off when adjusting set point
- **OFF** Disables the acid dosing pump and control functions



DESCRIPTION OF OPERATION

The pH control has been designed to provide an acid feed in proportion to the difference between the actual pH and the pH set point. The control also operates on a cycle to allow the acid being fed to mix with the pool water. The cycle is approximately five minutes duration. If the pH is 0.4 or more above the set pH at the start of a cycle the acid dosing pump will operate continuously until the pH falls below the set point plus 0.4pH. When this happens the amount of time the pump operates each cycle will reduce as the pH gets closer to the set point. The acid dosing pump will turn off when the set point is reached. The proportional system is designed to keep pH relatively constant with little or no overshoot (pH falling below the set point).

INSTALLING THE PUMP MODULE:

IMPORTANT: KEEP BARE HANDS AWAY FROM POOL ACID AND ALWAYS USE CAUTION WHEN HANDLING POOL CHEMICALS.

1. Refer general installation diagram on reverse of this page.
2. Select a convenient position within 2 metres of the ESCpH Control System, and 1.5 metres above ground level. Ensure chemical drum is placed as far away as possible from the Control Unit and Pump Module to avoid corrosive damage. Control Unit and Pump Module must be a minimum of 1.0 metre horizontally from drum.
3. Use the same mounting procedures as for the Control Unit. (Refer manual).
4. **Connecting Pump Module to Control Unit.**
Plug the mains lead from the pump module into the GPO in the **bottom right of the unit.**
5. Remove cap from drum and clean in water.
6. Drill a 9mm hole through the centre of cap. Fit the clear tube through the cap, then the tube weight and attach the check valve to the tube, push enough tube through the cap to allow the tube weight to sit at the bottom of the drum.
7. Re - fit cap to acid drum.
8. Place chemical drum away from the Control Unit and Pump Module to avoid possible corrosive damage from chemical vapour. Minimum distance horizontally between Pump Module and Chemical Drum is 1.0 metres.
9. Using PVC cement fit Probe/Injector Housing to suction or return line (and ensure probe is horizontal to the ground). NOTE: if return has a high backpressure use the suction line. The Housing has 50mm standard fittings with reducers supplied for 40mm applications. Ensure Housing is fitted with arrows pointing in the direction of water flow.
IMPORTANT: ENSURE SENSOR PROBE ALWAYS REMAINS MOIST. A NON-RETURN VALVE MAY NEED TO BE FITTED IN POOL FILTRATION LINE TO STOP DRAINAGE IN THE PLUMBING. SENSOR PROBE MAY BE DAMAGED BEYOND

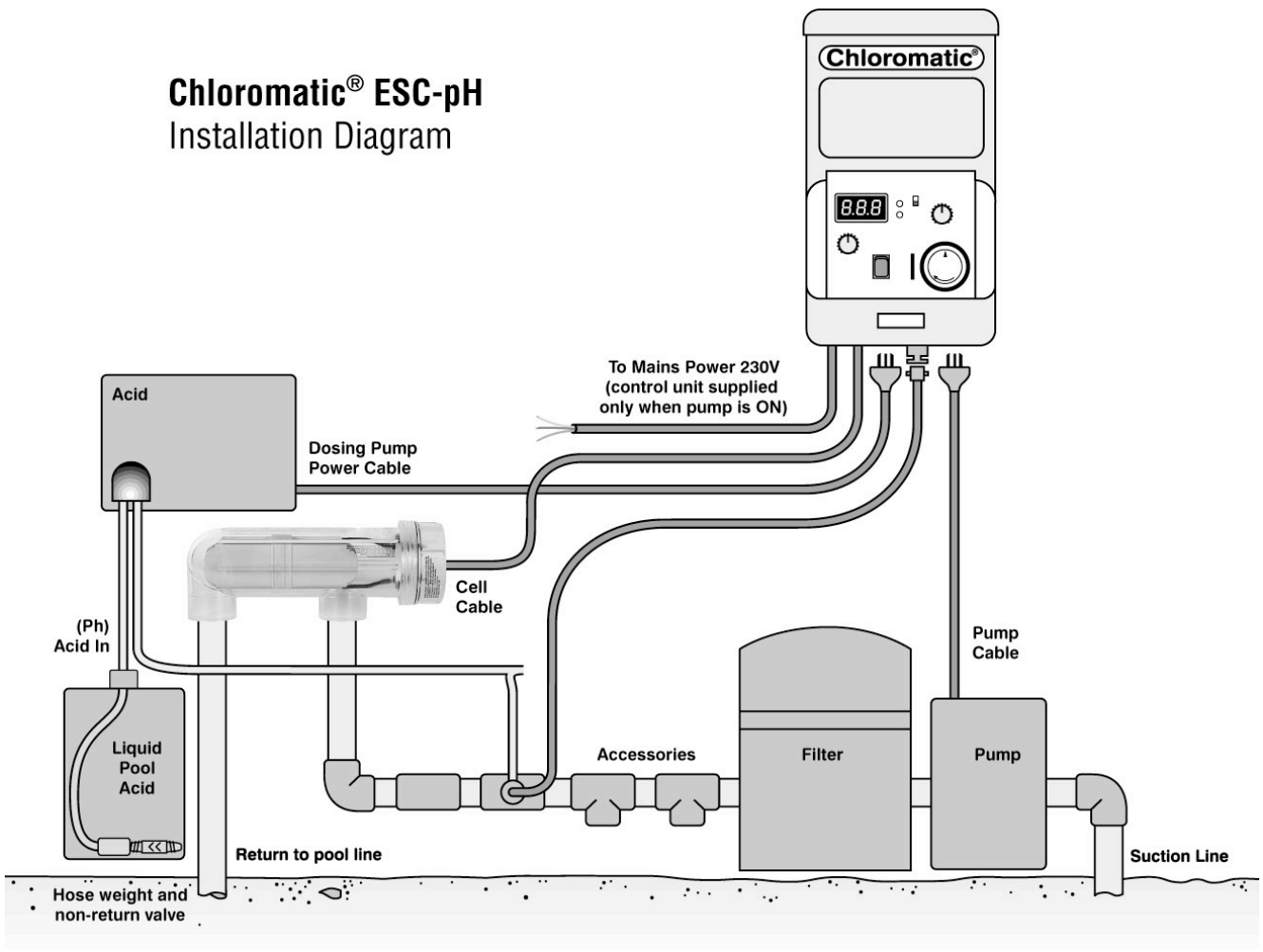
REPAIR IF LEFT TO DRY OUT. WARRANTY WILL BE VOID IF THIS TYPE OF DAMAGE IS APPARENT.

10. Remove cap from sensor probe, discard travel solution and screw into sensor housing.
Keep cap in a safe place for future sensor removal.
11. Connect wire from sensor probe to the connector on the base of the control unit. Ensure water (garden sprayers, reticulation etc) does not splash or spray onto the connector. This is likely to cause erroneous operation and may damage the sensor probe, voiding warranty.
12. Fit Injector to Housing and connect the 6mm diameter clear tubes. Cut Clear tube can be softened in hot water to enable easier connection. Tube may change colour and/or become opaque in use.
13. Push tube onto barb connectors of dosing pump nearest arrows facing down and secure with plastic clamps provided.
14. Connect clear tube from the chemical containers then fit tube as described previously.
15. Ensure that hydrochloric acid is diluted by 1 Part Acid to 2 Parts water, if using Sulphuric Acid it must be no greater than 10% strength.
16. Please ensure that the Tube in the pump module is inspected regularly (at least every month) for deterioration and replaced as required – replace at least once per annum.

INITIAL SET-UP

1. After installation leave pH Control off and run pool pump for an hour. While this is being done it is a good time to ensure that the pool balance is correct.
2. Using a pool test kit measure the pH.
3. Using the tool supplied adjust CAL until the pH display matches the test kit result. The display will alternate between pH and the chlorine cell production so this may take a little time to get right.
4. Switch the pH Control to SET and adjust to the desired pH if necessary. NOTE: for concrete pools it is possible that a pH set point of around 7.4 or below will lead to high acid consumption and frequent additions of buffer. To reduce this effect a set point of 7.7 may be more economical. Refer your pool professional for further advice.
5. Switch pH Control to RUN and allow unit to operate.
6. Retest pool pH with test kit over the next few days to fine tune control if necessary

Chloromatic® ESC-pH Installation Diagram



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