

MAGNA-CHEM

AUTOMATIC CHLORINATOR -

MODEL: CpHP-pH/ MAGNA ORP Chlorine Pump

Assembly & Operating Instructions

A. PARTS

1pc. Control box with pumps

Parts for liquid chlorine feed pump

1pc. 6mm poly delivery tubing, 4 meters
1pc. drum weight and retainer
1pc. 6mm poly tube connector
1pc. 6mm poly non-return valve

Parts for water line connection

2pc. 40mm x 12mm poly pipe tee
2pc 6mm tube x 12mm bsp - connector injection fitting.
1pc. Chlorine Probe and 2 metre lead
1pc. pH Probe and 2 metre lead.

Parts for acid feed pump

1pc. 6mm poly delivery tubing, 4 meters
1pc. drum weight and retainer
2pc. 6mm poly tube connector

B. DESCRIPTION

MAGNA-CHEM Automatic Chlorine and pH Controller is designed to automatically control the chlorine and pH levels in your pool or spa, however it is important to test your pool water everyday to ensure correct water balance. The MAGNA-CHEM Controller measures the chlorine level in the water via a probe which is reading the ORP (Oxidation Reduction Potential) level. ORP is a measurement of the oxidising property of the chlorine in the water. It is essential to test chlorine levels using a manual test kit to ensure adequate free available chlorine levels. It is advisable to take a water sample to your local Pool Shop at least once a month to maintain correct levels.

Your local pool shop professional will conduct a comprehensive test of all chemical levels including:

- Chlorine
- pH Balance
- Total Alkalinity
- Calcium Hardness
- Stabiliser

It is essential that all levels are correct to ensure safe, healthy water and to confirm the correct operation of the MAGNA-CHEM Controller.



C. INSTALLATION

1. CONTROL CABINET

Mount the control box on a shelf or wall not more than two meters from the chlorine and acid containers. The key hole slots in the back of the cabinet are provided for wall mounting. Make sure other equipment is not directly below the controller. Do not mount in an exposed area, pool zone or direct sunlight.

2. TUBE CONNECTIONS (Refer to Diagrams 3 and 4)

Decide where in the 'return to pool line' the poly tee is to be installed. Push the poly-barbed connector in the suction side of the pump and the NON-RETURN valve into the discharge side of the chlorine pump and the other poly barb into the discharge of the acid pump. Cut and push the required lengths of the poly tubes into these fittings.

Fit the end of the SUCTION TUBE through the ceramic weight; fit the retainers and drop the assemblies into their respective containers.

Fit the end of the DISCHARGE TUBE poly tubes into the injection fitting in the poly tees. Be sure to push the tubing right through the tee fitting and into the opposite internal wall, then pull back 10mm and tighten the nut.

IMPORTANT: Be sure to install the acid discharge tube into the injector on the poly tee **WITHOUT** the probe fitting.

3. POLY TEE PIECE

The tees may now be installed into the 'return to the pool' line in the position already chosen. The 'acid' poly tee should be installed downstream from the chlorine/pH probes tee. Cut a piece out of the line and glue the tees in place.

IMPORTANT - If the 'return to pool' line is below the water level of the pool, be sure to isolate this line before cutting it to avoid loss of water.

4. CHLORINE/ORP PROBE

The probe is supplied with an o'ring fitting and may be screwed straight into the side of the poly tee now installed. Push the BNC connector into the chlorine probe socket on the base of the MAGNA-CHEM. Push and turn clockwise - 1/4" turn.

5. pH PROBE

The probe is supplied with an o'ring fitting and may be screwed straight into the side of the poly tee now installed. Push the BNC connector into the ORP probe socket on the base of the MAGNA-CHEM. Push and turn clockwise - 1/4" turn.

6. ELECTRICAL CONNECTION

Plug into time controlled 240v ac power outlet with the filter pump plugged into the rear of the 'piggy back' socket provided. Chemicals dosing operations are controlled automatically by the MAGNA-CHEM while the water filter pump is on. Running times of the water filter pump and the MAGNA-CHEM should be controlled by a separate time clock (except in the model CPHTP - which includes a timer).



D. OPERATION

Ensure that the chlorine and acid containers are full. A maximum acid drum size of 15 Litres is recommended.

I POWER UP DISPLAYS

1. Switch power onto the unit (MAGNA-CHEM and Filter pump). MAGNA-CHEM will first appear on the screen and will be in ON mode. The current pH and ORP readings will scroll across the screen and pumps will run.
2. There are two modes of operation and each is accessible by pressing the ENTER button to the desired mode.

ON mode - used for reading and changing settings. (pH and ORP/Chlorine)

OFF mode - turns off power to MAGNA-CHEM operation.

The display scrolls between the items as shown below:

MODE	DISPLAY SHOWN
ON	ON, pH reading, ORP / Chlorine reading
OFF	OFF

NOTE: Figure shown in brackets on display are the set points for pH and ORP / Chlorine.

II ADJUSTMENTS

1. Factory settings can only be changed on ON mode. The following settings are pre-set. To adjust any of the settings see page 4 - Changing Settings.

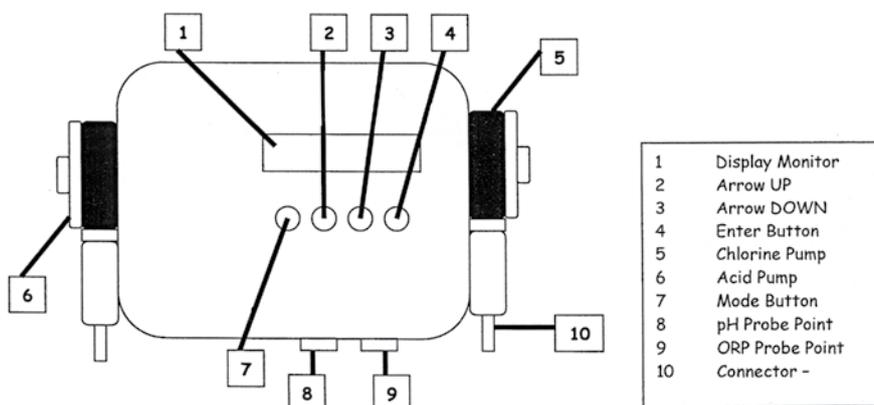
FACTORY SETTINGS	
pH Set Point	7.5
ORP Set Point	700mV

2. The chlorine pump will start whenever the OPR / Chlorine probe senses a need for more chlorine to be injected into the pool system. It will start and stop automatically and according to the settings preset.
3. The acid/pH pump will start whenever the pH probe senses a need for more acid to be injected into the pool system. It will start and stop automatically and according to the settings preset.
4. Allow a few hours for the MAGNA-CHEM to stabilise.
5. During heavy bathing periods or excessive rain, the MAGNA-CHEM will dose the correct amount of chlorine and acid to keep your pool at the required set chlorine and pH levels.

IMPORTANT: The pool pH level must be kept at the correct level for efficient control.

MAGNA-CHEM CPHP/CPHTP CONTROLLER

DIAGRAM 1



E. SERVICING

1. Clean the injection point regularly.
2. Lubricate the squeeze tube regularly with an approved lubricant, every three months.
3. Replace the squeeze tubes periodically, every twelve months.
4. Check the chlorine probe periodically. Clean with a MILD acid solution.
5. Check the pH probe periodically.
6. A pool shop should check probes every twelve months.

NOTE

1. It is strongly advised that stabilier (Isocyanuric Acid) be applied when using liquid chlorine.
2. The use of copper-based algaecides is not recommended as they may cause scaling / coating of the probe.
3. The use of granular chlorine may cause scaling / coating of the probe. - Not recommended.
4. Operate the controller at the same time every day.

F. CHANGING THE SETTINGS (System Parameters)

NOTE: Adjustments to settings can only be made in the ON mode. To change to ON mode do the following:

1. Press the ENTER button until ON appears on the screen. Settings can now be changed.
To change the settings A or B below, it is necessary to be in SYS.PARAMETERS.
2. Following on from step 1 above now press the MODE button.
3. Press the arrow UP button until SYS.PARAMETERS appears on the screen. Then press the ENTER button once.

(a) pH SET POINT (RANGE 0.0 TO 14.0)

1. Following on from step 3 above, use the arrow UP or DOWN buttons until the pH Set Point appears on the screen.
2. Press ENTER once. The current pH set point is displayed.
3. To adjust the pH set point press the arrow UP or DOWN buttons to the desired setting.
4. To save the adjusted setting, press the mode button once.

(b) ORP (mV) SET POINT (RANGE 999mV to 999mV)

1. Following on from step 3 above, use the arrow UP or DOWN buttons until the ORP set point appears on the screen.
2. Press ENTER once. The current ORP set point is displayed.
3. To adjust the ORP set point press the arrow UP or DOWN buttons to the desired setting.
4. To save the adjusted setting, press the mode button once.

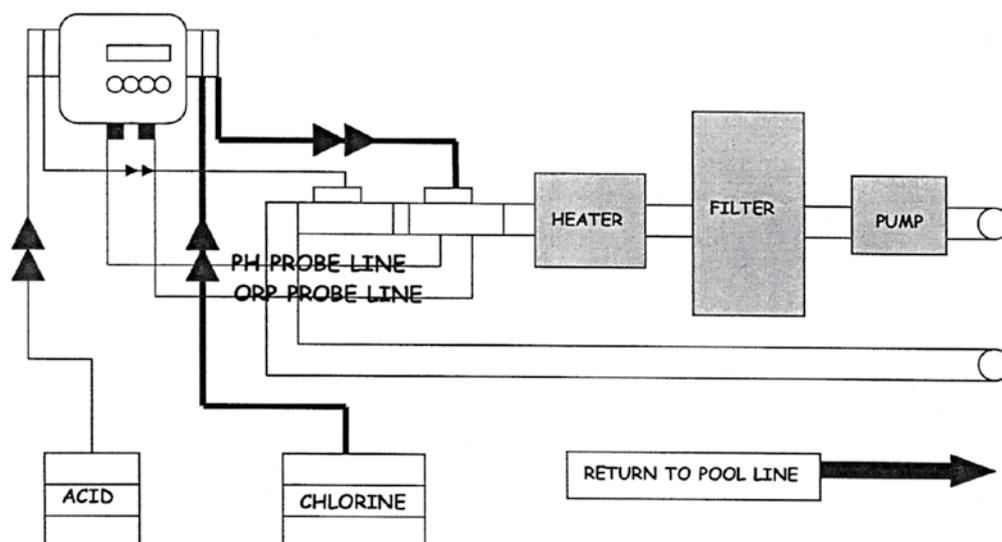
Once all desired settings are obtained, the unit will need to be placed back into ON mode. To do this carry out the following:

1. Following from any of the settings above, press the MODE button once. Press the arrow UP or DOWN until MONITOR appears on the screen.

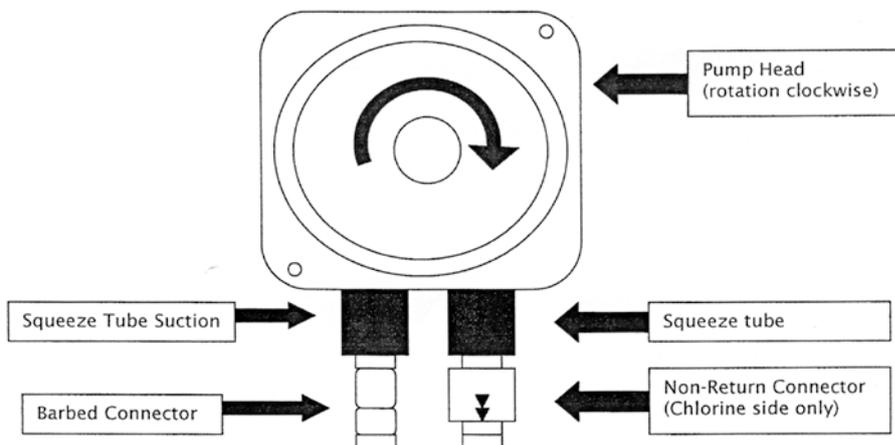
The MAGNA-CHEM is now operational and has retained all changed parameter settings.



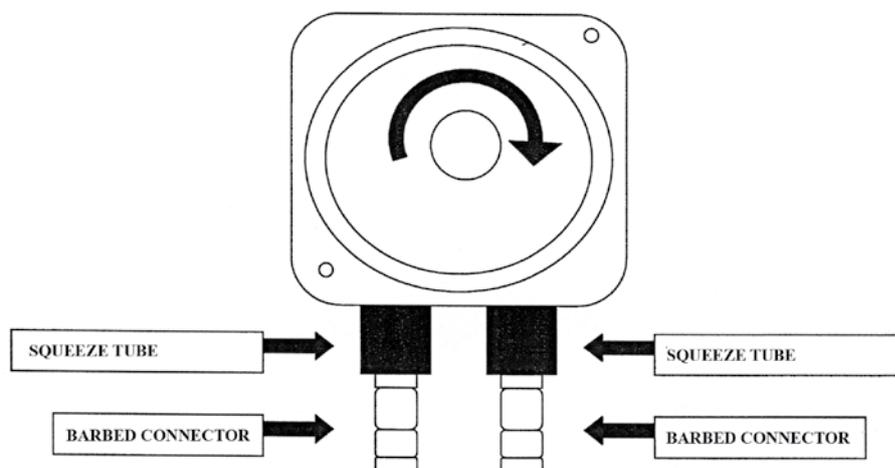
MAGNA-CHEM SET UP - DIAGRAM 2



CHLORINE PUMP HEAD TUBE CONNECTIONS - DIAGRAM 3



ACID PUMP HEAD TUBE CONNECTIONS - DIAGRAM 4



F. TROUBLE SHOOTING

Feeder not pumping

1. Check for power to MAGNA-CHEM
2. Check that the tubes are at the bottom of the containers.
3. Make sure chemical containers are not empty.
4. Check suction and delivery tubes for leaks.
5. Check squeeze tubes for leaks.
6. Check for blockage at the injector points.

Poor chlorine level / pool condition

1. Check pool water condition / quality.
2. Check chlorine/acid containers.
3. Check chlorine strength.
4. Check for secure probe connections.
5. Are the probes clean? If not, clean probes.
6. Check pH and ORP settings against recommendations.

WARRANTY

All POOL RANGER PTY LTD products are warranted against defects in material and workmanship for a period of twelve (12) months from the date of purchase. Warranty applies only to the repair or replacement, repairing or adjusting such parts when the unit is returned to the factory (complete with probes and serial number intact), freight prepaid, and found to be defective upon factory inspection. The warranty period on probes is three (3) months. Rubber and synthetic products such as o'rings, diaphragms and tubing are not covered by this warranty. Warranty does not cover liability resulting from performance of this equipment nor the labour to replace this equipment. Modifications and repairs by unauthorised persons, product misuse and abuse voids this warranty. Shipping damage is not covered by warranty.

Please complete and return this registration form to the address shown below:

Name: _____

Address: _____

Suburb: _____ State: _____ Postcode: _____

Date of Purchase: _____ Purchased From: _____

Unit Purchased: _____ Serial Number: _____

RETURN TO: Pool Ranger Pty Ltd

PO Box 1611, Mona Vale NSW 1660

